

THE EFFECT OF THE CAPITAL GAINS TAX RATE ON EARNINGS MANAGEMENT

By

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Abstract

I find evidence that when the capital gains tax rates fell before SOX regulations, earnings were managed up by United States based firms through both accrual and real methods. This maximizes executives take home pay. Just following SOX regulations, earnings were managed higher, which was predominately done through accrual methods. When the capital gains tax rates fell in 2013 levels of earnings management were lower, which is consistent with the idea that executives are looking to maximize their pay. How levels of institutional ownership affect earnings management is less conclusive. Earnings management is also influenced by how executives are compensated showing that managers who are primarily compensated through stock options bonuses may choose to manage earnings higher.

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The Effect of the Capital Gains Tax Rate on Earnings Management

1. Introduction

This study tests whether the capital gains tax rate has an effect on the level of earnings management by US companies. In this study, periods of falling and rising capital gains tax rates are examined. Specifically, when capital gain tax rates rise, I examine whether managers of companies manage earnings to a greater degree than at lower tax rates? Further, I examine whether methods of executive compensation or investor types affect levels of earnings management in times of rising/falling capital gains tax rates? Research has shown that capital tax rates affect human behaviors when trading stock; for example, when capital tax rates are set to increase, investors are more likely to recognize gains before the increase and less likely to recognize losses before the increase (Seide and Wempe, 1999). Furthermore, prior research has found that capital tax rates affect a firm's valuation in the eyes of shareholders. That is, when capital tax rates increase, investors will see lower after-tax gains on their investment and thus value the company at a lesser value (Guenther and Willenborg, 1999). Therefore, a change in capital gains tax rates creates an incentive for managers to manage

earnings that will either maximize their take home pay, or an opportunity to maintain a steady level of pay throughout both rising and falling rates.

Earnings management in companies is a problem that benefits a few (i.e. management) to the detriment of the companies' stakeholders. Recent examples of earnings management, which is normally hidden from the public, coming to light and becoming public knowledge such as Enron and Waste Management have shown that earnings management can either destroy a company or cause lasting damage to their reputation, while at the same time destroying value for shareholders.

Many papers have looked at the idea of earnings management and there is much evidence that points towards the fact that managers of companies are willing to manage earnings. Earnings can be managed either up or down. Managing up increases net income by the amount of profits that would not have normally been earned in the quarter as being earned. Often times this is done by taking profit from future periods and bringing it back. Managing earnings down creates "cookie jar" reserves that can be used to create additional income in future periods by tapping into these reserves through either readjusting estimates in an accrual method, or through real methods such as delaying shipment of products until the following quarter.

With earnings management being so important in our world today, it is important to try to bring to light reasons why managers may try to benefit themselves at the cost of those around them through methods of earnings management. By documenting another reason why managers would engage in

earnings management, it helps to better inform investors both at the individual and institutional level and will likely help to reduce earnings management in companies that are currently engaging in earnings management, but have yet to be caught.

2. Related Research

To the best of my knowledge, while a few studies have shown that the capital gains tax rate has an effect on investors' perceptions and behaviors, there is currently no research that specifically looks into how the capital gains tax rate affects levels of earnings management; however there is extensive research into the idea of earnings management and why it happens.

Effects of the Capital Gains Tax Rate on Investment

It is important to note that the capital gain tax rate affects individual companies' stock values in the eye of shareholders (Guenther and Willenborg, 1999). For instance, when the capital gain tax rate goes up, individual owners' gains resulting from selling their stock go down and, as such, they value the company at a lesser valuation when compared to before the rate increase due to their reduced income. This behavior could influence the amount of earnings management that managers of companies engage in for the reason that managers want the stock price to be high and they want to offset the reduction in shareholder valuation when rates go up. Research has shown that institutional investors have an effect on the magnitude of company's cost of equity. When

capital gains taxes are reduced, firms' cost of equity capital decreases. However, Institutional investors who are taxed at lower effective rates reduce the magnitude of this decrease (Dhaliwal et al., 2006). Firms who are owned primarily by institutional investors are likely to see less earnings management to compensate for firm value because the change in the capital gains tax rates will apply to a lesser degree than firms in which the primary form of ownership comes from individual investors.

Earnings Management

Prior research has shown that managers are known to “listen to the market” which means they will do what is best for the stock value of their company (Kau et al. 2008). If enough stockholders react negatively to something, managers will not go through with whatever their proposed idea was. This shows that managers are willing to do things they may not believe is in the best interest of their company in order to make sure the stock price of the company does not suffer.

