Earnings Management and the Financial Statement Analyst

Steven C. Hall[1], Vipin Agrawal[2] & Pushpa Agrawal[1]

[1] College of Business and Technology, University of Nebraska at Kearney, Kearney, Nebraska, USA

[2] Mihaylo College of Business and Economics, California State University Fullerton, Fullerton, California, USA

Correspondence: Steven Hall, 300C West Center, Kearney, NE 68847, USA. Tel: 1-308-865-8124. E-mail: hallsc@unk.edu

Received: April 5, 2013 Accepted: May 17, 2013 Online Published: May 23, 2013

doi:10.5430/afr.v2n2p105 URL: http://dx.doi.org/10.5430/afr.v2n2p105

Abstract

This paper reviews earnings management literature from the perspective of the financial statement analyst. The analyst will want to know if the company being analyzed is likely to have manipulated or managed the financial statement numbers, which numbers in the financial statements are most likely to have been managed, and the magnitude of the management.

For several decades researchers have been documenting the manipulation or management of financial statement numbers. They have documented various management devices and a host of contexts that provide incentive to manage. Yet, this review reveals that an individual analyst, working to understand a single company, has little to guide him or her in assessing the probability that the firm under consideration has managed financial statement numbers, which numbers may have been managed, and to what extent they may have been managed. While much work has been done and many papers published, the hard work of making the research useful to the financial statement user remains to be done.

Keywords: Earnings management, Financial reporting, Financial statement analysis

1. Introduction

The analyst has the task of estimating a firm's value by analyzing the financial statements of the company. She reaches into her analysis tool kit and pulls out some familiar tools with which to work, e.g., a horizontal analysis, a vertical analysis, ratio analysis, industry norms, etc. She plans to calculate the present value of the future cash stream by using a measure of income and a growth factor. She also plans to calculate value using comparable companies and a price to earnings ratio.

She has recently heard about earnings management research, that firms have been shown to manipulate earnings in some circumstances to the benefit of the firms or the firms' managers. She wonders how that earnings management has affected the numbers in the financial statements she is examining. She asks, "Is the company I am analyzing likely to have manipulated financial statement numbers to a significant extent? Which numbers are likely to have been manipulated? What is the likely magnitude of the manipulation?" She wonders if she should adjust the reported income or the growth factor in her models. If she chooses comparable companies using common financial ratios like return on assets, inventory turnover, or debt-to-equity, which of those ratios will have been effected by earnings management and by how much?

For several decades researchers have been documenting the manipulation or management of corporate financial statement numbers. They have documented various manipulation devices and a host of contexts that provide incentive to manipulate. Healy and Wahlen (1999), Fields et al. (2001), and Xu et al. (2007), review this research. The purpose of this paper is to review the earnings management literature from the perspective of the financial statement analyst. What does the literature say about which firms are likely to have managed financial statement numbers, which numbers are likely to have been managed, and what amount of management should be expected for those numbers.

The earnings management literature has shown that firms manage earnings in most all the contexts that would be expected, i.e., those contexts in which the management of earnings provides some advantage to the managers or to the firm. The literature does not, however, indicate the prevalence of management across firms. While it has been shown statistically that firms in a given context are more likely to manage earnings in a predictable fashion, it has not been shown how many of the firms in the sample manage earnings or how to predict which companies will manage and which will not. The literature documents a number of financial statement numbers that are manipulated. The literature says little about which numbers are manipulated in a given context and by how much.

This paper is not a criticism of the earnings management literature or of earnings management researchers. It notes that the research is of little relevance to the financial statement analyst and suggests another avenue of research that would be more relevant to the analyst's needs.

2. What Is Meant by Earnings Management?

This paper defines earnings management as the use of accounting discretion, intentional accounting misstatement, or use of real transactions to alter the numbers reported in the financial statements to influence outcomes that depend on reported accounting numbers. Changing depreciation methods to maintain ratios used in debt contracts is an example of using accounting discretion to influence an outcome that depends on reported numbers. Reporting sales before work is completed in order to meet performance goals is an example of using deliberate misstatement. Deferral of machine maintenance to meet analyst forecasts is an example of altering real transactions to influence the numbers reported in the financial statements.

