

Growth Firms' Real Earnings Management Practices

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I. Introduction

This study examines the real earnings management practices of growth firms. An important study by Skinner and Sloan (2002) concludes that growth firms suffer severe adverse consequences if they fail to meet earnings targets (the torpedo effect), suggesting that growth firms have strong incentives to manage earnings. This conclusion is disputed by Payne and Thomas (2003), who find that the Skinner and Sloan result is attributable to classification errors caused by IBES split-adjusted data. Moreover, Payne and Thomas (2011) find that penalties for missing earnings targets do not differ for growth and non-growth firms.

Nevertheless, motivated by Skinner and Sloan's (2002) conclusion, two previous studies—Madhagarhia et al., (2009) and Houmes and Skantz (2010)—have investigated accrual earnings management by growth firms. Madhagarhia et al., (2009) computed a composite growth measure with the following variables: market-to-book (M/B) ratio, price-to-earnings (P/E) ratio, price-to-cash flow (P/CF) ratio, earnings-per-share growth, and sales growth. Their findings show that growth firms (firms with high composite scores) use discretionary accruals more aggressively than do value firms. Houmes and Skantz (2010) argue that managers of highly valued firms have strong incentives to manage reported earnings upwards to support their extreme valuations, consistent with Jensen (2005). They find that highly valued firms with high P/E ratios or high prior year abnormal returns have significantly higher level of discretionary accruals than do other firms.

Both prior studies focus on accrual-based earnings management by growth firms that enjoy a pricing premium from the market for expected high future growth. However, neither study examines real earnings management. Accounting literature has documented two main earnings management mechanisms: accrual-based earnings management (hereafter, AEM) and real activities earnings management (hereafter, REM). These two instruments of earnings management are fundamentally different. Managers use AEM within generally accepted accounting principles (GAAP) to change the accrual process and shift income inter-temporally. Consequently, reported earnings may mask the true economic performance of a firm. REM occurs when managers take actions to alter real business activities to achieve earnings targets. For example, managers may manipulate the timing or structuring of an operation or investment transaction to influence the financial results reported by the accounting system. Thus, AEM and REM have different implications for firms' future operating performance. In most cases, AEM reverses in the near term; however, REM is likely to have more profound and longer effects. The main objective of this study is to investigate growth firms' REM to supplement prior evidence on growth firms' AEM. This investigation is also motivated by Cohen, Dey, and Lys's (2008) conclusion that AEM and REM may be substitutes. Accordingly, focusing on either AEM or REM in isolation may lead to erroneous conclusions about firms' propensity for earnings management.

Managers' choice of earnings management strategy can be influenced by several factors (Zang, 2012). Managers may be concerned with the impact of AEM or REM on firms' future operating performance, or with the corresponding market response if the market can discern the use of AEM or REM. Cohen and Zarowin (2010) show that compared to AEM, REM leads to a more severe decline in future operating

performance for seasoned equity offering (SEO) firms. However, Gunny (2010) finds that firms that use REM to avoid loss or sustain past performance have higher subsequent operating performance than firms that do not engage in REM and miss the earnings benchmarks. By contrast, Bhojraj et al., (2009) find that firms engaging in AEM or REM to meet/beat analyst forecasts perform poorly in stock returns over the subsequent three-year period.

We conjecture that growth firms are more likely to engage in AEM relative to REM. Lakonishok, Shleifer, and Vishny (LSV, 1994) argue that investors fixate on the past performance of growth firms and consequently overestimate the future performance of those firms. Fairfield et al., (2003) argue that accruals are a significant component of growth in net operating assets, while Sloan (1996) finds that the market overvalues accruals. Thus, growth firms may favor AEM if managers believe that investors reward the growth implication of accruals, while ignoring their opportunistic nature. By contrast, REM involves boosting current earnings by overproducing inventory (to decrease cost of goods sold) or by cutting discretionary expenditures such as R&D and advertising (e.g., Bhojraj et al., 2009; Cohen and Zarowin, 2010; Gunny, 2010). We argue that these activities are especially costly for growth firms, and therefore hypothesize that growth firms are less likely to conduct REM.