Managers want to show improvement and success in their companies and, because of this, research has shown that executives attach a high importance to meeting earnings targets such as zero earnings, previous period's earnings, and meeting or beating analyst forecasts, and they are willing to manipulate earnings to achieve these results even though the manipulation will potentially reduce firm value (Graham et al. 2005). Research shows that managers are more willing to engage in earnings management when their compensation is tied closely to the value of their stock (Bergstresser and

Philippon, 2006). Thus, if a manager is not able to show organic success and growth in their company, they may be willing to turn to other methods to show growth even if it is fictitious in order to increase the company's stock price.

It should not be surprising that earnings can be managed in a variety of ways. For instance, evidence pointed to the idea that managers may accelerate sales, alter shipment schedules, and delay research and development and maintenance expenditures as different possible methods to use to manage earnings (Dechow and Skinner, 2000). This type of earnings management is called earnings management through real activities. Financial executives have indicated that they have a greater willingness to manipulate earnings through real activities rather than accruals because accrual manipulation is more likely to draw auditor or regulator scrutiny than real decisions about pricing and production. Secondly, relying on accrual manipulation alone entails a risk. The risk refers to the possibility that just through accrual methods, earnings will not be managed to a great enough extent to meet or beat analysts' expectations or enough to avoid reporting a loss. (Bruns and Merchant 1990). Knowing that managers are less likely to be caught using real activities methods of managing earnings, research has found that managers are willing to engage in real activities earnings management to avoid reporting a loss (Roychowdury, 2006). Real activities earnings management is used less frequently than accrual methods for discovering earnings management, but it warrants being used as managers have been found to be willing to engage in using real techniques.

Managers do not only use real activities to manage earnings; prior research has documented that they also may use accrual methods in order to manage their companies' earnings. A model that is often used to detect earnings management is the Jones model (Jones, 1991). This model relaxes the assumption that nondiscretionary accruals are constant and attempts to control for the effect of changes in a firm's economic circumstances on nondiscretionary accruals. However, more recently a modification of the Jones model has been used and found to work even more effectively at detecting earnings management by attempting to eliminate the tendency of the Jones Model to measure discretionary accruals with error when discretion is exercised over revenues (Dechow et al. 1995). This model has been found to have more power than the Jones model and has become the standard accrual detection method for earnings management.

Using two different methods of detecting earnings management is important in this study. Managers have both methods of earnings management at their disposal and investors should be aware of both methods due to the fact management may favor one method over another. For example, prior research shows that institutional investors are better informed than average investors and, therefore, managers perceive less benefit from managing accruals. As such, managers of companies are less likely to manage earnings if percentage of institutional ownership is high (Rajgopal et al., 1999). On the other hand, comparing accruals and real-activity based earnings management, Zang (2012) finds that firms with more institutional investors choose accruals more than real

activities for the earnings management method because such sophisticated investors monitor real activities, which affect the long-term performance of the firm, more closely. Therefore, while these firms manage earnings less than firms with low institutional ownership, they still do engage in accruals earnings management to get the short term benefits for both their company and themselves in the form of higher stock prices and higher compensation.

2. Hypothesis Development

As capital gains tax rates rise, managers will manage earnings higher in order to offset (1) the additional personal tax burden on their stock and options (2) the firm valuation loss of shareholders due to the rise in capital gains tax rates. In periods of falling capital gains tax rates, managers will reduce their levels of earnings management, as those managers want to receive compensation that is commensurate with their pay levels before the fall in the capital gains tax rate without having to manage earnings upwards to as great an extent and the firm value should rise due to higher after-tax gains for investors.

This argument does have a competing thought as to when managers would be most likely to manage their company's earnings. Managers may be motivated to manage earnings to a greater extent when capital gains tax rates decrease because this would maximize their total personal earnings to the amount of firm earnings they manage, as they would be paying a lower amount of tax on each dollar received from their sales of company stock. However,

research has shown that individuals prefer the status quo rather than making a decision that is inconsistent with how things have happened in the past (Samuelson and Zeckhauser, 1988) and, because of this, I hypothesize that managers who have grown accustomed to a certain level of take home pay will choose to manage earnings more when the tax rate is rising, to maintain the level of compensation, rather than to take advantage of falling capital gains tax rates.

H1: The change in capital gains tax rate is positively associated with earnings management.

Research has shown that when capital gains taxes are reduced, firms have a reduction in their cost of equity capital, but this reduction is diminished if institutional ownership is high (Dhaliwal et al., 2006). As such, managers of firms with low levels of institutional ownership will not have to manage earnings to as great an extent when capital gains tax rates fall. This is because the stock price will inherently be buoyed up because individual investors will get more profit when they dispose of their stock and, therefore, managers will not have to compensate for loss in value. Likewise, they will have to manage earnings to a greater degree when capital gain tax rates rise to offset the lost valuation of shareholders. This should not be nearly as pronounced in firms with a high level of institutional ownership, because their effective tax rate on stock is lower than individual investors. As such, these changes affect them to a lesser degree than those individual investors.

