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Predicting Management Fraud in IPO Companies

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Do managers with a higher equity stake in a soon-to-be-public firm have more of an incentive to cook the numbers to impress potential shareholders? Is a board of directors whose members are better grounded in finance more ethical than one with a dearth of expertise? A newly completed study examines these questions and others. What the researchers discovered may surprise you.

Financial statement fraud is a critical issue for management accountants and financial executives today. It seems the media are reporting on a never-ending list of companies accused of manipulating the numbers to their benefit. Much of the research in this area focuses on established companies. Our study is the first to measure corporate governance characteristics of the boards of directors and audit committees of companies that are going public with an initial public offering (IPO). Pressures to manage earnings, often using methods that may border on fraud, are more acute for IPO companies because their directors must convince stakeholders to invest in the soon-to-be-public firm.

We considered the corporate governance characteristics present when an IPO company commits financial statement fraud—and whether similar characteristics are inherent in IPO companies that *have not* committed fraud.

Why Study IPOs?

The IPO structure is unique for studying environments that may be prone to incentives to manage earnings. Companies going public have an acute need to meet quarterly earnings forecasts, and this may increase pressures to take questionable actions; these actions may become more and more aggressive and lean toward fraud. Further, these pressures to manage earnings may also be impacted by compensation packages that involve stock options, which typically increase in value with positive financial and operational results.

Much of the empirical research in the area of corporate governance focuses on the cash compensation (annual salary plus bonus) of top executives (most often CEOs) of public firms in the United States. This literature is at a mature stage of development, with the same basic compensation data set underlying many of the studies. Most of them document that financial accounting measures, especially measures of profitability, are used extensively in executive compensation contracts. There is little research, however, regarding the nature of board composition, influence of board activities, or the effectiveness of audit committees in preventing financial statement fraud.

An Examination of Prior Research

The way a board is composed may affect the systems for monitoring management's actions. Eugene F. Fama suggests that "There is also much internal monitoring of managers by managers themselves. Part of the talent of a manager is his ability to elicit and measure productivity of lower managers, so there is a natural process of monitoring from higher to lower levels of management…if there is competition among the top managers themselves, perhaps they are the best ones to control the board of directors…having gained control of the board, top management may decide that collusion and expropriation of security holder wealth are better than competition among themselves."[1]

Views vary about the effects of management and director ownership on the likelihood of fraud. Agency theory suggests that management would have a keen interest in the prosperity of their firm. Having insiders on the board of directors who own higher percentages of company stock may protect the interests of shareholders, leading to higher returns. Nevertheless, recent accounting scandals suggest that greed could impair management's ability to make decisions with shareholders in mind. That runs counter to information from Mark S. Beasley, who found that management ownership was not a significant variable for fraudulent versus nonfraudulent firms.[2]

We Begin with Some Assumptions

Our study was based on the primary hypothesis that, as management ownership increases, the likelihood of fraud will increase, too. Using the variable DIROWNP to represent the percentage of director and management ownership in company stock, here is a look at the factors we considered in our analysis.

Hypothesis 1: A larger board of directors will increase the likelihood of fraud.

Eugene F. Fama and Michael C. Jensen suggest that companies with larger boards of directors operate less effectively and are manipulated more easily by CEOs than firms with smaller boards.[3] Consistent with those views, Beasley found that the chance of fraud decreases as the size of the board of directors shrinks.[4] In this study, the variable BOD is the number of members on the board of directors. We anticipate finding a direct correlation between fraud and the size of the board of directors.

Hypothesis 2: A more active board of directors will decrease the likelihood of fraud.

Although no prior research has tested this variable as it relates to financial statement fraud, we believe that a more active board would decrease the likelihood of wrongdoing. In this study, the variable BODMET is the number of times the board of directors held meetings.

Hypothesis 3: A more active audit committee will decrease the likelihood of fraud.

We expect that an increased number of audit committee meetings will reduce the chances of financial statement fraud. Lawrence J. Abbott, Young Park, and Susan Parker found that audit committees that met at least twice per fiscal year were less likely to be sanctioned by the SEC.[5] In our study, the variable AUDMET is the number of times that the audit committee met during a given fiscal year.

Hypothesis 4: A more active board of directors—with experience in accounting, auditing, and finance—will reduce the likelihood of fraud.

There is a lack of research testing the effects of financial experts on the board, but we and others believe that board members who understand accounting, auditing, and finance may offer knowledge and experience to deter fraudulent financial reporting. This experience should aid in proper decision making because these professionals should be familiar with codes of conduct that encourage integrity within their professions. Therefore, we believe a board with more expertise will lessen the odds of fraud. In this study, the variable BODACCT is the total number of boards of directors with an accounting, auditing, or finance background.

Hypothesis 5: The proportion of management and director ownership in a firm will increase the chances of fraud.

We hypothesize that the IPO environment is expected to be one where management and the board of directors are under pressure to meet analyst expectations; therefore, higher director and management ownership may increase the likelihood of fraud.

Details of Our Study

On October 4, 2002, the U.S. Government Accountability Office (GAO) released the publication titled *Financial Statement Restatements: Trends, Market Impacts, Regulatory Responses, and Remaining Challenges*. It outlines the corporations, both publicly and privately held, that have had to restate their financial statements because of fraudulent activities and that announced these restatements from January 1, 1997, to March 26, 2002. Some 845 companies, or nearly 10% of those listed on the NYSE, Amex, and NASDAQ, had to restate their financial statements—an increase of 145% over the roughly five-year period that was studied.

