EARNINGS MANAGEMENT, WEAK INTERNAL CONTROLS, AND FIRM SIZE

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ABSTRACT

We investigate the association between earnings management and internal control weaknesses as well as the association between earnings management and firm size. We use two samples: one from large accelerated filers, matched with the same number of firms with strong internal control, and the other from accelerated filers with internal control weaknesses, matched with the same number of firms with strong internal control. Using a modified Jones model, we determine that firms with weak internal control manage their earnings more than do those with strong internal control. The test result is robust for accelerated filers but only modest for large accelerated filers, suggesting that large firms manage their earnings less than do other firms. The results suggest that firm size is an important factor in determining earnings management. The findings are important for (1) regulators who may consider additional disclosure requirements for accelerated filers, non-accelerated filers, and smaller firms and (2) auditors who may increase their scrutiny of financial statements of these firms.

INTRODUCTION

The Sarbanes-Oxley Act (SOX) of 2002 requires each registrant to establish and maintain effective internal control. Section 404 0f SOX requires company's management to assess and to report on the effectiveness of internal control over financial reporting. A system of internal control consists of policies and procedures that are designed to provide reasonable assurance that the firm achieves its objectives. Auditors are required to attest to and to issue an opinion on the fairness of the management report and the design and operation of internal control over financial reporting. The purpose of these requirements is to enhance the reliability of financial statements and to make these statements reflect the economic reality of the company's performance. Auditing Standard No. 2 indicates that a material weakness is a significant deficiency or combination of significant deficiencies that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. The emphasis on internal control reflects the perception that effective internal control may reduce or prevent misrepresentation of the company's actual economic performance. Thus, weak internal control may provide an opportunity for earnings management.

Earnings management involves managers' using judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Wahlen, 1999). Research on internal control indicates that weak internal control may increase the probability of errors in accounting numbers (Hagerty, 2005; McDonald and Francis, 2005) and may lead to low-quality accounting accruals from both unintentional and intentional errors (Ashbaugh-Skaife, Collins, and Kinney, 2007; Doyle, Ge, and McVay, 2007a). Research on earnings management has focused on a

number of areas, including the association between earnings management and the components of the firm's governance system. Nevertheless, there is limited research on the impact of weak internal control on earnings management, and the only known study in this regard is that of Chan et al. (2008), who compared a sample of accelerated filers category with weak internal control to those with strong internal control from the same category and found modest evidence that firms with weak internal control have more positive discretionary accruals and absolute discretionary accruals than do the other firms Our research expands that of Chan et al. to include the earnings management in the large accelerated filers with weak internal control and with strong internal control. As such, firm size is introduced as a factor in this paper. Kim, Liu, and Rhee (2003) tested whether firm size has an impact on earnings management but did not control for weak internal control in their sample. Our research, however, tests samples from accelerated filers and large accelerated filers, taking into account the strength of internal control. The remainder of this paper is organized as follows. Section II presents related literature, followed by our research hypotheses. Section III consists of a discussion of sample selection and methodology. Section IV presents the empirical findings of our research, and section V provides a summary and conclusions.

LITERATURE REVIEW

A number of studies has tested the association between earnings management and the components of corporate governance. Corporate governance is the system by which companies are directed and controlled. Rezaei and Roshani (2012) find that the higher the proportion of institutional ownership, the greater the independence of the board of directors and the higher the use of efficient earnings management. Bowen, Rajgopal, and Venkatachalam (2008) findings suggest some evidence that discretion accruals due to poor governance are positively associated with future operating cash flows and return on assets, which indicates that shareholders may benefit from earnings management because it signals future performance. Beasley (1996), Chtourou et al. (2001) show that the characteristics of the board of directors have an important impact on the quality of financial reporting. Specifically, the experience of the independent board members as directors of both the firm and other firms reduces the probability of high earnings management.

Further, Klein (2002a) and Dechow, Sloan, and Sweeney (1996) indicate that, with a higher level of board independence, companies will reduce earnings management. Klein (2002a) tested whether both audit committee characteristics and board characteristics were associated with earnings management. She finds that there is a negative relationship between the independence of both and the presence of abnormal accruals. Jenkins (2002) investigates the relation between earnings management and audit committee effectiveness as a factor score that is passively associated with four characteristics of audit committee: percentage of outside directors, the percentage of financial experts, number meetings a year, and the committee size. Her results suggest that outside members mitigate earnings management. Yang and Krishnan [2005], testing the magnitude of quarterly earnings management during 1996-2000, report insignificant effects with respect to the presence of a financial expert as a member of the audit committee.