H2: The positive association between the capital gains tax rate and earnings management will be greater for firms with a low institutional ownership.

As H1 hypothesizes that the managers' motivation for earnings management is attributed to not only the change in firm value but also the change in after-tax earnings of their stocks and options, it is reasonable to assume that firms that compensate their managers mainly with performance-based compensations will be more affected by the capital gain tax rates than firms that pay fixed salary. A tension to this hypothesis is very similar to H1. Managers might be more willing to manage earnings during a fall in capital gains taxes as earnings management in a low-tax period would maximize their after-tax personal profits.

H3: During times of rising capital gains, the positive association between the capital gains tax rate and earnings management will be greater for firms that compensate managers primarily with stock options, relative to firms that pay managers primarily with a base salary and bonuses.

Research Design

In order to perform this test, I need to identify periods when capital gains tax rates have fallen or risen. This test will look at the time periods from 1998 to 1999, when the capital gains tax rate fell from 28% to 20%. I will also be testing the time period between 2003 and 2004 when the capital gains tax rate fell from

20% to 15%. The Sarbanes Oxley Act, which mandated strict reforms to improve financial disclosures, was enacted on July 30, 2002. As such, the data from the time period 2003 to 2004 could be affected by the new regulations this act brought and, because of this, the second time period is looked at for robustness to the first time period.

This study also needed a time period where the capital gains tax rates rose. I will be using the time period from January 2013 to present, where the capital gains tax rate when gone up from 15% to 20% or 23.8% depending on the level of income of the individual.

In order to investigate the effect the change in the capital gains tax rate had I will also need to look earnings management levels at times prior to these capital gains changes. To do this I will also be testing the two years prior to these changes; 1996 to 1997, 2001 to 2002, and 2011 to 2012.

To determine which firms have a high degree of institutional ownership, I will use firms that are owned by over 50% institutional owners; these are owners such as mutual funds, pension funds, and endowments. Firms that are owned by less than 50% institutional ownership are classified in this study as having a low degree of institutional ownership.

In order to test my hypotheses, I will be using multiple formulas. The two models will be used for my first hypothesis. The first model uses Roychowdhury's (2006) real method to detect earnings management.

$$EM = \alpha + b_1Tax + b_2Size + b_3MTB + b_4Growth + b_5Comp + b_6INST + b_7ROA + b_8CFFO + b_9ZSCORE$$

Where EM is found by using Roychowdhury's model with the added control variables of Tax, which will equal 1 in periods where the capital gains tax rate has risen or fallen. Size, which will be the logarithm of the market value of equity at the beginning of the year. MTB, which will be the market value of equity to book value. Growth is equal to the growth rate in sales of the company. Comp is equal to the average percent of total compensation officers receive in stock options. INST is equal to 1 if institutional ownership of a company is over 50% and a 0 otherwise. ROA is equal to return on assets from the prior year. ZSCORE is equal to the Altman-Z score where lower values signify a company in financial distress, and financial health is negatively associated with discretionary accruals (Menon and Williams 2004). Growth is the percentage growth in sales over the period. Growth has been found to be positively related to discretionary accruals (Menon and Williams 2004). CFFO is the cash flow from operations divided by total assets, which has also been shown negative relation to abnormal accruals (Ashbaugh 2003)

The second model I will be using uses the modified Jones model to predict levels of earnings management through accrual methods, this model is found in Dechow et al. 1995.

$$EM = \alpha + b_1 \text{Tax} + b_2 \text{Size} + b_3 \text{MTB} + b_4 \Delta \text{Sales} + b_5 \text{Comp} + b_6 \text{INST} + b_7 \text{TAcc}_{it-1} + b_8 \text{ZSCORE} + b_9 \text{ROA} + b_{10} \text{GROWTH} + b_{11} \text{CFFO}$$

Where TAcc_{it-1} is firm I's total accruals from the prior year, scaled by year t-2 total assets (Phillips et al. 2003).

In order to look at earnings management behaviors and how they differ between firms with high institutional ownership and those with low institutional ownership, an interaction term will need to be used. For my H2 I will be using:

$$EM = \alpha + b_1Tax + b_2INST_RANK + b_3TAX*INST_RANK + b_4Size + b_5MTB + b_6\Delta Sales + b_7Comp + b_8TAcc_{it-1} + b_9ZSCORE + b_{10}ROA + b_{11}GROWTH + b_{12}CFFO$$

In this formula INST_RANK is a dummy variable that equal 1 if institutional ownership is over 50%, and 0 otherwise.

