

TESTING FOR INTERNAL CONTROL WEAKNESSES IN ACCELERATED FILERS

Yousef Jahmani, Savannah State University
Mohammed I. Ansari, Retired Professor of Economics
William Dowling, Savannah State University

ABSTRACT

In this paper we investigate the determinants of firms' weaknesses in internal control in the accelerated filer group. Previous research identified five determinants of weak internal control for a sample of public firms. This research confines the sample to accelerated filers. Accelerated filers, according to the SEC, are firms with market capitalization between 75 million and less than 700 million dollars. Our sample consists of 114 firms with weaknesses in their internal control matched with a similar number of firms with effective internal control. Six variables were tested: revenue growth, total assets, debt/equity ratio, restructuring, number of segments, and return on assets. The results from ANOVA and logistic regression analyses suggest that firms that restructure their operations, have more segments and/or have lower or negative return on assets tend to have weaknesses in their internal control. We also find that 27% of firms with weak internal control restated their financial statements whereas less than 1% for the control group issued restated statements. Moreover, the correlation coefficient between income from operations and cash flows from operating activities was found to be significant for the control group but not for the experimental group. We interpret this as an indication of a possible earnings management in the financial statements of the experimental group. Our findings are important as they carry significant informational value for regulators, financial statement users, and auditors

INTRODUCTION

The collapse of many large firms such as Enron, WorldCom, and others has led to question the efficacy of regulations and oversight from the regulators and the integrity of the management practices of these firms. These unfortunate incidents indicate that the government regulations and oversight had loopholes and that the companies' management seeking their best interests exploited these loopholes, thus eroding public confidence in financial statements.

The Sarbanes-Oxley Act of 2002 (SOX) represented a landmark in the history of public company financial regulation. Its passage was an attempt to restore public confidence in the financial statements by closing these loopholes and making the financial statements more

reliable. While SOX includes many important sections, Section (404) in particular requires that annual reports for each public company must include an internal control report indicating management's responsibility for establishing and maintaining effective internal controls over financial reporting. The report must also include an end of fiscal year assessment, of the effectiveness of the internal controls structure. Additionally, SOX requires that an external auditor attest to, and report on the assessment made by the management of the company integrated with the financial statement audit. It is worth noting that the requirement of internal control was established by The Foreign Corruption Act of 1977; but has become the focus of the regulatory agencies only recently.

The Committee of Sponsoring Organization (COSO) of the Treadway Commission defined internal control as "a process affected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives" (COSO, 1992). Effective internal control assists companies in providing reliable financial statements, safeguarding the company's assets, promoting efficient operations, and complying with existing laws and regulations. A material weakness in internal control, on the other hand, is a significant deficiency that can result in material misstatement that may not be prevented or detected in a timely manner. Kinney and McDaniel (1989); Doyle, Ge, and McVay (2007a); and Ashbaugh-Skaife, Collins, and Kinney (2007) point out that weak internal controls are likely to increase the probability of material errors in accounting disclosures and/or lead to low quality accounting accruals as a result of intentional earnings management and unintentional accounting errors.

Internal control weaknesses have been the subject of a number of empirical research papers in recent years. Doyle *et. el.* (2007a) examined the determinants of internal control weaknesses and found that firms with internal control weaknesses are generally smaller, less profitable, more complex, fast growing, or undergoing restructuring. Their sample consisted of public firms of different sizes. Given that small firms have limited resources and lack financial and accounting expertise, the cost of establishing an effective internal control system may become prohibitive for these firms. Therefore, firm-size might be a dominant factor in internal control weaknesses for most firms. Large firms, on the other hand, may have different determinants of internal control weaknesses. The purpose of this paper is to test whether the determinants of internal control weaknesses, as noted by Doyle *et al.* (2007a), apply to accelerated filers. The SEC defines accelerated filers as those firms with market capitalization between 75 and less than 700 million dollars. These firms are more likely to have financial resources and accounting expertise. The SEC requires these firms to report on the effectiveness of their internal control over financial reporting for fiscal years ending on or after November 15, 2004.