Prawitt, Smith, and Wood (2009) investigated the relationship between internal audit function quality and earnings management. They used a measure of the internal audit function quality that is based on the six internal audit principles found in SAS No. 65. They find that internal audit function quality is associated with a moderate level of earnings management. But Davidson, Goodwin-Stewart, and Kent (2005) find no evidence if an internal audit function is associated with a lower level of earnings management. Bradshaw, et al. (2001) investigate the relationship between the external auditors turnover and earnings management. They find no evidence of greater turnover of external auditors after higher levels of accruals. Brown and Pinello (2007) results suggest that a year-end financial audit by external auditors reduces manager's opportunities to manage earnings if the fourth quarter. Frankel, et al. (2002) results suggest that there is a negative association between audit fees and indicators of earnings management. In contrast, they find no association between total fees and any indicators of earnings management, indicating that combining audit and non-audit fees into a single measure covers their differential incentive effects

Krishnan et al. (2011) examined the relationship between CFO/CEO-board social ties and earnings management over the 2000–2007 period. Their results suggest that CFO/CEOs chose more socially connected directors in the post-SOX period, possibly as a way out of the mandated independence requirements. The results also suggest a positive relationship between CFO/CEO-board social ties and earnings management. Dichiv, et al. (2013) administered a survey to CEOs about earnings quality and earnings management. The CEOs indicate that about 60% of earnings management is income-increasing, while 40% is income decreasing. The CEOs also point out to the signs of earnings management such as "paying attention the top managers running the company, the lack of correlation between earnings and cash flows, and significant deviation between firm and peer experience".

Chan et al. (2008) tested whether firms that report material weaknesses under Section 404 of SOX have more earnings management than do other firms. Their results provide weak evidence that there are more positive and absolute discretionary accruals for firms with weak internal control than for firms with strong internal control. Wu, Liu, and Frederick (2011) provide evidence that, after the remediation of internal control deficiencies, the proportion of income from managers' earnings management activities in information value will decline, leading to improvement of the firm's reporting. Burgstahler and Dichiv (1997) find both large and small firms engaged in earning management. Kim, Liu, and Rhee (2003) argue that large firms may take into consideration reputation costs when they engage in earnings management, while small firms may engage in earnings management to avoid reporting losses. The related literature shows there is limited research on the association between earnings management and internal control weaknesses as well as firm size. Thus, the present research contributes to the literature by introducing firm size as a factor and exploring the aforementioned associations.

HYPOTHESES

SOX requires each registrant to establish and maintain effective internal controls over financial reporting. One of the main objectives of internal controls is to enhance the reliability of financial statements. Strong internal control systems prevent fraud and safeguard a company's assets. Because management compensation is, to some extent, based on a company's performance, management may attempt to inflate revenues and overstate assets and/or decrease expenses and understate liabilities and to do so, in particular, when net income is low, negative, or does not meet analysts' expectation as a means to maximize the compensation to management. Effective internal control may reduce or prevent such management manipulation. If management is to pursue the goal of maximizing its compensation, it may relax some controls in an attempt to manage earnings as a means to implement its scheme. Therefore, we expect that weak internal control will be associated with earning management in all firms. Thus, we posit the following;

H$_1$: Accelerated filers with weak internal control tend to manage their earnings

H$_2$: Large accelerated filers with weak internal control tend to manage their earnings.

Large accelerated filers tend to have access to additional resources and to have a well-developed infrastructure; as such, they have more sophisticated internal control than do accelerated filers. Moreover, large accelerated filers are normally audited by big four audit firms. These firms usually have more qualified personnel than do other firms. Gore et al. (2001) find that non-big audit firms allow more earnings management than do big audit firms. Lennox (1999) finds that the audit reports issued by large firms are more accurate and more informative and, thus, that the size of audit firms is positively associated with financial statements accuracy. Finally, large accelerated filers tend to have more effective audit committee than do accelerated filers, given that the large firm usually are audited by large audit firms. For these reasons large accelerated filers may engage in less earnings management than do accelerated filers.

Some research, however, suggests the opposite, namely, that there is a positive relationship between firm size and discretionary accruals. Larger firms with more capital market pressure and more bargaining power are more likely to manage their earnings than are small firms (Myers and Skinner, 2000; Nelson et al., 2002). Thus, our third hypothesis is:

H_3: Large accelerated filers manage their earnings less than do accelerated filers.

DATA and METHOLODOGY

<u>Data</u>

The objective of this paper is to test whether firms with weak internal control manage their earnings more than do firms with strong internal control. To do so, we used two samples: one from accelerated filers with weak internal control matched with the same number of firms with strong internal control and the other from large accelerated filers with weak internal control matched with the same number of firms with strong internal control. We utilized Accounting Research Manager to identify these firms. We restricted our search to accelerated and large accelerated filers. The Securities and Exchange Commission (SEC) categorizes firms that are required to file 10-Ks into four categories based on firm size: large accelerated, accelerated, non-accelerated, and small reporting companies. Accelerated filers generally include companies with an aggregate market value of voting and non-voting common equity held by non-affiliates of the issuer (referred to as "public float") of $75 million but less than $700 million as of the last business day of the issuer's most recently completed second fiscal quarter. Large accelerated filers, in contrast, are firms with an aggregate market value of voting and non-voting common equity held by non-affiliates of the issuer (referred to as "public float") as over $700 million as of the last business day of the issuer's most recently completed second fiscal quarter.

Sample selection consists of a database search followed by the screening of the 10-Ks. The database contains 1,851 and 4,210 companies identified as large accelerated filers and accelerated filers, respectively. In the first phase, the authors searched the database for large accelerated filers with material weaknesses disclosed in their 10-Ks between January 2005 and January 2009. Then the same search was made for accelerated filers for the same period. This period was chosen for two reasons: first, to avoid the recession period as a confounding variable and, second, the earlier period was excluded on the assumption that, during that period, these companies would not have sufficient experience to maintain effective internal controls.