To look at the relationship between levels of earnings management in firms whose managers are primarily compensated with stock options and firms where managers are not primarily compensated with stock options a different interaction term will need to be used. For H3 I will use:

$$EM = \alpha + b_1Tax + b_2Compensation + b_3TAX*Compensation + b_4Size + b_5MTB + b_6\Delta Sales + b_7Comp + b_8TAcc_{it-1} + b_9ZSCORE + b_{10}ROA + b_{11}GROWTH + b_{12}CFFO$$

Where Compensation is a dummy variable that equals 1 if average compensation for a manager in the company is over 50% in stock options, and 0 otherwise.

Results

All control variables have been winsorized at the 1st and 99th percentile in order to prevent outliers from affecting the results. Results include industry fixed

effects in order to control that the results were not affected by certain industry-wide characteristics unrelated to tax changes. Lastly, standard errors are clustered by firm in order for the regression to control for characteristics that are unique to each firm.

H3 was not run in periods 1 or 2 due to the fact that performance-based compensation data that included stock and option bonuses was not available for most firms in those periods.

[Insert Table 1]

Table 1 shows how accruals affected levels of earnings management in period 1, 2, and 3.

In period 1, the data shows that when looking at the main tax variable the coefficient (.009) is significantly positive at a 5% significant level, which shows that in post period of period 1 earnings management through accruals is 0.9% higher than it was in the pre-period. This result shows an adjusted R^2 of .0934. This result matches the competing theory discussed in H1 that managers are more willing to manage earnings when capital gains tax rates have fallen, thus maximizing their take home pay because they will be paying less tax on the additional value of their stock from managing earnings to a higher level.

[Insert Table 2]

Table 2 displays how abnormal discretionary expenses, one measure of real-activity earnings management used in Roychowdhury (2006), affected levels of earnings management in period 1, 2, and 3.

When looking at H1 through real methods, specifically abnormal discretionary expenses, it is seen that in period 1 the main tax variable coefficient (-.0148) is significantly negative at a 1% significance level meaning that earnings management was higher due to the fact that there was 1.48% less discretionary expenses, thus pushing earnings up. This result had an adjusted R^2 (.1314). This result is consistent with the competing theory discussed in H1 that managers are maximizing their take home pay by managing earnings to a greater extent when the capital gains tax rate falls.

[Insert Table 3]

Table 3 displays how abnormal production, another measure of real-activity earnings management used in Roychowdhury (2006), affected levels of earnings management in period 1, 2, and 3.

When looking at H1 through abnormal production methods it can be seen that the main tax variable coefficient (.0026) is insignificant, and the magnitude is very low. This result, while being insignificant is consistent with the competing theory discussed in H1, because a positive value indicates that earnings management was higher in the post tax period.

[Insert Table 4]

Table 4 displays how high institutional levels affected earnings management through accrual methods.

H2 results for period 1 are mixed. When looking at accruals it is seen that the main tax variable is insignificantly positive (.0085) and the interaction variable is also insignificantly positive (.0013). This result indicates that firms with low

institutional ownership manage earnings higher by .85% and firms with high institutional ownership manage earnings higher than that by .13%. This result was insignificant.

[Insert Table 5]

Table 5 displays how high institutional levels affect earnings management through abnormal discretionary expenses.

The results from abnormal discretionary expenses show that the main tax variable is significantly negative (-.0192) at the 10% significance level, which indicates that earnings management is higher for low institutional ownership firms. The interaction variable is insignificantly positive (.0052), indicating earnings management from firms with a high level of institutional ownership manage earnings to a lesser degree, which is consistent with my H2, that firms with high institutional ownership manage earnings to a lesser degree than firms with low institutional ownership.

[Insert Table 6]

Table 6 displays how high institutional levels affected earnings management through abnormal production.

The results of earnings management through abnormal production show that the main tax variable is insignificantly positive (.0108) and the interaction variable of firms with high institutional ownership is insignificantly negative (-.0119). This result is consistent with H2, that firms with high institutional ownership manage earnings to a lesser degree than firms with low institutional ownership.

In period 2 when looking at the main tax variable for earnings management through accruals, the coefficient (.0594) is significantly positive, and this is at a 1% significant level. This result shows that in the post period of period 2 earnings are managed 5.94% higher. This result was found with an adjusted R^2 of .0538. Again, matching the competing theory discussed in H1, that managers are looking to maximize their take home pay.

Looking at period 2's earnings management through abnormal discretionary expenses we see a very low coefficient of the main tax variable (.0043), which is insignificant. This result is puzzling indicating that earnings management was lower in the post period by .43%, but this result may be attributable to the fact that SOX regulations had just begun taking place in the United States.

The results gotten from abnormal production was found to be (.0059) this is a very low magnitude and is insignificant, however it is close to a 10% significance level. This results in earnings being managed upwards by .59%. This result is consistent with the competing theory in H1 that managers are looking to maximize their take home pay.