The remainder of this paper is organized as follows: Section II discusses some related literature and presents our research hypotheses; Section III consists of a discussion on sample

selection and methodology; Section IV presents the empirical findings of our research; and section V provides a summary and conclusions.

RELATED RESEARCH AND HYPOTHESES

Related Research

Recent literature on internal control weaknesses has taken two avenues. The first examines the association between internal control weaknesses and other variables such as earnings management, earnings quality, and information uncertainty. The second avenue looks at the characteristics of firms with internal control weaknesses. Bedard's (2006) findings suggest that SOX requirements improve earnings quality. Ashbaugh *et al.* (2007) found that firms with internal control deficiencies have more complex operations, greater accounting risk, more auditor resignations, fewer resources, and have recently gone through organizational changes. Comparing firms reporting internal control weaknesses with other firms, Chan *et al.* (2007) found some evidence that firms with internal control weaknesses managed their earnings better—suggesting that these firms may improve their internal control to comply with SOX, therefore, reducing accounting errors and improving the quality of reported earnings. Zhang *et al.* (2007) investigated the relationship between audit committee, auditor independence, and internal control weaknesses and found that internal control weaknesses are more likely associated with audit committees that have less financial and nonfinancial accounting expertise. They also found that the findings of internal control weaknesses are more likely associated with auditors that are more independent.

Doyle *et al.* (2007a) examined the determinants of internal control weaknesses over financial reporting for firms of different sizes for the period between 2002- 2005. They found that material weaknesses in internal controls are more likely associated with firms that were smaller, less profitable, more complex, fast growing, or undergoing restructuring. Their findings are consistent with the idea that firms struggle with their financial reporting controls due to lack of resources, to the existence of complex accounting issues, and to facing a rapidly changing business environment. They also found that the strength of the determinants varies depending on the type of material weakness disclosed. Bryan and Lilien (2005) found that material weaknesses were associated with small firms with weaker performance as compared with the control group. Additionally they found that firms with material weaknesses have higher betas or risk coefficients.

Our paper departs from Doyle *et al.* (2007a) paper in three ways. First, their sample represented all companies required to file 10-Ks with the SEC. Included in their sample were large accelerated filers, accelerated filers, non-accelerated filers, and small companies. Our sample consists only of accelerated filers, which are relatively homogeneous in size relative to the heterogeneity with respect to size in Doyle *et al.* (2007a). Given that establishing and

maintaining internal control is costly, accelerated filers are assumed to have sufficient resources to do so while smaller firms have no such advantage. Doyle *et al.* (2007a) found that firms with internal control weaknesses are more likely to be smaller. It is possible that accelerated filers may have different determinants of internal control weaknesses or some of the determinants found by Doyle *et al.* (2007a) are not valid for the group under consideration.

Second, Doyle *et al.* (2007a) selected their sample from firms disclosing weaknesses in their internal control during the period from August 2002 to August 2005. During this period, the SEC extended the implementation of internal control requirements to November 15, 2004 for accelerated filers. While non-accelerated filers and small firms were extended to later dates, most firms voluntarily disclosed internal control information, thus raising the issue of the bias of self-selection.

Lastly, the majority of the firms had little or no experience in establishing and maintaining effective internal control. Consequently, internal control weaknesses may have attributed to the lack of experience. In contrast, our sample represents firms disclosing internal control weaknesses from January 2006 to January 2008. It is assumed that all firms have acquired the necessary experience during this period.

Test Hypotheses

In this section we present a set of hypotheses that we intend to test along with a brief explanation. Firms that experience significant increases in their revenues in a short period of time may need to increase personnel, modify processes, and adjust technology to meet the increased demand for products or services on a timely basis. These changes would mean a need for increased control. Some firms may ignore this need for additional control and even go so far as to override or ignore existing controls. Kinney and McDaniel, (1990), Stice (1991), and Ashbaugh-Skaife, *et al.* (2007) indicated that fast growing firms may outgrow their existing controls and may take time to establish new and better controls. To do this, new personnel, processes, controls, and technology are required to match the sudden growth in revenue. Therefore, our first hypothesis is:

- H1: Firms that experience sudden increases in their revenues tend to have Internal control weaknesses.