Following prior studies, we use abnormal (also referred to as discretionary) accruals to proxy for AEM (e.g., Zang, 2012). We adopt two measures of REM: the abnormal level of discretionary expenditures and abnormal level of production costs. Also, consistent with prior studies such as Roychowdhury (2006), we focus our investigations on firms that just meet/beat important earnings thresholds, since these firms are the most likely to have managed earnings. We analyze three important thresholds: analysts' earnings forecasts, zero profits, and prior-year profits (Burgstahler and Dichev, 1997; Degeorge et al., 1999). Our sample period is 1989 through 2014.

Our results indicate that growth firms tend to use AEM to increase reported earnings to meet/beat consensus analyst forecasts, which is consistent with prior research. However, we also find that growth firms are less likely to use REM to meet/beat analyst forecasts. Turning to the fixed thresholds of zero profits and prior year profits, we also find that growth firms rely less on real earnings management than non-growth firms, but we find no evidence that accruals usage differs between the two types of firms. In supplementary analysis, we investigate whether the nature of the threshold influences growth firms' earnings management behavior. We find that growth firms meeting/beating fixed benchmarks, such as zero profits and prior year profits, conduct more real earnings management, compared to growth firms meeting/beating analyst forecasts.

This study contributes to the literature in several ways. First, it complements prior studies that focus only on growth firms' AEM by also investigating the REM practices of these firms. Second, our results suggest that firm growth may be a factor that affects managers' choice of earnings management strategies. We find that growth firms rely more on AEM and less on REM to manage earnings, compared to non-growth firms. Notably, our evidence suggests the presumption that growth firms are more likely to manage earnings than non-growth firms may not be warranted.

The remainder of this article is organized as follows. Section II presents our research hypothesis. Section III describes the research methodology. Section IV reports sample selection and empirical results. This article concludes with Section V.

II. Hypothesis Development

Prior studies provide large-sample evidence of earnings management to meet or beat important earnings thresholds including zero profits, prior period earnings, and analysts' forecasts of earnings (Burgstahler and Dichev, 1997; Degeorge et al., 1999). These studies find that earnings distributions are discontinuous in the immediate vicinity of the thresholds; too many firms just exceed the threshold and too few firms fall just short of the threshold, relative to the number that might be statistically expected. This evidence is

consistent with some firms that would otherwise fall short of the threshold manipulating earnings to achieve their target profits.

Although early earnings management studies focus mainly on AEM, recent work by Roychowdhury (2006) and Cohen et al., (2008) demonstrates that firms may also manage real activities to accomplish their profit goals. Cohen et al., (2008) point out that REM and AEM may be substitutes, rather than complements. Thus, the prior result that AEM is more prevalent in growth firms does not necessarily imply that REM is also prevalent in those firms.

REM, which includes actions such as overproducing inventory to reduce cost of goods sold by postponing the expensing of fixed manufacturing overhead, or cutting discretionary expenditures such as R&D and advertising to boost current profits, has significant consequences and is costly for all firms (Roychowdhury, 2006). We expect that REM is relatively costlier for growth firms. Prior research in strategy (e.g., Covin et al., 1990) finds that growth firms rely heavily on advertising and new product development, since these activities are more positively associated with performance in growth firms. This indicates that the adverse consequences of trimming R&D and promotional activities are especially severe for growth firms. Overproduction is also relatively costly for growth firms, since rapid product innovation increases the risk of obsolescence, and high costs of capital (Gebhardt et al., 2001) imply high inventory-holding costs. Finally, if AEM and REM are substitutes (Cohen et al., 2008), growth firm managers may emphasize AEM if they believe that investors reward the growth implications of accruals. Our hypothesis is as follows:

H1: Compared to other firms, growth firms use less REM to meet or beat profit benchmarks.

III. Research Design

In this section, we discuss our sample selection process, our proxies for accrual-based and real earnings management, and our empirical models.

III.1 Sample Selection

Our sample period is from 1989 to 2014. Statement of cash flow data are not available prior to 1989, and Hribar and Collins (2002) recommend using cash flow data to compute accruals. We obtain financial data from COMPUSTAT. We collect forecasted and reported earnings from I/B/E/S database to ensure consistency between the two measures. We limit our investigation to annual financial statement data because R&D and advertising expenses are occasionally not available in quarterly reports. We exclude financial institutions (SIC 6000-6500) and firms in regulated industries (4400-5000), as well as firms with assets less than one million dollars or a stock price less than one dollar. Financial institutions are excluded from the sample, because estimation of discretionary accruals for these firms is different and problematic. Utility firms are excluded, because managers in regulated firms may have different incentives to manage earnings from managers of unregulated firms. These procedures yield a total number of 31,213 firm-year observations.