The results for H2 in period 2 are again, mixed. When looking at accrual methods of earnings management the main tax variable coefficient is 0.35 and is significant at a 10% level. When looking at the interaction variable of firms with high institutional ownership the coefficient (.0302) is seen to be insignificant, however it shows the association of earnings management is even higher for firms with a high level of institutional ownership in the post period.

When looking at abnormal discretionary expenditures the main tax coefficient (.0325) is significant at the 10% level and the interaction variable (-.036) coefficient is significant at the 5% level. This shows that low institutional ownership actually has less earnings management than firms with a high institutional ownership. This result is counter to my H2, that firms with high institutional ownership have less earnings management, however it is insignificant and perhaps can be explained due to the fact that SOX regulation came during period 2.

Lastly for period 2, looking at abnormal production it is seen that the coefficient for the main tax variable is insignificantly positive (.0108) and the interaction variable is insignificantly negative (-.0119) this result is consistent with my H2 that firms with a high level of institutional ownership have less earnings management.

For H1 in period 3 where capital gains tax rates have increased, we see a negative coefficient for the main tax variable (-.0061), although insignificantly negative. However, this insignificant result may be due to the fact that two years of data in the post tax change period was not available when the tests were conducted. However, while not being significantly negative it is important to see that when the capital gain tax rates increased earnings were seen to be managed 0.6% lower, which is consistent with the competing theory discussed in H1 that managers want to maximize their take home pay.

When viewing period 3's earnings management levels through abnormal discretionary expenditures the main tax variable's coefficient (-.0363) is

significantly negative indicating that discretionary expenditures are 3.63% lower in the post tax period. This result is puzzling, but as period 3 only has 1 year of post tax change data, the results are much more likely to be uncertain and weaker in their relationships.

Similarly puzzling, period 3's earnings management coefficient through abnormal production's main tax variable was found to be .0224, which is significant at the 1% level. This indicates that's earnings are managed 2.24% higher in the post tax change period.

When looking at H2 in period 3 all variables looked at are insignificant at a 10% level. Accruals tax variable coefficient is .1087 and the interaction variable coefficient is -.1305. This result is consistent with my hypothesis that a high institutional ownership percentage equates to less earnings management. When looking at real methods (abnormal discretionary expenditures) the tax variable coefficient is -.0152 and the interaction variable coefficient is -.0188, this result shows that there is more earnings management in high institutional firms, but at an insignificant level. Finally, with abnormal production the tax variable coefficient is -.0007 and the interaction variable coefficient is .0229 meaning that there is more earnings management in firms with a high institutional ownership, again at an insignificant level.

[Insert Table 7]

Table 7 displays how methods of compensation affected levels of earnings management through accruals.

H3 was only looked at in period 3 due to a limitation in data for executive bonuses in prior periods. When first looking at accrual earnings management methods, both the main tax variable and the interaction variable are insignificant. It is seen that the main tax variable coefficient is $-.0143$ and the interaction variable coefficient is $.0949$, this result while insignificant is consistent with my H3 that earnings are managed higher if executives of firm's primary method of compensation is bonuses in the form of stock options.

[Insert Table 8]

Table 8 displays how methods of compensation affected levels of earnings management through abnormal discretionary expenditures.

When looking at levels of earnings management from abnormal discretionary expenditures the main tax variables coefficient ($-.0383$) is significant at the 1% level, but the interactions variable coefficient of $.0046$ is insignificant this result runs opposite to my H3 that managers manage earnings higher if primarily compensated with stock option bonuses. This likely can be explained due to SOX and the greater penalties associated with being caught managing earnings.

[Insert Table 9]

Table 9 displays how methods of compensation affected levels of earnings management through abnormal production.

Lastly, when looking at abnormal production the tax main variable coefficient is $.0186$ and is significant at the 1% level, the interaction variable coefficient is $.0099$ and is insignificant. This again runs against my H3 that

managers manage earnings higher if primarily compensated with stock option bonuses and may be attributable to the lack of 2014 data.

Conclusion

This paper complements existing literature on earnings management. This study looks into the capital gains tax rate and how its rise or fall leads to differing levels of earnings management in US based firms. Prior literature has not focused on how the capital gains tax rate affects levels of earnings management. This paper documents evidence consistent with H1's competing theory that managers manage earnings to maximize their take home pay, and therefore manage earnings to a greater extent when capital gains tax rates fall, in period 1.

Both period 2 and period 3 show mixed results, which I believe can be attributed to SOX regulations and a lack of post-period data, respectively. H2 had insignificant results throughout all three periods. H3 shows evidence that perhaps manage earnings to a greater extent when they are primarily compensated with stock option bonuses.