The establishment of effective internal control as stipulated by SOX requires more resources to implement. It is assumed that large firms, whether measured by market capitalization or total assets, have the resources, expertise and technology, and enjoy economies of scale and, therefore, can satisfy the requirements. Small firms lack these components to mobilize. We, therefore, expect small firms within accelerated files to have weak internal controls. Namely, we

expect the smaller firms in our sample to have weaknesses in their internal controls. Hence, our second hypothesis is:

H2: Small firms within the accelerated filers category tend to have internal control weakness.

Firms operate in a constantly changing environment and need to adapt by restructuring their operations to improve efficiency and reduce their costs to be able to compete in the market. They may have to eliminate unnecessary and unprofitable operations and departments. They may have to terminate employees and/or dispose of groups of assets or segments. They may even acquire new subsidiaries. These changes may not occur simultaneously with changes in appropriate controls. Moreover, restructuring may require a firm to make complex accrual estimates and adjustments (Dechow and Ge 2006). Thus, restructuring may leave some processes without controls or the existing controls may have become ineffective. Therefore we posit the following hypothesis:

H3: Firms that restructure their operations are expected to have weaknesses in their internal control.

The debt/equity ratio (DR) is a measure of the relative proportion of shareholder's equity and total debt used to finance a firm's assets. The DR differs from industry to industry but in general it should be less than 1, though for capital intensive industries like the auto industry it may reach 2. A high DR generally means that a company has an aggressive financing policy. This situation may lead to volatile earnings as a result of modest change in revenue due to the high financial leverage. For short-term debt, a firm has to satisfy its obligations from current assets. For long-term debt, the firm has to pay periodic interest from its earnings stream and pay the principal from fixed assets or retained earnings when it becomes due. If firms have high DRs, they may need to find and mobilize their resources to meet these obligations leaving little or nothing to meet other needs including internal control. This is the basis of our fourth hypothesis:

H4: Firms that have high DRs tend to have weak internal controls.

A firm's profitability is vital for its survival. Profits provide firms with more resources to devote to different needs including internal control. If a firm incurs a loss or its rate of return is very low, it will limit its ability to mobilize resources to establish good control. DeFord and Jiambalvo (1991) found that financial reporting errors are negatively associated with a firm's performance. Krishnan (2005) finds that the existence of a loss is positively associated with weak internal control in firms that change auditors. Therefore, we expect that firms that incur

losses or those with a low rate of return on assets to have weaknesses in their internal control. This is captured in our fifth hypothesis:

H5: Firms with low or negative rates of return on assets as compared with other firms tend to have weaknesses in their internal control.

It is easier for a single firm to establish and monitor internal control than multi-segmented firm. The latter firms have need for sophisticated internal control. The more segments a firm has, whether geographical or business line, the more difficulties the firm has in consolidating information for financial statements, given that some segments or divisions operate in different institutional and legal environments. Thus, it is more likely that firms with multi-segments will have weak internal control systems. Our sixth and final hypothesis is:

H6: Firms with more segments tend to have weak internal controls.

SAMPLE SELECTION AND METHOD OF ANALYSIS

Sample Selection

The SEC categorizes firms that are required to file 10-Ks with them, into four categories according to their size: large accelerated, accelerated, non-accelerated, and small reporting companies. Both accelerated filers and large accelerated filers are required to file a report on the effectiveness of their internal controls and provide control attestation on their 10-K. Accelerated filers must currently file their annual reports on Form 10-K within 75 days of the end of its fiscal year. Beginning with fiscal years ending on or after November 15, 2004 the Management Report and the Control Attestation are to become a part of that annual report.