3. Which Firms Manage Earnings?

Research suggests earnings management in a considerable number of contexts. Earnings are managed to meet earnings benchmarks. Burgstahler and Dichev (1997) and others document earnings management to meet earnings benchmarks finding unusually low frequencies of small decreases in earnings and small losses and unusually high frequencies of small increases in earnings and small positive incomes. While subsequent researchers have found alternative explanations for the discontinuity in earnings around zero (e.g. Dechow et al. 2003; Durtschi and Easton 2009), earnings management remains the best explanation of the discontinuity around other benchmarks. Others document earnings management to meet analyst expectations (Payne and Robb 2000; Cohen et al. 2008) and management earnings forecasts (Kasnik 1999).

Research provides evidence of earnings management to the direct benefit of the manager. Earnings are managed to affect management compensation from bonus plans (e.g., Healy 1985, Gaver et al. 1995; Guidry et al. 1999) and from stock and stock option values (e.g., Bergstresser and Philippon 2006). Perry and Williams (1994) show that firms manage earnings down prior to management buyouts to lower stock prices and thus the price of the buyout, and Park and Park (2004) show that firms manage earnings up prior to insider sales to increase the proceeds of those sales.

Research has shown that earnings are managed in predictable ways prior to debt covenant violations (e.g., Sweeney 1994; Jaggi and Lee 2002). Firms make income-increasing accounting choices to avoid the default and income-decreasing accounting choices if the debt is to be restructured or renegotiated. Firms continue to make income-decreasing accounting choices after a technical default if they are in debt renegotiation (e.g., Saleh and Ahmed 2005). Earnings are managed in predictable ways by healthy firms (Peltier-Rivest and Swirsky 2000), by firms reporting continuing losses (Callen et al. 2008), and by firms that are failing (e.g., Rosner 2003; Charitou et al. 2007; and Lara et al. 2009). Even in healthy firms, the closer the firm is to violating debt-covenant provisions the more likely it is to make income-increasing accounting choices. Firms with continuing losses are often valued based on the level and growth of revenue. The longer the past and anticipated string of losses the more likely these firms are to overstate revenues. Firms manipulate earnings up in years preceding a bankruptcy filing.

Earnings are managed in anticipation of major transactions or negotiations. Earnings are managed up by firms before share-for-share corporate acquisitions (e.g., Erickson and Wang 1999; Bergstresser et al. 2006; Botsari and Meeks 2008), before initial public offerings (Friedlan 1994; Aharony et al. 1993) and before seasoned equity offerings (Teoh et al. 1998; Cohen and Zarowin 2010). Peltier-Rivest and Swirsky (2000) find evidence that firms manage earnings down in anticipation of labor union negotiations.

Research suggests that earnings are managed to smooth the earnings stream over time. Earnings are smoothed to avoid a temporary decrease in earnings (Hand 1989). They are smoothed in anticipation of future earnings (DeFond and Park 1997). Oil firms smooth earnings to lower income during times of high oil prices (Han and Wang 1998).

Evidence indicates earnings management before or after significant events. For example, earnings are managed down after nonroutine executive changes, especially in firms experiencing financial distress (e.g., Pourciau 1993; Peltier-Rivest 1999). Earnings are managed down by firms in court and subject to large punitive damage awards (Hall and Stammerjohan 1997).

Earnings are managed due to governmental regulation. Ahmed et al. (1999) show that earnings are managed to meet regulatory requirements. Gaver and Paterson (2000) show that earnings are managed to circumvent regulatory oversight.

There are a number of other contexts in which the research reveals that firms manage earnings. No all of them are summarized. What is summarized should help analysts in their search for any plan, event, or circumstance in which manipulating earnings would benefit the firm or its managers. If such exist, then there is an increased likelihood of manipulation. On the other hand, not all firms facing these incentives will manipulate earnings. Klein (2002) demonstrates that there are factors that mitigate the incentive to manage earnings, e.g. audit committee and board of director characteristics. Dhaliwal et al. (1982) demonstrate that accounting choices will vary by the extent of manager vs. owner control of the firm. Barton and Simko (2002) show that firms that have managed earnings up in recent periods have less flexibility to manage earnings up in the current period.