Further, it would be interesting to continue this research when data from 2014 is available to see if any insignificant results in period 3 become significant, which may lead to a richer, more complete understanding of earnings management and when it occurs.

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Table 1
Effect on Earnings Management Through the Use of Accruals (Pre
to Post Period)

	Period 1	Period 2	Period 3
<i>INTERCEPT</i>	0.0463*** (4.06)	-0.0283 (7.51)	-0.0002 (0)
<i>TAX</i>	0.009** (2.44)	0.0594*** (7.51)	-0.0061 (-0.21)
<i>SIZE</i>	-0.0045*** (0016)	0.0049* (1.8)	0.0006 (0.09)
<i>MTB</i>	-0.0003 (-0.4)	.0046*** (2.68)	0.0141*** (2.63)
<i>Growth</i>	0.0694*** (5.66)	0.0287* (1.68)	-0.063 (-0.63)
<i>ROA</i>	0.3654*** (10.57)	0.1127*** (3.31)	0.1264 (0.74)
<i>CFFO</i>	-0.4486*** (12.23)	0.3315*** (-6.72)	0.7357*** (-4.04)
<i>TAcc_{t-1}</i>	0.0917*** (5.06)	0.2147*** (8.56)	0.0069*** (-7.04)
<i>ZSCORE</i>	0.0671* (1.95)	0.3315*** (3.21)	0.9262*** (2.33)
<i>INCENTIVE_RATIO</i>	-0.0223 (-0.44)	0.1195 (0.6)	0.0035 (0.08)
<i>INST_OWN_PERCENT</i>	0.0264** (2.5)	0.0194 (0.87)	0.0559 (1.04)
<i>N</i>	5587	5625	4075
<i>Fixed Effects</i>	Ind	Ind	Ind
<i>Cluster</i>	Firm	Firm	Firm
<i>Adjusted R²</i>	0.0934	0.0555	0.0113

Table 2
Effect on Earnings Management Through the Use of
Abnormal Discretionary Expenses (Pre to Post Period)

	Period 1	Period 2	Period 3
<i>INTERCEPT</i>	0.1279*** (4.07)	0.1434*** (4.05)	0.223*** (4.33)
<i>TAX</i>	-0.0148*** (2.88)	0.0043 (0.81)	-0.0364*** (-7.21)
<i>SIZE</i>	-0.0178*** (-4.28)	0.0224*** (-6.09)	-0.0289*** (-6.89)
<i>MTB</i>	0.0161*** (7.89)	0.0106*** (5.74)	0.0075*** (3.63)
<i>Growth</i>	0.1481*** (6.85)	0.0972*** (5.04)	0.1231*** (4.85)
<i>ROA</i>	-0.2731*** (-3.88)	0.1938*** (-3.83)	-0.3009*** (-3.47)
<i>CFFO</i>	0.0998 (1.5)	0.1822** (2.38)	0.3106*** (3.2)
<i>TAcc_{t-1}</i>	-0.082*** (-3.06)	0.0161 (1.37)	0.0045*** (5.99)
<i>ZSCORE</i>	0.1632* (1.92)	0.0719 (0.7)	-0.042 (-0.24)
<i>INCENTIVE_RATIO</i>	0.0391 (0.27)	-0.5358 (-1.62)	0.047* (1.75)
<i>INST_OWN_PERCENT</i>	-0.057** (-1.97)	-0.0522* (-1.88)	-0.0715* (-1.86)
<i>N</i>	4003	3905	2752
<i>Fixed Effects</i>	Ind	Ind	Ind
<i>Cluster</i>	Firm	Firm	Firm
<i>Adjusted R²</i>	0.1314	0.0768	0.1199

Table 3
Effect on Earnings Management Through the Use of Abnormal
Production (Pre to Post Period)

	Period 1	Period 2	Period 3
<i>INTERCEPT</i>	-0.0314 (-1.21)	-0.0138 (-0.47)	-0.07171* (-1.96)
<i>TAX</i>	.0027 (0.65)	0.0059 (1.42)	0.0225*** (5.47)
<i>SIZE</i>	0.017*** (4.97)	0.0134*** (4.3)	0.0157*** (4.93)
<i>MTB</i>	-0.0119*** (-7.27)	0.0082*** (-5.04)	-0.006*** (-3.98)
<i>Growth</i>	0.0525*** (2.77)	0.037*** (2.8)	0.1007*** (5.56)
<i>ROA</i>	-0.1426** (-2.57)	-0.014 (-0.49)	-0.0965* (-1.96)
<i>CFFO</i>	-0.5471*** (-9.99)	0.6157*** (-10.6)	0.6957*** (-9.66)
<i>TACC_{t-1}</i>	0.0456** (2.12)	-0.0068 (-0.73)	0.0051*** (-7.61)
<i>ZSCORE</i>	-0.2547*** (03.85)	-0.3533 (-4.71)	-0.1828 (-1.32)
<i>INCENTIVE_RATIO</i>	-0.0426 (-0.35)	0.5034 (1.73)	-0.0081 (-0.39)
<i>INST_OWN_PERCENT</i>	0.0065 (0.27)	0.0116 (0.51)	0.0396 (1.38)
<i>N</i>	4003	3905	2755
<i>Fixed Effects</i>	Ind	Ind	Ind
<i>Cluster</i>	Firm	Firm	Firm
<i>Adjusted R²</i>	0.2222	0.1975	0.2075