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. The definition of an accelerated filer is based, in part, on the requirements for registration of primary offerings for cash on Form S-3. Previous researchers selected their samples from companies across all four categories. Since the small firms and non-accelerated filers were not required to report on the effectiveness of their internal controls during the period under consideration, they were excluded from our sample. Accelerated filers, on the other hand, have more resources than small and non-accelerated filers and are better able to maintain effective internal controls. Therefore, in the current research the authors chose accelerated filers as their population of interest.

Sample selection consists of two phases: first the database search; and second, the screening process of the 10-Ks. The Accounting Research Manager is the database used to search for companies with internal control weaknesses. The database contains 4,210 companies identified as accelerated filers. The authors searched the database for accelerated filers with material weaknesses disclosed in their 10-Ks between January 2006 and January 2008. This period was chosen for two reasons: to avoid the recession period as a confounding variable; and to exclude the earlier period on the assumption that during that period these companies would not have sufficient experience to maintain effective internal controls. Three terms were used to search the database: “material weaknesses”; “a deficiency or a combination of deficiencies”; and “adverse opinion”. The first two terms produced mixed results while the third one resulted in 226 firms that had the term in their 10-Ks.

Phase two began by screening each 10-K, specifically the auditors’ opinion on effectiveness of internal controls and management report on internal control. The final sample consisted of 114 companies that disclosed material weaknesses in their 10-K and management report. Other companies had effective internal control, were in the developmental stage, had insufficient data or filed their 10-Ks prior to the period under consideration. Table 1 shows the distribution of these companies across each business sector. It is worth noting that more than one third of the experimental group comes from the technology sector. This finding is consistent with previous research (Bulkeley *et. al*, 2005). It may be difficult for technology firms to establish and monitor good internal control due to the fact that most of the controls in these firms are not easily observed. If some controls are either missing or not working as intended, they will not be detected.

The control group with effective internal controls was obtained to match the same number from each sector in the experimental group. Thus, the final sample includes 114 companies with strong or effective internal controls that represent the control group and 114 companies with weak or ineffective internal controls that comprise the experimental group.

Sector	Experimental group		Control group	
	Number	Percentage	Number	Percentage
Basic Materials	8	7%	8	7%
Consumer Goods	11	9.6%	11	9.6%
Healthcare	15	13.2%	15	13.2%
Industrial goods	9	7.9%	9	7.9%
Services	26	22.8%	26	22.8%
Technology	42	36.9%	42	36.9%
Utilities	3	2.6%	3	2.6%
Total	114	100%	114	100%

Table 2 shows the number and the percentage of firms in both experimental and control group audited by the big four audit firms. The percentage of firms audited by the big audit firms is approximately 37.7% for the experimental group, and 34.2% for the control group.

Audit Firms	Experimental Group		Control group	
	# of companies audited	%	# of companies audited	%
ERNST & YOUNG LLP	15	13.2	24	21.1
Deloitte & Touche LLP	22	19.3	14	12.3
KPMG LLP	20	17.5	19	16.7
PRICEWATERHOUSECOOPERS LLP	14	12.3	18	15.7
Others	43	37.7	39	34.2
Total	114	100%	114	100%

Table 3 classifies the firms according to the type of internal control weaknesses. It is noteworthy that one third of these firms have weaknesses at the company level or in the revenue recognition process. Anderson & Yohn (2002) argued that revenue recognition may be perceived by investors to be more intentional than restatements related to expense items. That is firms appear to manage their earnings through the manipulation of revenue recognition. Dole *et al.* (2007b) found that firms with financial difficulty might decide to have internal control weaknesses over revenue recognition to be able to manage earnings. The same conclusion might apply to firms with internal control weakness at the firm level.