The term "adverse opinion" is used to search the database. The search produced 183 and 226 large accelerated filers and accelerated filers, respectively, which had the term in their 10-Ks. The 10-Ks of these firms were individually screened. Specifically, the management report on internal controls and the auditor's opinion on the weaknesses of internal controls. From these firms, 90 firms were randomly selected from large accelerated filers and 90 firms from accelerated filers. We matched these firms with the same number of firms (and years) of the same two-digit code with effective internal control. The total number of observation is 360. Tables 1 and 2 show the distribution of these companies across industries. It is worth noting that more than one-third of the experimental group comes from the technology sector and business services. This finding is consistent with previous research (Bulkeley et al., 2005).

Table 1: Sample Distribution by Industry for Accelerated Filers

Industries (Based on 2-Digit SIC Codes)	ICW Firms	Non-ICW Firms
Oil and gas extraction	9	9
Paper and allied products	1	1
Printing, publishing & allied	2	2
Chemicals & allied products	8	8
Primary metal industries	1	1
Fabricated metal products, except machinery and transportation equip.	3	3
Industrial and commercial machinery and transportation equipment.	10	10
Electronic and other electrical equip. and computer equipment	16	16
Measuring, analyzing, and controlling Instruments; photographic; Medical and Optical goods; watches and clocks	12	12
Communications	5	5
Wholesale trade- durable goods	2	2
Business services	18	18
Engineering, accounting, research, management, and related services	3	3
Total	90	90

Table 2: Sample distribution by Industry for Large Accelerated Filers

Industries (Based on 2-Digit SIC Codes)	ICW Firms	Non-ICW Firms
Fabricated metal products, except machinery and transportation equip.	4	4
Electronic and other electrical equip. and computer equipment	12	12
Printing, publishing & allied	2	2
Business services	20	20
Oil and gas extraction	10	10
Engineering, accounting, research, management, and related services	3	3
Industrial and commercial machinery and transportation equipment.	12	12
Paper and allied products	1	1
Primary metal industries	1	1
Chemicals & allied products	13	13
Measuring, analyzing, and controlling Instru.; photographic; medical and Optical goods; watches and clocks	9	9
Wholesale trade- durable goods	3	3
Communications	2	2
Total	90	90

Model

Researchers use several models to detect earnings management. The earlier models estimate discretionary accruals by firm using time series data until year *t-1* and predict the values of accruals for year *t*. This estimation assumes the stability of coefficients. Defond and Jiambalvo (1994) propose the use of cross-sectional data to estimate discretionary accruals to avoid the assumption of the stability of coefficients and to reduce the likelihood of the misspecification of the model. Bartov et al. (2001) find that the cross-sectional Jones model and the cross-sectional modified Jones model outperform time series models in detecting earnings management. Because we use cross-sectional data, we will use the modified Jones model. Dechow et al. (1995) find that the modified Jones model outperforms the Jones model in detecting earnings management. They argue that the Jones model implicitly assumes that discretion is not exercised over revenue in either the event period or the estimation period. The modified Jones model assumes that all changes in credit sales in the event period are caused by earnings management. The main difference between the Jones model and the modified Jones model is that the modified Jones model takes into account change in receivables as a result of change in revenues. Based on the above, this research utilizes the following modified Jones model.

$$TA1 = \beta0 + \beta1\,(1/At - 1) + \beta2\,(\Delta REVt - \Delta RECt\,) + \beta3\,(PPEt) + \varepsilon t \qquad (1)$$

Where TA is total accruals. Total accruals are calculated as the difference between net income before discontinued operation and extraordinary items and cash flows from operation. A_{t-1} denotes total assets at the beginning of the year. ΔREV_t , and ΔREC_t are change in revenues and account receivables, respectively, and PPE_t is gross property, plant, and equipment. ΔREV_t, ΔREC_t and PPE_t capture nondiscretionary accruals where the error term ε_t captures the discretionary accruals

RESULTS

Descriptive Statistics and Modified Jones Model for Large Accelerated Filers

As noted, the large accelerated filers are divided into weak and strong internal control. First half of table 3 provides the descriptive statistics and correlations for total accruals and several other measures for 90 large accelerated filers with strong internal control. The total accruals average is -0.0517; the primary reason for the negative accrual value is depreciation accrual. The interquartile range is -0.076 to -0.026, but the standard deviation is close to the value of the mean, at around 0.055, suggesting that the coefficient of variability is slightly over 1 and that the distribution does not seem to have a long tail relative to the normal distribution. Moreover, the mean and the median values of the total accruals are almost the same, suggesting that the distribution is symmetrical. The average *DEF* value is positive (0.122), suggesting that the companies' change in revenue is higher compared to their change in receivables, and the standard deviation of *DEF* is much larger in comparison to mean, suggesting that the coefficient of variability is twice as large as the mean and has a fat tail as compared to a normal distribution. The mean is larger than the median values of *DEF*, suggesting a positive skew. This is important for comparison purposes, as most of the large accelerated filers with strong internal control have a lower *DEF* value than what the average *DEF* suggests. The average *PPE* is positive as anticipated and appears to be close to a normal distribution (mean and median are not far apart). We find a significant and strong negative correlation between *DEF* and total accrual as well as between *PPE* and total accrual.