Table 4
Effect on Earnings Management Through Accruals when High
Institutional Ownership (Pre to Post Period)

	Period 1	Period 2	Period 3
<i>INTERCEPT</i>	0.0539*** (4.81)	-0.0075 (-0.33)	0.0022 (0.04)
<i>TAX</i>	0.0085 (1.37)	0.0354* (1.89)	0.1087 (1.02)
<i>INST_RANK</i>	.0083 (1.57)	-0.0102 (-1.19)	0.0386 (1.1)
<i>TaxXINST_RANK</i>	.0014 (0.18)	0.0302 (1.45)	-0.131 (-1.17)
<i>SIZE</i>	-0.0043*** (3.01)	0.0049* (1.8)	0.001 (0.14)
<i>MTB</i>	-0.0003 (-0.42)	.0047*** (2.71)	0.0142*** (2.65)
<i>GROWTH</i>	0.0704*** (5.76)	0.0298* (1.76)	-0.0605 (-0.6)
<i>ROA</i>	0.3691*** (10.64)	0.1194*** (3.53)	0.1227 (0.71)
<i>CFFO</i>	-0.4478*** (-12.17)	0.3915*** (-6.72)	0.7182*** (-3.97)
<i>TAcc_{t-1}</i>	0.0918*** (5.06)	0.2146*** (8.57)	0.0068*** (-6.96)
<i>ZSCORE</i>	0.0676** (1.96)	0.3322*** (3.22)	0.9526*** (2.39)
<i>INCENTIVE_RATIO</i>	-0.0246 (-0.49)	0.1073 (0.54)	-0.0011 (-0.03)
<i>N</i>	5587	5625	4075
<i>Fixed Effects</i>	Ind	Ind	Ind
<i>Cluster</i>	Firm	Firm	Firm
<i>Adjusted R²</i>	0.0929	0.0539	0.0091

Table 5
Effect on Earnings Management Through Abnormal Discretionary
Expenditures When High Institutional Ownership (Pre to Post Period)

	Period 1	Period 2	Period 3
<i>INTERCEPT</i>	0.1138*** (3.77)	0.1105*** (3.54)	0.1856*** (4.11)
<i>TAX</i>	-0.0192* (-1.92)	0.0325** (2.09)	-0.0152 (-0.52)
<i>INST_RANK</i>	-0.0175 (-1.46)	-0.0049 (-0.36)	-0.0172 (-0.64)
<i>TaxXINST_RANK</i>	0.0052 (0.42)	-0.036** (-2.17)	-0.0188 (-0.61)
<i>SIZE</i>	-0.0176*** (-4.54)	-0.0221*** (-6)	-0.0291*** (-6.9)
<i>MTB</i>	0.0161*** (7.92)	0.0106*** (5.69)	0.0076*** (3.63)
<i>GROWTH</i>	0.1454*** (6.7)	0.0962*** (5.02)	0.1202*** (4.72)
<i>ROA</i>	-0.2853*** (-4.15)	-0.2012*** (-4.02)	-0.3073*** (-3.51)
<i>CFFO</i>	0.0955 (1.46)	0.1846** (2.41)	0.3071*** (3.14)
<i>TAcc_{t-1}</i>	-0.0834*** (-3.11)	0.0151 (1.3)	0.0044*** (5.69)
<i>ZSCORE</i>	0.1624* (1.9)	0.0711 (0.69)	-0.0508 (-0.29)
<i>INST_OWN_PERCENT</i>	0.047 (0.32)	-0.5067 (1.52)	0.0521* (1.94)
<i>N</i>	4003	3905	2753
<i>Fixed Effects</i>	Ind	Ind	Ind
<i>Cluster</i>	Firm	Firm	Firm
<i>Adjusted R²</i>	0.13	0.0768	0.1135

Table 6
Effect on Earnings Management Through Abnormal Production when
High Institutional Ownership (Pre to Post Period)