Type of control Weakness	Firm Level	Revenue Recognition	GAAP	Foreign Currency	Complex transactions
Number of Firm	29	17	16	6	20
Type of control Weakness	Tax	Segregation of Duties	IT	Loan control	Others
Number of Firms	22	10	7	7	33

Note that some companies have more than one type of weaknesses

We obtained the firms' data pertaining to the following: total assets for the year of disclosure; total revenues for the year of disclosure and previous year; and number of segments. Return on assets was computed by obtaining net income for the disclosure year scaled by average total assets. Firms that restructure their operations usually incur charges. And there is a

positive relationship between the amount of charges and the magnitude of restructuring. Therefore, we used the amount of charges as a proxy for restructuring. Restructuring charges were scaled by total assets. The DR was computed for the same year. We also collected income from operations and cash flows from operating activities adjusted for extraordinary items for both experimental and control groups. All these variables were obtained from 10-Ks of both experimental and control groups. Tables 1, 2 & 3 show either sector classification, external auditors' distribution or type of internal control weaknesses for both experimental and control groups.

Method of Analysis

Using contrasts, a one-way ANOVA was conducted with revenue growth, total assets, DR, number of segments, restructuring, and return on assets as dependent variables. The factor or independent variable was the experimental group. To calculate the percentage of revenue growth, the following formula was used

$$\frac{R_t - R_{t-1}}{R_{t-1}}$$

Let us denote a variable, say, revenue growth with X_{ij} , where i refers to a given firm ($i = 1, 2, \dots, n$) and j refers to a given group (experimental or control), ($j = 1, 2, \dots, J$). We denote each variable's mean with \bar{X}_j and the mean of all means or grand mean with \bar{X} . The essence of an analysis of variance technique is very simple. First, a firm's variable, say, revenue growth, is assumed to differ from the mean revenue growth for the group over the entire sample period, \bar{X}_j due to chance. Second, the mean revenue growth of a given group differs from the mean revenue growth of all firms (grand mean) due to a difference in control (experimental or control). Let us call the former a chance effect and the latter the control effect. If the chance effect is overwhelmed by the control effect, then we reject the null hypothesis that means of the two groups are equal. By implication this means accepting the alternative hypothesis that the two groups differ significantly due to difference in control.

In order to carry out the test we must compute the chance effect and the control effect and compare the two. The former is obtained by computing the sum of squares within or SSW and the latter by the sum of squares between or (SSB), as follows:

$$SSW = \sum \sum (X_{ij} - \bar{X}_j)^2 \quad \dots\dots (1), \text{ and}$$

$$SSB = \sum n_j (\bar{X}_j - \bar{X})^2 \quad \dots\dots (2)$$

These two quantities are then divided by their respective degrees of freedom, $n_j - J$ and $J - 1$ to obtain mean sums of squares, MSW and MSB, respectively. The appropriate test statistics is given by the following F-test.

$$F_{J-1, n_j - J} = \frac{MSB}{MSW} \dots\dots\dots (3)$$

In order to check the robustness of our results from the ANOVA analysis we also estimated a logistic regression with the experimental group as the dependent variable and revenue growth, total assets, DR, number of segments, restructuring, and return on assets, as the independent measures in our model.

The general form of the experimental group was $D = 1$ and the control group was $D = 0$. The independent variable is assumed to equal 1 for experimental group and 0 for control group. We also report the sample means, standard deviations, and scale inter-correlations. All statistical tests were performed using SPSS.

EMPERICAL RESULTS

Results from One-Way ANOVA Test

A one-way ANOVA test was conducted with group (Control and Experimental) as the categorical variable and revenue growth, total assets, DR, number of segments, restructuring, and return on assets as the dependent variables. If the omnibus F-test for a given dependent variable is significant, it indicates a real difference between the means of the control and experimental groups; otherwise there is no difference between the control and experimental groups.