For the analyst, there is little help in determining the likelihood that an individual company under consideration has manipulated its earnings. While the research has shown statistically that there is manipulation in the predicted direction, it has revealed neither the proportion of firms that manipulate in a given context nor the means to identify the ones that do. Beneish (1999) is a good step in the direction of offering the financial analyst a tool to predict if a company is managing earnings. Studying a sample of firms that were required to restate earnings, he creates a model to detect which firms manage earnings. He finds that unusual increases in receivables, deteriorating gross margins, decreasing asset quality (measured as noncurrent assets other than property-plant-and-equipment divided by total assets), sales growth, and increasing accruals are indicative of earnings management. However, there is also the possibility that some firms just do not manage earnings. Knowing that firms are more likely to manage earnings in a given context does not help the analyst to understand the earnings management behavior of the company under review.

4. Which Numbers are Managed?

Researchers have generally focused on the manipulation of earnings, hence the term "earnings management." In analyzing financial statements, the analyst will be interested not only in the management of earnings, but also in how individual components of earnings and important balance sheet numbers have been affected by the manipulation as well. Research indicates management of several financial statement items. In general, the research indicates that items of income that can be managed are managed.

The items of income most often used in earnings management models are accruals measured as the difference between operating income and operating cash flows. Discretionary accruals are measured as the accruals that cannot be explained by a change in sales and the level of fixed assets. Thus, the accruals measure will capture changes in any number of expenses, some revenues, and changes in various working capital accounts. Other than demonstrating that income was increased or decreased, it does little to help the analyst in identifying which financial statement numbers were changed.

Marquardt and Wiedman (2004) demonstrate that the components of accruals that get manipulated vary by context in predictable ways. Firms issuing equity manage accruals by increasing revenue and decreasing depreciation expense. Firms managing accruals to reach an earnings benchmark use one-time special items to increase income. Thus, it can be seen that individual accruals used to manage earnings vary by context. On the other hand, there is little research documenting the devise used by context.

Other than accruals, research has tested a number of other vehicles for managing accounting numbers and has revealed additional detail of the numbers manipulated. Sweeney (1994) demonstrates that changes to pension assumptions, inventory method, depreciation method and estimates, as well as LIFO liquidations are used to manage earnings. Research has demonstrated the management of write-offs and other one-time special items (Pourciau 1993), bank loan loss provisions (Ahmed et al. 1999), gains from asset sales (Bartov 1993; Hermann et al. 2003), and pension costs (Thomas and Tung 1992; Bergstresser et al. 2006). Research findings are also consistent with management of earnings through management of real transactions that increases sales through discounting or more lenient credit terms, decreases cost of goods sold through increased production, or decreases discretionary expenses like advertising, research and development, and maintenance (Roychowdhury 2006; Cohen and Zarowin 2010).

As a result of the earnings management research the analyst will understand that some firms manipulate accounting numbers to manage earnings and that the vehicles chosen for manipulation vary in predictable ways. Other than the earnings number, however, it is not known in any given context which numbers are likely to have been manipulated.

5. What is the Magnitude of the Management?

If the financial statement analyst does not know the likelihood that the firm under consideration has managed its earnings, and doesn't know which numbers are most likely managed, the question of the magnitude of the management for the individual firm is moot from the standpoint of the analyst. However, a general sense of magnitude of earnings management is available in the research. Understanding the magnitude of the manipulation helps us understand the need to provide the analyst with tools to undo the manipulation in analysis.