Table 3: Descriptive Statistics and Correlations

Large Accelerated Filers-Strong Internal Control										
N=90	**Mean**	**Median**	**Std. Deviation**	**Variance**	**Q1**	**Q3**	**Total Accruals**	**1/Assets**	**DEF**	**PPE**
Total Accruals	-0.0517	-0.050	0.0554	0.0030	-0.0761	-0.0264				
1/Assets	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.165			
DEF	0.1225	0.0720	0.2998	0.0899	0.0254	0.1251	-0.512**	0.127		
PPE	0.3907	0.3076	0.3122	0.0974	0.1636	0.6017	-0.315**	-0.163	0.184	
Large Accelerated Filers-Weak Internal Control										
Total Accruals	-0.0714	-0.0573	0.1196	0.0143	-0.0969	-0.0223				
1/Assets	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-0.08			
DEF	0.1165	0.0701	0.1572	0.0247	0.0274	0.1835	-0.03	0.12		
PPT	0.3051	0.1992	0.2705	0.0732	0.1078	0.4721	-0.05	-0.14	0.14	

**significant at 0.01 level (two-tail).This table provides descriptive statistics and correlations for total accrual and other measures for 90 large accelerated filers with weak and strong internal control. We find that the average total accrual for large accelerated filers with weak internal control is 29% larger (in terms of absolute values) that that of firms with strong internal control. We also find the coefficient of variability to be significantly larger for weak internal control in comparison to the strong internal control. These results could indicate that the earnings are managed when large accelerated filers have weak internal control.

Second half of Table 3 provides the descriptive statistics and correlations for total accrual and other measures for 90 large accelerated filers with weak internal control. The average value of total accrual

average is -0.0714, and the interquartile range is -0.097 to -0.022. The standard deviation, however, is close to twice the value of the mean total accrual, at around 0.12, suggesting that the coefficient of variability is close to 2, a long tail relative to the normal distribution. Moreover, the mean value is smaller than the median values of the total accrual, suggesting a negative skew distribution. The average *DEF* value as well as the *PPE*, as seen in lower half of Table 3, suggest a positive skew, and the standard deviations of *PPE* and *DEF* are slightly larger in comparison to the mean *PPE*, suggesting that the coefficient of variability is greater than 1. We find no significant correlations between the variables.

When comparing the descriptive statistics of large accelerated filers with strong internal control, we would anticipate the magnitude of the total accrual to be smaller in comparison to the weaker internal control. From the values provided in Tables 3, we find that the average total accrual for large accelerated filers with weak internal control is 29% larger (in terms of absolute values) that that of firms with strong internal control. We also find the coefficient of variability to be significantly larger for weak internal control in comparison to the strong internal control. These results could indicate that the earnings are managed when large accelerated filers have weak internal control.

In an attempt to get appropriate evidence to support the claim that earnings are managed due to weak internal control (and not just based on the mean and coefficient of variability), we use the modified Jones model. Based on the modified Jones model, as noted, we use a multiple linear regression with total accruals as the dependent variable and 1/assets, *DEF*, and *PPE* as independent variables. The regression model summaries of both the weak and strong internal controls are provided in Table 4, whereas the coefficients of the predictors in both are provided in Table 5.

Table 4: Model Summary for Large Accelerated Filers

Model	R	R Square	Adjusted R Square	Residual	F
Large Accelerated Filers-Strong Internal Control	0.60	0.35	0.33	0.045	15.38**
Large Accelerated Filers-Weak Internal Control	0.1	0.01	-0.024	0.121	0.293

**significant at 0.01 level (two-tail). This table shows the regression model summary for large accelerated filers. Based on the results, we can say that the predictors that were employed by the strong internal control for the modified Jones model were able to predict the total accrual in a significant way; in contrast, for weak internal control, the predictors failed to explain any variability in total accrual

As seen in Table 4, the model with weak internal control does not have a significant *F* value. The omnibus *F*-test for the overall model has failed; however, we see that the omnibus *F*-test for the strong internal control model is significant, which means that the overall model for strong internal control is valid. Taking a closer look at the *R*-Square (coefficient of determination), we see that amount of variability in the total accrual is better explained by the predictors of the strong internal control model. The *R*-Square value for strong internal control (35%) is significant, but because the model for weak internal control is not significant, we cannot compare the *R*-Square values. Based on the model summary, we can say that the predictors that were employed by the strong internal control for the modified Jones model were able to predict the total accrual in a significant way; in contrast, for weak internal control, the predictors failed to explain any variability in total accrual. This result is supported by the residual (error) in the regression; weak internal control has a residual value of more than twice that of strong internal control. The results presented in Table 5 show that all the coefficients of predictors are significant for strong internal control, and we do not find any multicollinearity issues. Specifically, according to the modified Jones model, large accelerated filers with weak internal control tend to manage their earnings. Thus, we find support for Hypothesis 2.