As shown in Table 4, the F-tests for dependent variables, revenue growth, total assets and DR ratio were insignificant, with values of 0.52, 0.06 and 2.30 respectively. The results indicate that these differences were due to sample fluctuations or sampling error. However, restructuring, number of segments, and return on assets were significant, with F-test values of 6.6, 9.6 and 6.3 respectively. With the exception of firm size and growth rate, the findings of this research are consistent with Doyle *et al.* (2007). As expected, firms that restructured to adapt to the business and economic environment by downsizing their operations, departments, and reducing their employees, may not be able to adjust their internal control in time to manage the change. Moreover, restructuring may involve difficult accrual estimations which, when coupled with lack of sufficient staff, may lead to internal control deficiency (Doyle *et al.*, 2007a). The second significant factor is number of segments. The results suggest that the greater the number of segments the more likely the firm is to have internal control weaknesses as different segments may well require more controls. Moreover, the more geographically dispersed the segments, the more likely the existence of internal control difficulties. Firms that are spread over several countries and operate in different legal and economic environments may find it difficult to

compile their financial statements and maintain effective internal control. Finally, firms with low or negative return on assets may not find enough resources to devote to internal control.

		Sum of Squares	df	Mean Square	F	Sig.
RevGrow	Between Groups	.350	1	.350	.517	.473
	Within Groups	153.223	226	.678		
	Total	153.573	227			
TotAss	Between Groups	7.033E9	1	7.033E9	.056	.812
	Within Groups	2.816E13	226	1.246E11		
	Total	2.817E13	227			
RetonAss	Between Groups	.374	1	.374	6.299	.013
	Within Groups	13.432	226	.059		
	Total	13.806	227			
Restruct	Between Groups	.001	1	.001	6.590	.011
	Within Groups	.028	226	.000		
	Total	.028	227			
Segments	Between Groups	24.018	1	24.018	9.637	.002
	Within Groups	563.246	226	2.492		
	Total	587.263	227			
DR	Between Groups	347.602	1	347.602	2.255	.135
	Within Groups	34836.536	226	154.144		
	Total	35184.138	227			

The previously mentioned factors may be unique to accelerated filers compared with the factors found by Doyle *et al.* (2007a). Faced with limited resources, small firms may not be able to afford or establish effective internal control. Moreover, firms that experience sudden growth in revenue may not be able to make the necessary required changes in internal control.

However, the above situation may not apply to accelerated filers for two reasons. First, given the scale of these firms, it is likely that they will not experience a sufficiently large increase in revenue that would require significant adjustments in their internal control. Additionally, even if they were to experience a significant increase in revenue, it is likely they will be able to adjust their internal control relatively quickly due to the availability of the required resources. The third variable, DR, was found to be insignificant. The finding suggests that there is no difference between the experimental and control groups. That is, the F-test for the DR is 2.3 and the P-value is 0.14. Tables 5-A and 5-B show descriptive statistics for both experimental and control groups.

TABLE 5-A
DESCRIPTIVE STATISTICS FROM ONE-WAY ANOVA FOR THE CONTROL AND
EXPERIMENTAL GROUPS-MEANS AND STD DEVIATION

		N	Mean	Std. Deviation	Std. Error
Revgrow	.00	114	.2158	.54263	.05082
	1.00	114	.2942	1.03029	.09650
	Total	228	.2550	.82252	.05447
Totass	.00	114	342959.6140	3.55549E5	33300.18597
	1.00	114	354067.5614	3.50430E5	32820.80286
	Total	228	348513.5877	3.52264E5	23329.27672
RetonAss	.00	114	-.0079	.17392	.01629
	1.00	114	-.0890	.29768	.02788
	Total	228	-.0485	.24661	.01633
Restruct	.00	114	.0026	.00729	.00068
	1.00	114	.0064	.01384	.00130
	Total	228	.0045	.01120	.00074
Segments	.00	114	1.9912	1.44819	.13564
	1.00	114	2.6404	1.69918	.15914
	Total	228	2.3158	1.60843	.10652
DR	.00	114	1.3225	2.16395	.20267
	1.00	114	3.7920	17.42427	1.63193
	Total	228	2.5572	12.44975	.82450