Firms are classified as growth firms on the basis of the cross-sectional distribution of market-to-book ratios at the end of June each year. Following prior studies (e.g., Piotroski and So, 2012), we classify firms falling in the top thirty percentiles of the distribution each June as growth firms for the subsequent fiscal-year end analysis. Accordingly, 11,032 of our 31,213 total firm-years are classified as growth firms. Our empirical analyses focus on firm-years just meeting/beating benchmarks (discussed below), and the test samples are consequently much smaller, and of varying sizes, depending on the threshold being examined.

III.2 Earnings Management Proxies

III.2.1 Accruals Earnings Management

Following Dechow et al., (1995), we use the modified Jones model to estimate discretionary accruals. First, we estimate the Jones model for industry-year samples:

$$\frac{TA_{it}}{Assets_{i,t-1}} = \alpha \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{\Delta Rev_{it}}{Assets_{i,t-1}} + \beta_2 \frac{PPE_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \quad (1)$$

where TA equals total accruals computed as earnings before extraordinary items less operating cash flow (Hribar and Collins, 2002); ΔRev is the change in revenue; PPE is the level of gross property, plant, and equipment; Assets are total assets. The subscript i denotes firm i and t denotes year t.

The coefficient estimates from equation (1) were used to estimate the firm-specific abnormal accruals each year:

$$DA = \frac{TA_{it}}{Assets_{i,t-1}} - \hat{\alpha} \frac{1}{Assets_{i,t-1}} - \hat{\beta}_1 \frac{(\Delta Rev_{it} - \Delta AR_{it})}{Assets_{i,t-1}} - \hat{\beta}_2 \frac{PPE_{it}}{Assets_{i,t-1}} \quad (2)$$

where ΔAR is the change in accounts receivable. DA (referred to as abnormal or discretionary accruals) is our proxy for accruals earnings management.

3.2.2 Real Earnings Management

Following Roychowdhury (2006) and Zang (2012), we examine two REM metrics: production costs and discretionary expenses. The normal level of production costs is estimated cross-sectionally for each industry-year with the following equation:

$$\frac{PROD_{it}}{Assets_{i,t-1}} = \alpha \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{Rev_{it}}{Assets_{i,t-1}} + \beta_2 \frac{\Delta Rev_{it}}{Assets_{i,t-1}} + \beta_3 \frac{\Delta Rev_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \quad (3)$$

where PROD is the sum of cost of goods sold and the change of inventory; Assets are total assets; Rev is revenue. ΔRev is the change in revenue. The residual or estimation error from equation (3) is the abnormal level of production costs (REM_{prod}). The higher the residual, the larger is the amount of inventory overproduction, which indicates the possibility of real earnings management by reducing the cost of goods sold.

The discretionary expenditures model is as follows:

$$\frac{DISX_{it}}{Assets_{i,t-1}} = \alpha \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{\Delta Rev_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \quad (4)$$

where DISX is the sum of R&D, advertising, and SG&A expenditures. The residual or estimation error (REM_{disx}) is the abnormal level of discretionary expenditures. The lower the residual, the larger is the amount of discretionary expenditures cut by firms to increase reported earnings.

III.3 Suspect Firms Just Meeting/Beating Important Earnings Benchmarks

We follow prior research (e.g., Roychowdhury, 2006; Zang, 2012) and focus on a sample of suspect firm-years to increase the power of our tests. Suspect firm-years are those in which a firm has just met/beat the earnings benchmark being investigated. For the analyst forecast benchmark, a suspect firm-year is one in which the magnitude of earnings surprise (actual EPS less forecast EPS) is less than or equal to one cent. For the zero-profit benchmark, a firm-year is suspect if profits scaled by total assets is between zero and 0.005. For the prior-year profit benchmark, a suspect firm-year is one in which the magnitude of the change in basic EPS excluding extraordinary items is two cents or less.