Table 5: Regression Coefficients Large Accelerated Filers

Large Accelerated Filers - Strong Internal Control					Large Accelerated Filers - Weak Internal Control				
Independent Variables	Coefficient (Beta)	T-Value	Tolerance	p-value	Independent Variables	Coefficient (Beta)	T-Value	Tolerance	p-value
(Constant)	-0.036	-3.942		0.001**	(Constant)	-0.051	-2.003		0.048*
1/Assets	25476.3	2.214	0.948	0.030*	1/Assets	-16174.6	-0.790	0.959	0.432
DEF	-0.093	-5.597	0.941	0.001**	DEF	-0.010	-0.121	0.961	0.904
PPT	-0.034	-2.104	0.930	0.038*	PPT	-0.026	-0.531	0.956	0.597

**significant at 0.01 level (two-tail); * significant at 0.05 level (two-tail). This table shows the regression coefficients for large accelerated filers The results presented in the table show that all the coefficients of predictors are significant for strong internal control, and we do not find any multicollinearity issues. Specifically, according to the modified Jones model, large accelerated filers with weak internal control tend to manage their earnings.

Descriptive Statistics and the Modified Jones Model for Accelerated Filers

The second group considered in this paper is accelerated filers, which were further divided into weak and strong internal control. First half of Table 6 presents the descriptive statistics and correlations for total accrual and several other measures for 90 accelerated filers with strong internal control. The total accrual average is -0.188. The interquartile range is -0.123 to -0.008, but the standard deviation is close to the value of 1.025, suggesting that the coefficient of variability is slightly over 5 and that the distribution has a fat tail relative to the normal distribution. Moreover, the mean is significantly smaller compared to the median value, signifying that the distribution is negatively skewed and not symmetrical. We find that the average total accruals for large accelerated filers with strong internal control are significantly smaller in comparison to accelerated filers. We would anticipate that large accelerated filers have more stringent strong internal control in comparison to accelerated filers with strong internal control and, thus, manage their earnings less. The average *DEF* value is positive (0.1). The mean is larger than the median values of *DEF*, suggesting a positive skew. The average *PPE* is positive as anticipated and is close to the normal distribution (mean and median are not far apart). We find a significant and strong negative correlation between *DEF* and total accrual as well as between 1/Assets and total accrual. Although we find a strong positive correlation between 1/asset and *DEF*, we later find no multicollinearity issues (shown later in Table 8).

Table 6: Descriptive Statistics and Correlations

Accelerated Filers-Strong Internal Control										
N=90	Mean	Median	Std. Deviation	Variance	Q1	Q3	Total Accruals	1/Assets	DEF	PPE
Total Accruals	-0.188	-0.050	1.025	1.050	-0.123	-0.008				
1/Assets	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-0.72**			
DEF	0.100	0.030	0.245	0.060	-0.030	0.210	-0.57**	0.44**		
PPE	0.275	0.193	0.233	0.054	0.102	0.440	0.03	-0.06	-0.23	
Accelerated Filers-Weak Internal Control										
Total Accruals	-0.10	-0.07	0.67	0.45	-0.12	-0.02				
1/Assets	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-0.40**			
DEF	0.16	0.07	0.35	0.12	0.01	0.21	0.15	0.08		
PPT	0.25	0.15	0.25	0.06	0.07	0.34	0.03	-0.15	0.02	

**significant at 0.01 level (two-tail); Comparing the descriptive statistics of accelerated filers with strong internal control to weak control, we would anticipate the size of the total accrual to be smaller for strong in comparison to weak internal control. We find that the average total accrual for accelerated filers with strong internal control is 88% larger in comparison to weak internal control.

Second half of Table 6 presents the descriptive statistics and correlations for 90 large accelerated filers with weak internal control. The average value of total accrual average is -0.10. The interquartile range is -0.12 to -0.07, but the standard deviation is close to 7 times the value mean total accrual, at around 0.67, suggesting that the coefficient of variability is close to 7, a long tail relative to the normal distribution. Moreover the mean value is smaller than the median values of the total accrual, suggesting a negatively skewed distribution. We find that the average total accruals for large accelerated filers with weak internal control are smaller in comparison to accelerated filers. The average *DEF* value, as seen in second half of Table 6, suggests a positive skew, and the standard deviation of *DEF* is larger in comparison to the mean *DEF*, suggesting that the coefficient of variability is more than 1.

The *PPE* seems to be symmetrical distributed, and, except for 1/assets' being related to total accrual, we find no significant correlations between the variables.Comparing the descriptive statistics of accelerated filers with strong internal control to weak control, we would anticipate the size of the total accrual to be smaller for strong in comparison to weak internal control. Based on the values provided in Tables 6, we find that the average total accrual for accelerated filers with strong internal control is 88% larger in comparison to weak internal control. This is not in support of our hypothesis, although caution must be exercised in interpreting this finding because a better understanding could be achieved through the use of the modified Jones model. We find the coefficient of variability slightly larger for weak internal control as compared to strong internal control. These results may not indicate clearly, however, whether earnings are managed when accelerated filers have weak internal control. We use the modified Jones model to gain more clarity on earnings management in accelerated filers. The regression model summaries of both the weak and strong internal controls are provided in Table 7, whereas the coefficients of the predictors for both are provided in Table 8.