Table 1. Magnitude (in absolute value) of accrual management as a percentage of beginning assets

Authors	Context of Earnings Management	Mean %	Median %
Charitou et al. (2007)	Failing firms	7.6	4.6
Cohen and Zarowin (2010)	Seasoned equity offerings		1.4
DeFond and Park (1997)	Smoothing earnings based on earnings expectations	4.4	3.2
Guidry et al. (1999)	Manager bonus	9.1	3.5
Kasznik (1999)	Managers' earnings forecasts	1.3	1.0
Marquardt and Wiedman (2004)	Equity offerings	3.0	1.5
	Avoiding an earnings decrease	0.7	0.8
Saleh and Ahmed (2005)	Debt covenant violations and negotiations	23.5	17.3

Table 1 contains examples of earnings management magnitudes found in the research referenced earlier in this article. To make the information comparable across studies, only those studies that measured earnings management using discretionary total accruals are included. The papers typically present several models. The model results chosen are those results on which the papers' authors focused and those that demonstrated the greatest amount of earnings management. This discussion focuses on medians because they are less likely than means to be influenced by extreme observations.

On the high end, notice that the median discretionary accrual for firms with debt covenant violation and negotiations with creditor is 17.3 percent of total assets. It might be expected that earnings management would be high in such an extreme situation as a firm in violation of its debt covenants and in negotiation with its creditors. At the low end are those firms that manage earnings to meet an earnings benchmark. Median discretionary accruals for these firms are about one percent of assets. To put these findings in perspective, a firm with $100 million dollars of assets could erase a $1 million dollar loss or a $1 million dollar earnings disappointment with the median discretionary accrual.

6. Conclusion

From extant research, the analyst understands that there is an increased likelihood of earnings management in any context in which earnings management will provide an advantage to the managers or the firm. The analyst also understands that researchers have documented earnings management in a host of contexts. The analyst also knows that various qualities of the firm will mitigate the incentive to manipulate. From the research the analyst will recognize that there is a host of vehicles available to manage earnings and that the choice of vehicle to manipulate earnings varies across firms in predictable ways. The analyst also understands that the magnitude of earnings management documented is considerable.

While much valuable research has been done relative to earnings management to increase our knowledge of the contexts and methods and influencing factors of earnings management, from the perspective of the user of the financial statements, the value of the research is modest at best. This is not meant as a criticism of the academic literature or researchers. Researchers have had a different focus.

These findings indicate a potentially fruitful course for future research in earnings management. A focus on the needs of analysts opens up a whole new direction for the research. Since we know many of the incentives to manage earnings and items that mitigate those incentives, researchers could develop a model that directly predicts the amount of management in reported earnings. Researchers could also develop models that will predict which financial statement numbers are manipulated in given contexts and the magnitude of that manipulation.

References

Aharony, A., C. Lin, & M. P. Loeb. (1993). Initial public offerings, accounting choices, and earnings management. *Contemporary Accounting Research* 10 (1): 61-81. http://dx.doi.org/10.1111/j.1911-3846.1993.tb00382.x

Ahmed, A. S., C. Takeda, & S. Thomas. (1999). Bank loan loss provisions; a reexamination of capital management, earnings management and signaling effects. *Journal of accounting & Economics* 28 (1): 1-25. http://dx.doi.org/10.1016/S0165-4101(99)00017-8

Barton, J. & P. J. Simko. (2002). The balance sheet as an earnings management constraint. *The Accounting Review* 77 (supplement):1-27. http://dx.doi.org/10.2308/accr.2002.77.s-1.1

Bartov, E. (1993). The timing of asset sales and earnings manipulation. *The Accounting Review* 68 (4): 840-855

Beneish, M. D. (1999). The detection of earnings manipulation. *Financial Analysts Journal* September/October: 24-36. http://dx.doi.org/10.2469/faj.v55.n5.2296

Bergstresser, D., M. Desai, & J. Rauth. (2006). Earnings manipulation, pension assumptions, and managerial investment decisions. *The Quarterly Journal of Economics* (February): 157-195.