III.4 Empirical Model

To examine whether growth firms' earnings management practices differ from those of other firms, we estimate the following regression model:

$$\text{REM}_{\text{disx}}/\text{REM}_{\text{prod}}/\text{AEM} = \alpha + \beta_1\text{Growth} + \beta_2\text{Leverage} + \beta_3\text{ROA} + \beta_4\text{Sales Growth} \\ + \beta_5\text{Size} + \beta_6\text{SOX} + \beta_6\text{SOX}*\text{Growth} + \varepsilon \quad (5)$$

where, Growth equals one for growth firms and zero otherwise; Leverage is the debt-to-equity ratio; ROA equals return on assets; Sales Growth is the percentage change in sales; Size equals the log of market value of equity; SOX equals one for fiscal years after 2002, else zero.

In our analysis of the analyst forecast threshold, we add analyst following (Analyst) as an additional explanatory variable. In equation (5), our coefficient of interest is β_1 ; a significant estimate of this coefficient indicates that the earnings management practices of growth firms statistically differ from those of other firms.

IV. Empirical Results

IV.1 Characteristics of growth vs. other firms

Table I presents a comparison of the characteristics of growth and other firms. Growth firms, on average, are more profitable, less levered, experience more profit and revenue growth, and are followed by more analysts than other firms. Accordingly, we control for several of these characteristics in our empirical models described previously.

IV.2 Earnings management strategies of suspect growth and non-growth firms

Table II presents results for suspect growth and other firms that just meet or beat the analyst forecast target. In Table II, Panel A, we report univariate comparisons. The means for firm characteristics are consistent with those reported in Table I. The evidence also indicates that growth firms engage in less real earnings management (higher discretionary expenditures and less over-production) than non-growth firms. By contrast, growth firms have significantly more positive discretionary accruals than other firms, as documented in prior research.

Table II, Panel B presents regression results for firms meeting/beating analyst forecasts. Consistent with the univariate comparisons, we find that abnormal discretionary expenditures are higher for growth firms and abnormal production is lower for growth firms, compared to non-growth firms. Thus, growth firms meeting/beating analyst forecasts are less likely to have cut discretionary expenditures or over-produced to achieve their earnings targets. Similarly, positive discretionary accruals are relatively high for growth firms, suggesting that these firms are more likely to rely on accruals management to achieve their earnings targets than non-growth firms. Our results thus strongly support H1, which states that growth firms are less reliant on real earnings management to achieve profit targets than non-growth firms.

In Table III, we investigate earnings management differences between growth and non-growth firms that just meet/beat prior year profits. Table III, Panel A indicates that abnormal discretionary expenditures are relatively high for growth firms. This result is confirmed in Table III, Panel B, which reports regression results. We find a positive and significant coefficient on the growth firm dummy in the discretionary expenditures regression. Thus, growth firms meeting/beating prior period earnings are less likely to have cut their discretionary expenditures than non-growth firms meeting/beating the benchmark. In the other two regressions, the coefficients on the growth firm indicator variable have the expected signs, but are not statistically significant.

We obtain similar results in Table IV, which presents results for firms that just meet/exceed the zero profits threshold. The univariate tests in Table IV, Panel A indicate that mean abnormal discretionary expenditures and abnormal accruals differ between growth and non-growth firms. However, in the regressions reported in Table IV, Panel B, we only find significant results for the abnormal discretionary expenditures variable.

Overall, the results in Tables II through IV support our hypothesis that growth firms meeting/beating earnings benchmarks practice real earnings management to a lesser extent than non-growth firms.

Growth firms are less likely to trim discretionary expenditures relative to non-growth firms. Results for the analyst forecast threshold also indicate that growth firms do not overproduce as much as non-growth firms. Growth firms appear to favor discretionary accruals as an earnings management tool, at least to meet or beat analysts' earnings forecasts.

IV.3 Additional Analysis: Nature of profit target and variation in growth firms' real earnings management

We examine whether the magnitude of real earnings management depends on the nature of the profit target. We categorize zero profit and prior-year profit targets as fixed; the analyst forecast is updated frequently through the year and subsequently, and is thus somewhat dynamic.

Managers have two strategies to achieve analyst forecast targets: they can manipulate earnings or they can guide forecasts down (e.g., Matsumoto, 2002; Richardson et al., 2004). The consensus analyst forecast is also a moving target that continues to evolve after the end of the fiscal year. By contrast, the fixed targets are known a priori. Similarly, REM is a tool that is available only during the fiscal year, whereas accruals can also be adjusted after fiscal-year end. We expect that firms can better anticipate falling short of zero profit and prior year profit benchmarks during the fiscal year. However, analyst forecasts are frequently updated after fiscal year-end and the final consensus forecast is only determined shortly before the earnings announcement date. Consequently, managers are more likely to use REM to achieve fixed targets than to meet earnings forecasts.