Table 7: Model Summary for Accelerated Filers

Model	R	R Square	Adjusted R Square	Residual	F
Accelerated Filers- Strong Internal Control	0.78	0.61	0.59	0.66	43.93**
Accelerated Filers- Weak Internal Control	0.44	0.20	0.17	0.61	7.031**

**significant at 0.01 level (two-tail); This table shows the regression model summary for accelerated filers The R-Square value for strong internal control (61%) is much higher than R-square (20%) for weak internal control. The model summary indicates that the predictors that were employed by the strong internal control for the modified Jones model were able to predict the total accrual much better than could those for the weak internal control model, for which the predictors explained less variability in total accrual.

The results in Table 7 indicate that both weak and strong internal control have a significant *F* value for the overall model. The omnibus *F*-test for the overall model is supported. A closer look at the *R*-Square (coefficient of determination) indicates that amount of variability in the total accrual is better explained by the predictors of the strong internal control model as compared to weak internal control. The *R*-Square value for strong internal control (61%) is much higher than *R*-square (20%) for weak internal control. The model summary indicates that the predictors that were employed by the strong internal control for the modified Jones model were able to predict the total accrual much better than could those for the weak internal control model, for which the predictors explained less variability in total accrual. However, the residuals (error) in the regression for weak internal control have a slightly lower residual value in comparison to the residuals in strong internal control. The results in Table 8 indicate that all coefficients, except the *PPE* coefficients of predictors, are significant for strong internal control, whereas only 1/assets have a significant coefficient for weak internal control. We did not find any multicollinearity issues in either model. These results indicate that, according to the modified Jones model, the accelerated filers with weak internal control tend to manage their earnings. Thus, we find support for Hypothesis 2.

Table 8: Regression Coefficients Accelerated Filers

Accelerated Filers – Strong Internal Control					Accelerated Filers – Weak Internal Control				
Independent Variables	Coefficient (Beta)	T-Value	Tolerance	p-value	Independent Variables	Coefficient (Beta)	T-Value	Tolerance	p-value
(Constant)	0.253	2.143		0.0345*	(Constant)	-0.033	-0.331		0.741
1/Assets	-11294.65	-7.747	0.803	0.001**	1/Assets	-6153.06	-4.319	0.972	0.001**
DEF	-1.354	-4.184	0.764	0.001**	DEF	0.349	1.885	0.993	0.063
PPT	-0.345	-1.129	0.946	0.262	PPT	-0.096	-0.365	0.977	0.716

**significant at 0.01 level (two-tail); * significant at 0.05 level (two-tail); *This table shows the regression coefficients for accelerated filers. Table indicates that all coefficients, except the PPE coefficients of predictors, are significant for strong internal control, whereas only 1/assets have a significant coefficient for weak internal control*

<u>Modified Jones Model for a Comparison of Accelerated and Large Accelerated Filers</u>

Again, we used the modified Jones model to draw comparisons between accelerated and large accelerated filers with both weak and strong internal control. The regression model summaries of both the accelerated and large accelerated filers are presented in Table 9, while the coefficients of the predictors for the two groups are presented in Table 10. The model summary in Table 9 indicates that both models are statistically significant. We observe that the residual value of large accelerated filers is almost 7 times smaller than that of accelerated filers, indicating that large accelerated filers manage their earnings less in comparison to accelerated filers. Thus, we find evidence to support Hypothesis 3. Additionally, we see that the *R*-square value of large accelerated filers is significantly smaller in comparison to that of accelerated filers, and, as noted, the *R*-square value of large accelerated filers for both strong and weak internal control is lower than that of accelerated filers. The results presented in Table 10 show that, for the modified Jones model, there is one significant independent variable for each group.

Table 9: Model Summary for Large Accelerated and Accelerated Filers

Model	R	R Square	Adjusted R Square	Residual	F	P-Value
Large Accelerated Filers	0.22	0.05	0.03	0.092	3.02	0.031*
Accelerated Filers	0.61	0.37	0.36	0.69	34.13	0.001**

*significant at 0.01 level (two-tail); *significant at 0.05 level (two-tail); The model summary in Table 9 indicates that both models are statistically significant. We observe that the residual value of large accelerated filers is almost 7 times smaller than that of accelerated filers, indicating that large accelerated filers manage their earnings less in comparison to accelerated filers.*

Table 10: Regression Coefficients Large Accelerated and Accelerated Filers

Large Accelerated Filers					Accelerated Filers				
Independent Variables	Coefficient (Beta)	T-Value	Tolerance	p-value	Independent Variables	Coefficient (Beta)	T-Value	Tolerance	p-value
(Constant)	-0.039	-2.932		0.004**	(Constant)	0.095	1.144		0.254
1/Assets	-7899.330	-0.635	.950	0.526	1/Assets	-10299.043	-9.570	0.940	0.001**
DEF	-0.071	-2.416	.955	0.017*	DEF	-0.118	-1.036	0.944	0.302
PPT	-0.028	-1.177	.934	0.241	PPT	-0.136	-0.627	0.986	0.532

**significant at 0.01 level (two-tail); * significant at 0.05 level (two-tail); The results presented in Table 10 show that, for the modified Jones model, there is one significant independent variable for each group.*