Bergstresser, D. & Y Philippon. (2006). CEO incentives and earnings management. *Journal of Financial Economics* 80 (3): 511-529. http://dx.doi.org/10.1016/j.jfineco.2004.10.011

Botsari, A. & G. Meeks. (2008). Do acquirers manage earnings prior to a share for share bid? *Journal of Business Finance and Accounting,*35:633-670. http://dx.doi.org/10.1111/j.1468-5957.2008.02091.x

Burgstahler, D. & I. Dichev. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting & Economics* 24 (1): 99-126. http://dx.doi.org/10.1016/S0165-4101(97)00017-7

Callen, J. L., S. W. G. Robb, & D. Segal. (2008). Revenue manipulation and restatements by loss firms. *Auditing: A Journal of Practice and Theory* 27 (2): 1-29. http://dx.doi.org/10.2308/aud.2008.27.2.1

Charitou, A., N. Lambertides, & L. Trigeorgis. (2007). Managerial discretion in distressed firms. *The British Accounting Review,* 39: 323-346. http://dx.doi.org/10.1016/j.bar.2007.08.003

Cohen, D. A., A. Dey, & T. Z. Lys. (2008). Real and accrual-based earnings management in the pre- and post-sarbanes-oxley periods. *The Accounting Review* 83 (3): 757-787. http://dx.doi.org/10.2308/accr.2008.83.3.757

Cohen, D. A. & P. Zarowin. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics* 50: 2-19. http://dx.doi.org/10.1016/j.jacceco.2010.01.002

Dechow, P., S. Richardson, & I. Tuna. (2003). Why are earnings kinky? An examination of the earnings management explanation. *Review of Accounting Studies* 8: 355-384. http://dx.doi.org/10.1023/A:1024481916719

DeFond, M. L. & C. W. Park. (1997). Smoothing income in anticipation of future earnings. *Journal of Accounting and Economics* 23: 115-139. http://dx.doi.org/10.1016/S0165-4101(97)00004-9

Dhaliwal, D. S., G. L. Salamon, & F. D. Smith. (1982). The effect of owner versus management control on the choice of accounting methods. *Journal of Accounting and Economics* 4: 41-53. http://dx.doi.org/10.1016/0165-4101(82)90005-2

Durtschi C. & P. Easton. (2009). Earnings management? Erroneous inferences based on earnings frequency distributions. *Journal of Accounting Research* 47 (5): 1249-1281. http://dx.doi.org/10.1111/j.1475-679X.2009.00347.x

Erickson, M. & S. Wang. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics* 27: 149-176. http://dx.doi.org/10.1016/S0165-4101(99)00008-7

Fields, T., T. Lys, & L. Vincent. (2001). Empirical research on accounting choice. *Journal of Accounting and Economics* 31: 255-307. http://dx.doi.org/10.1016/S0165-4101(01)00028-3

Friedlan, J. M. (1994). Accounting choices of issuers of initial public offerings. *Contemporary Accounting Research* 11 (1-I): 1-31. http://dx.doi.org/10.1111/j.1911-3846.1994.tb00434.x

Gaver, J. J., K. M. Gaver, & J. R. Austin. (1995). Additional evidence on bonus plans and income management. *Journal of Accounting and Economics* 19 (1): 3-28. http://dx.doi.org/10.1016/0165-4101(94)00358-C

Gaver, J. J. & J. S. Paterson. (2000). Earnings management under changing regulatory regimes: state accreditation in the insurance industry. *Journal of Accounting and Public Policy* 19: 399-420. http://dx.doi.org/10.1016/S0278-4254(00)00014-4

Givoly, D., C. Hayn, & T. Yoder. (2011). Do analysts account for earnings management? Working paper. (Available at http://ssrn.com/abstract=1260032.)

Guidry, F., A. J. Leone, & S. Rock. (1999). Earnings-based bonus plans and earnings management by business-unit managers. *Journal of Accounting and Economics* 26: 113-142. http://dx.doi.org/10.1016/S0165-4101(98)00037-8

Hall, S. C. & W. W. Stammerjohan. (1997). Damage awards and earnings management in the oil industry. *The Accounting Review* 72 (1): 47-65.

Han, J. C. & S. Wang. (1998). Political costs and earnings management of oil companies during the 1990 Persian Gulf crisis. *The Accounting Review* 73 (1): 103-117.

Hand, J. R. M. (1989). Did firms undertake debt-equity swaps for an accounting paper profit or true financial gain. *The Accounting Review* 44 (4): 587-623.

Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics* 7:85-107. http://dx.doi.org/10.1016/0165-4101(85)90029-1

Healy, P. M. & J. M. Wahlen. (1999). A review of the earnings management literature and its implications for standard setting. Accounting Horizons 13 (4): 365-383. http://dx.doi.org/10.2308/acch.1999.13.4.365

Herrmann, D., T. Inoue, & W. B. Thomas. (2003). The Sale of Assets to Manage Earnings in Japan. *Journal of Accounting Research* 41 (1): 89-108. http://dx.doi.org/10.1111/1475-679X.00097

Jaggi, B. & P. Lee. (2002). Earnings management response to debt covenant violations and debt restructuring. *Journal of Accounting, Auditing & Finance*: 295-324.

Kasznik, R. (1999). On the Association between voluntary disclosure and earnings management. *Journal of Accounting Research* 37 (1): 57-81. http://dx.doi.org/10.2307/2491396

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics* 33: 375-400. http://dx.doi.org/10.1016/S0165-4101(02)00059-9

Lara, J. M. G., B. G. Osma, & E. Neophytou. (2009). Earnings quality in ex-post failed firms. *Accounting and Business Research* 39 (2): 119-138. http://dx.doi.org/10.1080/00014788.2009.9663353

Marquardt, C. A. and C. I. Wiedman. 2004. How are earnings managed? An examination of specific accruals. *Contemporary Accounting Research* 21 (2): 461-491. http://dx.doi.org/10.1506/G4YR-43K8-LGG2-F0XK

Park, S. K. & T. Park. (2004). Insider sales and earnings management. *Journal of Accounting and Public Policy* 23: 381-411. http://dx.doi.org/10.1016/j.jaccpubpol.2004.07.003

Payne, J. L. & S. W. G. Robb. (2000). Earnings management: The effect of ex ante earnings expectations. *Journal of Accounting, Auditing and Finance* 15: 373-392.

Peltier-Rivest, D. (1999). The determinants of accounting choices in troubled companies. *Quarterly Journal of Business and Economics* 38 (4): 28-44.

Peltier-Rivest, D. & S. Swirsky. (2000). Earnings management in healthy firms. *Quarterly Journal of Business and Economics* 39 (4): 21-37.

Perry, S. E. & T. H. Williams. (1994). Earnings management preceding management buyout offers. *Journal of Accounting and Economics* 18 (2): 157-179. http://dx.doi.org/10.1016/0165-4101(94)00362-9

Pourciau, S. (1993). Earnings management and nonroutine executive changes. *Journal of Accounting and Economics* 16: 317-336. http://dx.doi.org/10.1016/0165-4101(93)90015-8

Rosner, R. L. (2003). Earnings manipulation in failing firms. *Contemporary Accounting Research* 20 (2): 361-408. http://dx.doi.org/10.1506/8EVN-9KRB-3AE4-EE81

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics* 42:335-370. http://dx.doi.org/10.1016/j.jacceco.2006.01.002

Saleh, N. M. and K Ahmed. (2005). Earnings management of distressed firms during debt renegotiation. *Accounting and Business Research* 35 (1): 69-86. http://dx.doi.org/10.1080/00014788.2005.9729663

Sweeney, A. P. (1994). Debt-covenant violations and managers' accounting responses. *Journal of Accounting & economics* 17 (3): 281-308. http://dx.doi.org/10.1016/0165-4101(94)90030-2

Teoh, S. H., I. Welch, & T. J. Wong. (1998). Earnings management and the long-run market performance of initial public offerings. *The Journal of Finance* 53 (6): 1935-1974. http://dx.doi.org/10.1111/0022-1082.00079

Thomas, J.K. & S. Tung. (1992). Cost manipulation incentives under cost reimbursement: Pension costs for defense contracts. *The Accounting Review* 67 (4): 691-711.

Verbruggen, S., J. Christaens, & K. Milis. (2008). Earnings management: A literature review. HUB Research Paper 2008/14, Hogeschool Universiteit Brussel.

Xu, R. Z., G. K. Taylor, & M. T. Dugan. (2007). Review of real earnings management literature. *Journal of Accounting Literature* 26: 195-228.