	Period 1	Period 2	Period 3
<i>INTERCEPT</i>	-0.0333 (-1.32)	-0.0161 (-0.62)	-0.0495 (-1.56)
<i>TAX</i>	0.01076 (1.28)	0.01895* (1.78)	-0.0007 (-0.03)
<i>INST_RANK</i>	0.00343 (0.34)	0.01285 (1.15)	0.0085 (0.42)
<i>TaxXINST_RANK</i>	-0.0119 (-1.13)	-0.0152 (-1.33)	0.0229 (1.07)
<i>SIZE</i>	0.01747*** 5.15	0.0133*** (4.31)	0.0158*** (4.88)
<i>MTB</i>	-0.0119*** (-7.27)	-0.0082*** (-5.06)	-0.0061*** (-4)
<i>GROWTH</i>	0.05259*** (2.78)	0.0372*** (2.82)	0.1022*** (5.66)
<i>ROA</i>	-0.138** (-2.51)	-0.0176 (-0.57)	-0.0925 (-1.61)
<i>CFFO</i>	-0.5445*** (-9.98)	-0.6028*** (-10.53)	-0.6952*** (-9.63)
<i>TAcc_{t-1}</i>	0.0462** (2.15)	-0.0067 -0.72	-0.0051*** (-7.49)
<i>ZSCORE</i>	-0.2547*** (-3.85)	-0.3518*** (-4.7)	-0.1777 (-1.29)
<i>Incentive Ratio</i>	-0.0445 (-0.36)	0.4997* (1.72)	-0.0106 (-0.51)
<i>N</i>	4003	3905	2753
<i>Fixed Effects</i>	Ind	Ind	Ind
<i>Cluster</i>	Firm	Firm	Firm
<i>Adjusted R²</i>	0.2222	0.1976	0.2065

Table 7
Effect on Earnings Management Through
Accruals when Compensation is Mainly
Bonuses (Pre to Post Period)

	Period 3
<i>INTERCEPT</i>	-0.1136 (-1.09)
<i>TAX</i>	-0.0143 (-0.24)
<i>Compensation</i>	-0.0084 (-0.43)
<i>TaxXCompensation</i>	0.0949 (1.07)
<i>SIZE</i>	0.00926 (0.85)
<i>MTB</i>	0.0152** (2.15)
<i>Growth</i>	-0.0367 (-0.31)
<i>ROA</i>	0.1745 (-3.08)
<i>CFFO</i>	-0.7172*** (-3.08)
<i>TACC_{t-1}</i>	-0.0057*** (-5.86)
<i>ZSCORE</i>	1.0244** (2.19)
<i>INST_OWN_PERCENT</i>	0.09658 (1.25)
<i>N</i>	4075
<i>Fixed Effects</i>	Ind
<i>Cluster</i>	Firm
<i>Adjusted R²</i>	0.006562

Table 8
 Effect on Earnings Management Through
 Abnormal Discretionary Expenses when
 Compensation is Mainly Bonuses (Pre to Post
 Period)

	Period 3
<i>INTERCEPT</i>	0.2256*** (4.38)
<i>TAX</i>	-0.0384*** (-5.33)
<i>Compensation</i>	0.0135 (1.22)
<i>TaxXCompensation</i>	0.0047 (0.38)
<i>SIZE</i>	-0.0285*** (-6.81)
<i>MTB</i>	0.0077*** (3.68)
<i>GROWTH</i>	0.1245*** (4.85)
<i>ROA</i>	-0.3018*** (-3.46)
<i>CFFO</i>	0.3148*** (3.26)
<i>TAcc_{t-1}</i>	0.0045*** (5.98)
<i>ZSCORE</i>	-0.0189 (-0.11)
<i>INST_OWN_PERCENT</i>	-0.0746* (-1.95)
<i>N</i>	2753
<i>Fixed Effects</i>	Ind
<i>Cluster</i>	Firm
<i>Adjusted R²</i>	0.1152

Table 9
 Effect on Earnings Management Through
 Abnormal Production when Compensation
 is Mainly Bonuses (Pre to Post Period)

	Period 3
<i>INTERCEPT</i>	-0.0715* (-1.96)
<i>TAX</i>	0.0187*** (3.36)
<i>Compensation</i>	-0.0119 (-1.32)
<i>TaxXCompensation</i>	0.01 (0.98)
<i>SIZE</i>	0.016*** (5.05)
<i>MTB</i>	-0.0059*** (-3.95)
<i>GROWTH</i>	0.1007*** (5.54)
<i>ROA</i>	-0.0947 (-1.63)
<i>CFFO</i>	-0.6932*** (-9.67)
<i>TAcc_{t-1}</i>	-0.0051*** (-7.59)
<i>ZSCORE</i>	-0.1755 -1.27
<i>INST_OWN_PERCENT</i>	0.0388 (1.36)
<i>N</i>	2753
<i>Fixed Effects</i>	Ind
<i>Cluster</i>	Firm
<i>Adjusted R²</i>	0.2079