All IPO companies forced to complete restatements were included in our study. We began by examining the proxy statements for 49 fraudulent IPOs and 49 nonfraudulent IPOs, matched by Standard Industrial Classification (SIC) code and total assets, to adequately compare companies of similar size and type. Because we had insufficient information regarding some of the companies, we narrowed the sample size to 80 (40 fraudulent, 40 nonfraudulent). Each fraudulent company was coded as 1; nonfraudulent companies were coded as 0.

After a lengthy, tedious review of the documents, we found that fraudulent companies had an average of 10 members on the board of directors, and nonfraudulent companies typically had seven. The boards of fraudulent firms met an average of 7.9 times a year; above-board companies, if you will pardon the expression, saw their directors meet slightly fewer times: 7.6 on average. The audit committees of fraudulent companies also met more frequently than those of nonfraudulent firms: an average of 5.6 versus three times.

We also discovered that the average amount of director ownership for fraudulent companies is 18%. For nonfraudulent ones, it is 25%. Moreover, fraudulent companies had an average of two board members with expertise in accounting, auditing, or finance versus an average of 1.4 people for nonfraudulent firms.

A Review of the Study's Results

We then summarized the results of a multiple linear regression for all of the independent variables hypothesized in this study and the dependent variable FRAUD (see Table 1). The regression results indicate that the size of the board of directors (BOD) and the number of times the board met (BODMET) are not significant in predicting fraudulent companies. The variable BODACCT is positive and significant in the model, indicating that as more people with an accounting, auditing, or finance background are added to the board of directors, there is an increased likelihood of fraud.

Table 1: Multiple Regression Results

		t-stat	Sig.
DIROWNP		–1.813	0.074
BOD		–0.079	0.938
BODMET		–1.628	0.108
AUDMET		4.544	0.000
BODACCT		2.469	0.016
FRAUD	R^2	0.329	
	Adj R^2	0.283	

DIROWNP = Average stock ownership of directors of the firm
BOD = # of members of the board of directors
BODMET = # of times the board of directors met during the fiscal year
AUDMET = # of times audit committee met during the fiscal year
BODACCT = Accounting and finance professionals on board of directors

These results surprised us. They are the opposite of what we hypothesized, possibly indicating that greater expertise was needed to prepare more-credible financial statements to convince the public to invest in the IPO. The results are consistent with the belief that management's actions may become more aggressive and lean toward fraud as those working on an IPO respond to internal pressure, external pressure, and the incentives of earnings management. This also may indicate that the financial experts for IPO companies may have bowed to pressures of rising stock prices.

The percentage of director and management ownership in company stock (DIROWNP) is negative and significant in predicting fraudulent companies: Higher director and management ownership decreases the likelihood of fraud, suggesting that having insiders on the board of directors who own higher percentages of company stock will actually protect shareholders' interests.

The variable AUDMET is positive and significant. These findings, too, are the opposite of what we hypothesized, indicating that a greater number of audit committee meetings increases the likelihood of financial statement fraud. Again, this could be because management believes more audit committee meetings are necessary to manipulate the financial figures in preparation for the IPO and pique the public's interest in it.

The coefficient of determination, commonly called R^2, explains the relationship between the dependent and independent variables. As the model improves, the value of the R^2 increases. A higher R^2 indicates a stronger relationship, or explanatory power, between the variables than a lower R^2. The independent variables and the dependent variable FRAUD included in our multiple regression model produced an R^2 of .329 (and adjusted R^2 of .283, as shown in Table 1). This R^2 explains significantly more than models from Mark S. Beasley, which ranged from .15 to .24 and used different combinations of variables to examine board characteristics, financial figures, and financial statement fraud.[6] This suggests that the variables used in our study explain more about possible relationships between board characteristics and fraud.

Only Time Will Tell

Our examination of IPO companies provides insights into corporate governance characteristics that have not been tested in prior research. The decision to take a company public has an enormous impact on the prospects for shareholder wealth, including those of internal managers, external directors, stockholders, and the public.

In summary, we found that the number of times the audit committee met, as well as the number of accounting, auditing, and finance experts on the committee, are positive predictors of fraud. In our sample, those companies that engaged in financial statement fraud had auditors who met nearly twice as many times as those of companies that did not commit fraud. This is also consistent with prior research that suggests IPO accountants are not averse to managing earnings[7] and with revelations of how auditors at Arthur Andersen bowed to revenue pressures.[8]

What else did we learn? The percentage of director and management ownership in company stock is negative and moderately significant, suggesting that having insiders on the board of directors who own higher percentages of company stock will protect the interests of shareholders and reduce the likelihood of financial statement fraud. In addition, the size of the board of directors and the number of times the board met are not significant in predicting fraudulent IPO companies.

Although we examined all IPOs that announced restatements of their financial documents from 1997 to 2002 and matched them to nonrestating IPOs, our sample size was small: only 40 fraudulent IPOs matched to 40 nonfraudulent ones. As time passes, however, more companies may be forced to amend their financial statements. Future research should examine additional corporate governance factors that may contribute to fraud.

Right now it is uncertain whether the changes to corporate governance as a result of the Sarbanes-Oxley Act have decreased the likelihood of fraud or will benefit the investing public at large in providing more-accurate, and therefore more-reliable, financial statements. To borrow an old (and apt) expression, only time will tell. ■

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Endnotes

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