Results from Logistic Regression

Table 6 contains the results of the logistic regression analysis. The logistic regression confirmed the results of the one-way ANOVA testing. Only the return on assets, the number of segments, and the presence of the restructuring variables are found to be significant. The Wald tests indicated a p-value of .03 for return on assets, p-value = .01 for restructuring, and p-value = .01 for number of segments. Chi-square, Hosmer and Lemeshow goodness of fit is 10.6 with significance equal to .22, indicating support for the model. The test indicates an acceptable fit of the model to the data. Table 7 presents means, standard deviations, and zero-Order Pearson Correlations for all variables.

The results suggest that there is a significant difference between these groups with respect to the restructuring, number of segments, and return on assets variables. Firms with internal controls weaknesses, on the other hand, did not significantly differ from those firms with effective internal controls with respect to total assets, revenue growth, and the DR. The results of this research differ from Doyle *et al.* (2007a) in that firm size and rapid growth were found to be insignificant. Therefore, the determinants of internal control weaknesses for accelerated filers differ from those other firms.

		95% Confidence Interval for Mean			
		Lower Bound	Upper Bound	Minimum	Maximum
RevGrow	.00	.1151	.3165	-.39	3.39
	1.00	.1030	.4854	-1.00	10.22
	Total	.1477	.3623	-1.00	10.22
TotAss	.00	276985.9396	408933.2884	7659.00	2354326.00
	1.00	289043.6314	419091.4914	11480.00	2075691.00
	Total	302543.9592	394483.2162	7659.00	2354326.00
RetonAss	.00	-.0402	.0243	-.99	.18
	1.00	-.1442	-.0337	-2.02	.16
	Total	-.0806	-.0163	-2.02	.18
Restrict	.00	.0013	.0040	.00	.04
	1.00	.0038	.0090	.00	.08
	Total	.0031	.0060	.00	.08
Segments	.00	1.7225	2.2599	1.00	9.00
	1.00	2.3251	2.9556	1.00	7.00
	Total	2.1059	2.5257	1.00	9.00
DR	.00	.9210	1.7240	-3.46	12.95
	1.00	.5588	7.0251	-7.03	128.66
	Total	.9326	4.1819	-7.03	128.66

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	RevGrow	.176	.240	.537	1	.464	1.192
	TotAss	.000	.000	.382	1	.537	1.000
	RetonAss	-1.570	.754	4.333	1	.037	.208
	Restruct	39.559	16.242	5.933	1	.015	1.515E17
	Segments	.254	.094	7.372	1	.007	1.290
	DR	.024	.024	1.060	1	.303	1.025
	Constant	-.991	.302	10.780	1	.001	.371

a. Variable(s) entered on step 1: RevGrow, TotAss, RetonAss, Restruct, Segments, Dr.

		Constant	RevGrow	TotAss	RetonAss	Restruct	Segments	Dr
Step 1	Constant	1.000	-.262	-.434	.123	-.257	-.667	-.041
	RevGrow	-.262	1.000	.025	.102	.108	.073	.032
	TotAss	-.434	.025	1.000	-.203	.057	-.085	-.179
	RetonAss	.123	.102	-.203	1.000	.017	.029	.060
	Restruct	-.257	.108	.057	.017	1.000	.022	.018
	Segments	-.667	.073	-.085	.029	.022	1.000	-.005
	DR	-.041	.032	-.179	.060	.018	-.005	1.000

It is worth-noting that 27% of the firms in the experimental group have their financial statements restated while only 1% of the control group restated their financial statements. Firms issued abridged financial statements as a result of errors whether intentional or unintentional. Dechow, Saloan and Sweeney (1996) pointed out that SEC is likely to investigate only those firms where the probability of requiring a restatement is fairly high due to the substantial cost of such investigations. Richardson, Tuna and Wu (2002) concluded that firms that have restated earnings can be characterized as firms that knowingly and intentionally engage in earnings manipulation. They documented that firms issuing restated financial statements represent an appropriate setting to examine earnings management. Based on their findings, we roughly measured the earnings management. It is reasonable to assume that the difference between income from operations and cash flows from operating activities – adjusted for extra-ordinary items- should remain within a specific range for a specific population. Therefore, if two samples are drawn from the same population, the correlation coefficients for both samples should be equal. If they are not equal, we conclude that they are drawn from different populations.