DISCUSSION

Effective internal control over financial reporting is a significant part of an organization's commitment to good governance that ensures, among other things, that the company has the ability to prepare reliable

financial statements. In the absence of effective internal control, firms are able to manage their earnings. The results of this research support this hypothesis with different level of strength For accelerated filers, the result is robust, while, for large accelerated filers, the result is weak as compared to firms with strong internal control. This difference may be attributed to a variety of factors, e.g., large accelerated files have more resources that may be devoted to establishing strong internal control. Many large accelerated filers have begun to adopt continuous control monitoring, which will help them to better govern their activities and to avoid risk, therefore enhancing the reliability of their financial statements. Such a practice will make it difficult for them to manage their earnings. Warfield et al. (1995) documented that a good corporate governance system may mitigate earnings management and improve the quality of financial statements. In addition, these firms have the resources to hire a sufficient number of qualified internal auditors, which reduces the likelihood of earnings management. Moreover, large accelerated filers usually are audited by the big four, who have the most qualified and experienced auditors, which prevents or reduces the possibility of earnings management. Francis et al. (1999) documented that the big 6 (now big 4) auditors mitigate earnings management more than did non-big 6 auditors.

Moreover, large accelerated filers may incur additional cost in terms of reputation if they engage in earnings management. They build up success over time due to their good understanding of their processes, market, environment, customers, and financial conditions. It is difficult for these firms to sacrifice their success for earnings management. Further, in practice, there are many firms that receive unqualified opinions on their financial statements while they receive adverse opinions on their internal control. In some cases, one may find that both management and employees are working in good faith and avoiding misrepresentation. Their financial statements are reliable in the absence of strong internal control. In other cases, management may agree to make adjustments proposed by an external auditor that make the financial statements present fairly, in all material respects, the firm's financial position and the results of operation and cash flows. The findings of the research are partially consistent with the results of Chan et al. (2008), who found that large firms with strong internal control manage their earnings less than do smaller firms. However, their findings do not apply to large accelerated filers with weak internal control.

CONCLUDING COMMENTS

The objective of this paper is to investigate the association between earnings management and internal control weaknesses, as well as the association between earnings management and firm size. Accounting Research Manager Database was utilized to randomly select two samples: one from large accelerated filers with weak internal control matched with the same number of firm of large accelerated filers with strong internal control; the second sample is from accelerated filers with weak internal control matched with the same number of firm from accelerated filers with strong internal control. The modified Jones model was used to detect the earnings management in both samples.

The results provide evidence that both large accelerated and accelerated filers with weak internal control manage their earnings more than the large accelerated filers and accelerated filers with strong internal control. The evidence is robust for accelerated filers while it is weak for large accelerated filers. The results suggest that firm size has a positive impact on earnings management. The findings of this research provide empirical evidence that effective internal control enhances the reliability of financial statements, reduces earnings management, and emphasizes the potential benefits of section 404 of SOX. The findings are important for regulators who may consider additional disclosure requirements for accelerated filers, non-accelerated filers, and smaller firms and who may devise a policy that may help in reducing earnings management by these firms. The findings also are important for auditors who may increase their scrutiny of the financial statements of these firms. The limitation of this research is that it focuses on large accelerated filers and accelerated filers excluding non-accelerated filers and small firms. The results of this research may not apply to these firms. Future research may focus of the motivations for earnings

management such as corporate governance structure, the board size, CEO compensations, and board independence

REFERENCES

Ashbaugh-Skaife, H., Collins, D., and Kinney, W. (2007). "The discovery and reporting of internal control deficiencies prior to SOX-mandated audits." *Journal of Accounting and Economics*, Volume 44, Issue 1-2. PP 16-192.

Beasley, M. S. (1996), "An empirical analysis of the relationship between the board of director composition and financial fraud". *The Accounting Review* 71, (October) 433-465.

Bowen, R., S. Rajgopal, and M. Venkatachalam. (2008), "Accounting discretion, corporate governance, and firm performance." *Contemporary Accounting Research* 25 (2): 351-405.

Bradshaw, Mark T., Scott A. Richardson, and Richard G. Sloan, (2001) "Do analysts and investors use information in accruals?" *Journal of Accounting Research* 39, 45-74.

Brown, L. D, and A. S. Pinello. (2007). "To what extent does the financial reporting process curb earnings surprise games? " *Journal of Accounting Research* 25 (5): 947-981.

Bulkeley, William, M. and Robert Tomsho.(2005). "Kodak to Get Auditors' Adverse View." *Wall Street Journal*, January 27, p 7.

Burgstahler, D., and I. Dichev. (1997), "Earnings Management to Avoid Earnings Decreases and Losses." *Journal of Accounting and Economics* 24 (1): 99–126.

Chan, Kam C. and Farrell, Barbara R. and Lee, Picheng, (2008), "Earnings Management of Firms Reporting Material Internal Control Weaknesses Under Section 404 of the Sarbanes-Oxley Act." Auditing: A Journal of Practice & Theory, Volume 27, Issue 2 (November 2008) pp. 161-179.

Chtourou, Sonda Marrakchi, Jean Bédard, and Lucie Courteau (2001) "Corporate governance and earnings management." *Working paper*, Université. Laval, Quebec City, Canada

Davidson, R., J. Goodwin-Stewart, and P. Kent. (2005). Internal governance structures and earnings management." *Accounting and Finance* 45 (2): 241-267.