To examine whether growth firms' earnings management strategies differ based on the nature of the benchmark, namely, fixed (zero-profits and prior-year profits) or dynamic (analyst forecast), we estimate the following model:

$$\begin{aligned} \text{REM}_{\text{disx}}/\text{REM}_{\text{prod}}/\text{AEM} = & \alpha + \beta_1 \text{Fixed Target} + \beta_2 \text{SOX} + \beta_3 \text{SOX} * \text{Fixed Target} \\ & + \beta_4 \text{Leverage} + \beta_5 \text{ROA} + \beta_6 \text{Sales Growth} + \beta_7 \text{Size} + \varepsilon \end{aligned} \quad (6)$$

where, Fixed Target equals one for the zero profits and prior-year profits benchmarks and zero for the analyst forecast benchmark. Our coefficient of interest is β_1 , which captures how the nature of the benchmark affects the usage of specific earnings management strategies.

Table V reports results from our analysis of how growth firms' earnings management strategies vary based on the nature of the target. We expect that growth firms endeavoring to meet/beat fixed targets are more likely to use real earnings management than growth firms seeking to surpass analyst forecasts. In Table V, our coefficient of interest is the one on Fixed Target, a dummy variable coded one for fixed targets and zero for the analyst forecast target. We find that abnormal discretionary expenditures are negatively associated with the fixed target dummy, indicating that firms meeting/beating the fixed benchmarks are more likely to have trimmed their discretionary expenditures than firms meeting or beating analyst earnings forecasts. Interestingly, we find that this differential effect has dissipated since the passage of SOX, since the coefficient on SOX*Fixed Target is positive and statistically of the same magnitude as the coefficient on Fixed Target. Finally, we find no evidence that overproduction or discretionary accruals vary by the nature of the target.

V. Conclusion

In this study, we investigate the real earnings management practices of growth firms. In contrast to prior research, which finds that growth firms are more likely to engage in accruals earnings management, we find that growth firms are less likely to utilize real earnings management, relative to non-growth firms. Our results are especially strong for the discretionary expenditures measure, consistent with our conjecture that trimming these expenditures is prohibitively costly for growth firms. Our supplementary analysis suggests that growth firms are more likely to reduce their discretionary expenditures when targeting fixed benchmarks than when they seek to beat analyst forecasts. Our analysis of the abnormal production costs measure yields significant results for the sample of firms meeting/beating analyst

forecasts. For firms meeting/beating fixed benchmarks, we find no evidence that growth firms' abnormal production costs are low relative to non-growth firms. This may be attributable to growth firms' natural tendency to overproduce in anticipation of future demand given these firms are likely to be in the expansion phase of their product lifecycle.

Prior research, with its exclusive focus on growth firms' accruals earnings management, has concluded that growth firms are more likely to manage earnings than non-growth firms. Our analysis of growth firms' real earnings management suggests that the prior inference may not be warranted. Our evidence is thus consistent with Payne and Thomas (2011), who conclude that investors assess equivalent penalties to both growth and non-growth firms for missing earnings targets. Our study also supports the conclusion in Cohen et al., (2008) that accrual earnings management and real earnings management may be substitutes. Finally, we believe that our results are useful to corporate stakeholders, especially investors and analysts, who use reported financial data to assess the current profitability, and predict the future performance, of firms.

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Table I: Characteristics of Growth Firms vs. Other Sample Firms

Variables	Mean		T-test for difference
	Growth	Other	P-Value
Leverage	0.1452	0.1862	0.0001
ROA	0.0328	0.0244	0.0001
Δ ROA	0.0136	-0.0051	0.0001
Sales Growth	0.1922	0.0908	0.0001
Size	7.184	6.4352	0.0001
Analyst	13.0157	9.9616	0.0001

Notes:

1. Size=log of the market value of equity; ROA=return on assets; Δ ROA = annual change in return on assets; Leverage=debt-to-equity ratio; Sales Growth= percentage change in annual sales; Analyst = number of analysts that follow a firm in the corresponding year.
2. Due to missing values, the total firm-year observations for different variables range from 9,348 to 11,032 for growth firms and 15,609 to 20,181 for other firms.