The Pearson correlation coefficients for income from operations and cash flows from operating activities were computed for both experimental and control groups. The experimental group coefficient of 0.16 is insignificant with p-value equal to 0.10, while the coefficient of 0.46 for the control group is significant with p-value of 0.0. The results indicate that these groups belong to different populations and suggest that because the correlation coefficient for the experimental group is much lower than that for the control group, it is possible that the financial statements of the experiential group may have been subject to manipulation.

SOX, section 404 seems to put financial pressure, not only on small firms, but on accelerated filers as well. Some firms may intentionally relax some controls in order to manage their earnings. Other firms may find it difficult to attract qualified members to serve on the Board of Directors due to increased liability and the strict independence standard imposed by SOX. The cost of hiring directors as percentage of net sales increased significantly after the enactment of SOX (Link, Netter, and Yang 2007). Moreover, external audit fees increased after the implementation of SOX. Eldridge and Kealey (2005) documented significant increases in

audit fees for all firms while Iliev's (2010) findings suggested that audit fees increased more for accelerated filers than other firms.

The above results suggest that accelerated filers that have more segments, have restructured their operation and/or have low or negative return on assets tend to have weaknesses in their internal controls. Given that most of the costs associated with internal control are fixed (such as audit fees and salaries of qualified accounting personnel), the existence of a low return on assets, restructuring costs, and additional segments deprive accelerated filers from resources needed to establish and maintain good internal control. It is possible that they might sacrifice the proper segregation of duties by firing qualified employees in the internal audit, accounting, finance and IT departments to reduce expenses. Qualified employees usually receive higher salaries due to their knowledge and skill in dealing with complex accounting standards and their application. Skilled employees in IT departments are needed to implement effective controls in a computerized environment.

SUMMARY AND CONCLUSIONS

Previous research documented that firms with weak internal controls tend to be smaller, less profitable, more complex, rapidly growing, or undergoing restructuring. Research also documented correlation among these variables. As Doyle *et al.* (2007) suggested firm's size was a dominant factor. In this paper, we chose our sample from accelerated filers. They included 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. Our sample consisted of 114 firms with weaknesses in their internal control matched by 114 firms with strong internal control as the control sample. Using a one-way ANOVA and logistic regression analyses, we found the number of segments, restructuring, and return on assets variables are significant while the total assets, DR, and fast revenue growth variables are not significant. The findings suggest that the more segments the firm has the higher the probability that it has weak internal control. Moreover, if the firm restructured its operations, it will not be able to alter its internal control in time, and firms with low or negative return on assets will lack the necessary resources to ensure good internal control. We documented that a high percentage of firms with weak internal controls restated their financial statements. Moreover, we found a weak correlation between cash flows from operation activities adjusted for extraordinary items and income from operations for weak internal control firms relative to the strong correlation found for the control group, suggesting that the experimental group may be subject to earning management.

The main findings of our research are that accelerated filers with more segments, those that have restructured, and/or those possessing low or negative returns on assets are likely to have weak internal control and therefore, may publish unreliable financial information. One limitation of this research is that these findings may apply only to accelerated filers and not to

other firms which are characterized by SEC as larger accelerated filers, non-accelerated filers, and small firms. These firms may have different characteristics depending on the resources available for internal control. The other limitation is that we have used only operational variables in our model, ignoring other variables. Our findings are important as they carry significant informational value for regulators, financial statement users, and auditors. Future research may focus on categories other than the accelerated filers such as large accelerated filers. Additionally it might focus on the existence of weak internal control as an indicator for future bankruptcy

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