Dechow, P.; R. Sloan, and A. Sweeney (1996), "Causes and consequences of earnings manipulations: An analysis of firms subject to enforcement actions by the SEC". *Contemporary Accounting Research*, Vol. 13, pp. 1-36.

Dechow, P., Sloan, R., Sweeney, A., 1995. Detecting earnings management. *The Accounting Review* 70, 193-225.

DeFond, M., and J. Jiambalvo. (1994). "Debt covenant violation and manipulation of accruals." *Journal of Accounting and Economics,*17: 145–176

Dichev Ilia, John Graham, CampellR. Harvey, and Shiva Rajgopal (2013) "Earnings quality: evidence from the field". *Working paper*, Emory University.

Doyle, J., Ge, W. and McVay, S. (2007a). "Determinants of weaknesses in internal control over financial reporting and the implications for earnings quality." *Journal of Accounting & Economics*, September. Vol. 44, pp.193-223.

Francis, J.R., E.L. Maydew, and H.C. Sparks. (1999). "The Role of Big 6 Auditors in the Credible Reporting of Accruals." *Auditing,* 18 (2): 17-34.

Frankel, R. M., M. F. Johnson, and K. K. Nelson. (2002). "The relation between auditors' fees for nonaudit services and earnings management." *The Accounting Review* 77 (4): 71-105.

Gopal V. Krishnan, K. K. Raman, Ke Yang, and Wei Yu (2011) "CFO/CEO-Board Social Ties, Sarbanes-Oxley, and Earnings Management." *Accounting Horizons:* September 2011, Vol. 25, No. 3, pp. 537-557.

Gore, P., P. F. Pope, and A. K. Singh. (2001". "Non-Audit Services, Auditor Independence, and Earnings Management." *Working Paper*, Lancaster University.

Hagerty, J. (2005). "Fannie Mae is cited for 'deficiencies'; Regulator sets for conditions to correct internal controls; Office of Compliance created." *Wall Street Journal*, May 9, page. A.3.

Healy, P. M. & Wahlen, J. M., (1999). "A Review of the Earnings Management Literature and Its Implications for Standard Setting, "*Accounting Horizons*, 13(4), pp. 365-383.

Hermanson. Dana R, Jason L. Smith, and Nathaniel M. Stephens (2012) "How Effective are Organizations' Internal Controls? Insights into Specific Internal Control Elements." Current Issues in Auditing: June 2012, Vol. 6, No. 1, pp. A31-A50.

Jenkins, N. T. (2002). "Auditor independence, audit committee effectiveness, and earnings management. *Ph.D. dissertation proposal*," Henry B. Tippie College of Business, The University of Iowa.

Kim, Y., Liu, C., & Rhee, S. G. (2003). 'The Effect of Firm Size on Earnings Management." *Working paper*, College of Business Administration the University of Hawaii.

Klein, A. (2002a). "Audit committee, board of director characteristics, and earnings management," *Journal of Accounting and Economics* 33 (August): 375-400.

Kothari, S.P., A. J. Leone, and C. E. Wasley. (2005). "Performance matched discretionary accrual measures." *Journal of Accounting and Economics* 39: 163–197.

Krishnan, Gopal V., K. K. Raman, Ke Yang, Wei Yu, (2011), " CFO/CEO-Board Social Ties, Sarbanes-Oxley, and Earnings Management," *Accounting Horizons,* Vol. 25, No. 3. pp. 537-557, September 2011.

Jones, J. (1991), Earnings management during import relief investigations. Journal of Accounting Research 29: 193–228.

Lennox, C. (1999), "Are Large Auditors More Accurate Than Small Auditors?" *Accounting and Business Research* 29 (3): 217-227.

McDonald, I. and Francis, T. (2005), "AIG to restate over four years to fix errors; Move will reduce net worth of giant insurer by $2.7 Billion; Range of accounting issues grows." *Wall Street Journal*, May 2, page C.1.

Myers, L., and D.J. Skinner. (2000). "Earnings Momentum and Earnings Management." *Working Paper*, University of Michigan.

Nelson, M. W., J. A. Elliott, and R. L. Tarpley. (2002), "Evidence from Auditors about Managers' and Auditors' Earnings-Management Decisions". *The Accounting*

Prawitt, D. F., J. L. Smith, and D. A. Wood (2009), "Internal audit function quality and earnings management". *The Accounting Review* 84 (4): 1255-1280. Review 77 (Supplement): 175-20

Rezaei, F. & Roshani, M., (2012). 'Efficient or opportunistic earnings management with regards to the role of firm size and corporate governance practices,' *Interdisciplinary Journal of Contemporary Research in Business,* 3(9).

Wu, Jia, Linxiao Liu, and Frederick Jones (2011) "Firm value and earnings management after internal control weakness remediation." *International Journal of Business Research.* Sept. Volume: 11 Issue: 5

Warfield, T. D., J. J. Wild, and K. L. Wild. (1995), "Managerial Ownership, Accounting Choices, and Informativeness of Earnings." *Journal of Accounting & Economics* (July): 61-92.

Yang, J. S. and J. Krishnan. (2005). "Audit committees and quarterly earnings management." *International Journal of Auditing* 9, 201–219.

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