Table II: Analysis of Suspect Growth and Other Firms that Just Meet/Beat Analyst Forecasts

Panel A. Descriptive Statistics

Variables	Mean		T-test for Difference
	Growth	Other	P-value
Leverage	0.1258	0.1758	0.0001
ROA	0.0734	0.0366	0.0001
Sales Growth	0.1947	0.1101	0.0001
Size	7.5891	6.566	0.0001
Analyst	14.7956	10.7624	0.0001
REM _{DISX}	0.3179	0.1523	0.0001
REM _{PROD}	-0.1119	-0.0374	0.0001
AEM	0.0583	0.0486	0.023

Panel B. Regression analysis of earnings management differences between growth firms and other firms that just meet/beat consensus analyst forecast

	REM _{disx}	REM _{prod}	AEM
Intercept	0.39767***	-0.13862***	0.05338***
Growth	0.1826***	-0.0594***	0.01434**
Leverage	-0.38072***	0.09715***	-0.00467
ROA	-0.60352***	-0.60687***	0.20514***
Sales Growth	0.22892***	0.05457***	-0.02845***
Size	-0.0285***	0.02068***	0.0021
Analyst	0.00104	-0.00442***	-0.00104***
SOX	0.0008	0.02136*	0.02929***
SOX*Growth	-0.01438	0.01131	-0.00388
<i>F-value</i>	125.22***	78.5***	32.3***
Adj. R ²	0.2129	0.1444	0.0638
Obs.	3685	3685	3685

Notes:

1. *, **, *** represent significance at the ten, five, and one percent levels, respectively.
2. In Panel B, the dependent variable is REM_{disx}, REM_{prod} or AEM, where REM_{disx} represents the level of abnormal discretionary expenses, where discretionary expenses are the sum of advertising expenses, R&D expenses and SG&A expenses, REM_{prod} represents the level of abnormal production costs, where production costs are defined as the sum of cost of goods sold and the change in inventories, AEM represents the level of abnormal accruals. Growth equals one for growth firms and zero for other firms; SOX equals one for fiscal years after 2002; Leverage equals the debt-to-equity ratio; ROA equals Return on assets; Sales Growth equals the percentage change in sales; Size equals the log of market value of equity; Analyst equals the number of analysts following the firm.
3. The sample consists of 3,685 firm-year observations, with 1,673 growth firm-year observations and 2,012 other firm-year observations.

Table III: Analysis of Suspect Growth and Other Firms that Just Meet/Beat Prior Earnings

Panel A. Descriptive statistics

Variables	Mean		T-test for difference
	Growth	Other	P-value
Leverage	0.1034	0.1456	0.0001
ROA	-0.0971	0.0299	0.0001
Sales Growth	0.1646	0.0852	0.0001
Size	5.3624	4.9514	0.0013
REM _{DISX}	0.4568	0.1921	0.0001
REM _{PROD}	-0.0212	-0.0355	0.4702
AEM	0.0575	0.0727	0.1364

Panel B. Regression analysis of earnings management differences between growth firms and other firms that just meet/beat prior earnings

	REM _{disx}	REM _{prod}	AEM
Intercept	0.33158***	-0.03223	0.08587***
Growth	0.06121*	-0.0348	0.01556
Leverage	-0.52732***	0.07536	-0.00134
ROA	-0.69959***	-0.47845***	0.17115
Sales Growth	0.36792***	0.08194**	-0.02454
Size	-0.01801***	-0.00516	-0.00936***
SOX	0.02671	0.03274	0.05222***
SOX*Growth	0.12081**	-0.01944	-0.005
<i>F-value</i>	72.37	24.62	13.61
Adj. R ²	0.311	0.1299	0.0739
Obs.	1108	1108	1108

Notes:

1. *, **, *** represent significance at the ten, five, and one percent levels, respectively.
2. In Panel B, the dependent variable is REM_{disx}, REM_{prod} or AEM, where REM_{disx} represents the level of abnormal discretionary expenses, where discretionary expenses are the sum of advertising expenses, R&D expenses and SG&A expenses, REM_{prod} represents the level of abnormal production costs, where production costs are defined as the sum of cost of goods sold and the change in inventories, AEM represents the level of abnormal accruals. Growth equals

one for growth firms and zero for other firms; SOX equals one for fiscal years after 2002; Leverage equals the debt-to-equity ratio; ROA equals Return on assets; Sales Growth equals the percentage change in sales; Size equals the log of market value of equity; Analyst equals the number of analysts following the firm.

3. The sample consists of 1,108 firm-year observations, with 421 growth firm-year observations and 687 other firm-year observations.

Table IV: Analysis of Suspect Growth and Other Firms that Just Meet/Beat Zero Earnings

Panel A. Descriptive Statistics

Variables	Mean		T-test for difference
	Growth	Other	P-value
Leverage	0.2736	0.228	0.0249
ROA	0.00257	0.00255	0.8678
Sales Growth	0.099	0.00954	0.0001
Size	6.2621	5.4836	0.0001
REM _{DISX}	0.1905	0.0826	0.0001
REM _{PROD}	-0.0148	-0.0129	0.9194
AEM	0.1002	0.0801	0.0336

Panel B. Regression analysis of earnings management differences between growth firms and other firms that just meet/beat zero earnings

	REM _{disx}	REM _{prod}	AEM
Intercept	0.20521***	-0.01555	0.07537***
Growth	0.09634***	0.03034	0.0265
Leverage	-0.22643***	-0.02853	-0.03903**
ROA	0.07837	-0.80463	1.86438
Sales Growth	0.13749***	0.09037***	0.02739
Size	-0.01248***	-0.0007	-0.00822***
SOX	-0.00903	0.02586*	0.02803***
SOX*Growth	0.03238	-0.07288*	-0.03753
<i>F-value</i>	13.42	2.03	5.04
Adj. R ²	0.083	0.0075	0.0286
Obs.	966	966	966

Notes:

1. *, **, *** represent significance at the ten, five, and one percent levels, respectively.
2. In Panel B, the dependent variable is REM_{disx}, REM_{prod} or AEM, where REM_{disx} represents the level of abnormal discretionary expenses, where discretionary expenses are the sum of advertising expenses, R&D expenses and SG&A expenses, REM_{prod} represents the level of abnormal production costs, where production costs are defined as the sum of cost of goods sold and the change in inventories, AEM represents the level of abnormal accruals. Growth equals one for growth firms and zero for other firms; SOX equals one for fiscal years after 2002; Leverage equals the debt-to-equity ratio; ROA equals Return on assets; Sales Growth equals the percentage change in sales; Size equals the log of market value of equity; Analyst equals the number of analysts following the firm.
3. The sample consists of 966 firm-year observations, with 132 growth firm-year observations and 834 other firm-year observations.

Table V: Regression Analysis of Earnings Management Strategy Differences Between Growth Firms that Just Meet/Beat Analyst Forecasts and Growth Firms that Just Meet/Beat Zero Profit or Prior Period Earnings

	REM _{disx}	REM _{prod}	AEM
Intercept	0.4940***	-0.1163***	0.0657***
Fixed Target	-0.1173***	0.0321	0.0053
SOX	-0.0149	0.0342**	0.0226***
SOX*Fixed Target	0.1319***	-0.0424*	0.0077
Leverage	-0.4446***	0.1583***	-0.0115
ROA	-0.7245***	-0.5550***	0.1571***
Sales Growth	0.3512***	0.0086	-0.0335***
Size	-0.0169***	0.0009	-0.0030*
<i>F-value</i>	103.58***	79.10***	20.21***
Adj. R ²	0.2444	0.1976	0.0571
Obs.	2221	2221	2221

Notes:

1. *, **, *** represent significance at the ten, five, and one percent levels, respectively.
2. The dependent variable is REM_{disx}, REM_{prod} or AEM, where REM_{disx} represents the level of abnormal discretionary expenses, where discretionary expenses are the sum of advertising expenses, R&D expenses and SG&A expenses, REM_{prod} represents the level of abnormal production costs, where production costs are defined as the sum of cost of goods sold and the change in inventories, AEM represents the level of abnormal accruals. Fixed Target equals one for zero profits or prior-year profit target meeting/beating firms and zero for analyst forecast target meeting/beating firms; SOX equals one for fiscal years after 2002; Leverage equals the debt-to-equity ratio; ROA equals Return on assets; Sales Growth equals the percentage change in sales; Size equals the log of market value of equity; Analyst equals the number of analysts following the firm.
3. The sample consists of 2,221 firm-year observations, with 1,666 analyst forecast target observations and 555 fixed target observations.