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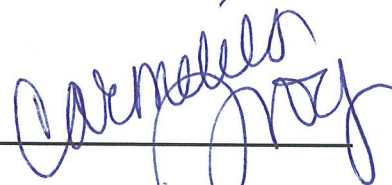
An Examination of Control Fraud in Non-Banking Industries

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Abstract:

William Black's (2005) control fraud theory suggests accounting fraud initiated by CEOs is more damaging than accounting fraud that is not. However, this theory has only been applied anecdotally to financial institutions. I test Black's theory using a sample of manufacturing, merchandising, and service firms that engaged in accounting fraud from 2007-2014. I hypothesize that firms which commit CEO-led fraud will exhibit greater growth, leverage, and have higher CEO compensation. My findings do not show that there is any evidence that control frauds are more damaging than other accounting frauds that do not involve the CEO.

Introduction:

William Black's control fraud theory suggest that accounting fraud that is directed by the CEO causes greater damage to the firm than fraud that is not [1]. The CEO position enables them to utilize their firms as a vehicle for fraud, allowing them to override both internal and external controls, as well as convert firm assets into personal payments through regular corporate mechanisms[2]. Because of the normalcy of these CEO actions, control fraud oftentimes goes undetected until it is too late, causing great harm to the firm and those associated with it. This has been evident over the last decade, especially during the economic recession of 2008. The fraudulent financial firms involved during this time exhibited most or all of the four factors Black commonly identifies with control fraud: extreme leverage, lending to un-creditworthy borrowers, extreme growth, and minimal loss reserves [3]. These characteristics can be used to help identify fraud within the financial industry.

This research tests Black's theory using firms that Black does not include in his theory: nonfinancial firms, such as manufacturing, merchandising, and service firms. To my knowledge, Black's theory has only been applied anecdotally to the financial industry, so my research sought to find a correlation between his theory and non-financial firms. This could open up the application of Black's theory to identify fraud within non-financial firms as well.

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[1] Black, William K. "Epidemics of 'Control Fraud' Lead to Recurrent, Intensifying Bubbles and Crises." *SSRN Electronic Journal SSRN Journal* (2010): n. pag. *ScienceDirect*. Web. 18 Sept. 2015.

[2] Black, William K. ""Control Frauds" as Financial Super-predators: How "pathogens" Make Financial Markets Inefficient." *The Journal of Socio-Economics* 34.6 (2005): 734-55. *ScienceDirect*. Web. 12 Nov. 2015.

[3] Black, "Epidemics of 'Control Fraud' pg.17.

Methodology:

Based on Black's control fraud theory I hypothesized that control fraud firms would exhibit the following: more extreme grow rates, higher leverage rates, and higher CEO compensation in the form of base salary, bonuses, and stock options. Because control fraud compares accounting fraud led by the CEO to those that aren't, I decided to use a logistic regression model to test my hypotheses, using a binary dependent variable of (1) the CEO is documented as orchestrating the control fraud, and (0), otherwise. My variables of interest were based on my hypotheses, and included the firms' growth rates over the period the fraud occurred, their leverage rates, and CEO compensation in the form of changes in base salary, bonuses, and stock options.

To calculate my variables of interest, I collected a sample of firms from the Securities and Exchange Commissions Accounting and Auditing Enforcement Releases. From the 2007 through 2015 archives, I searched through each release for companies that committed accounting fraud beginning in 2007 or later. In order to determine whether accounting fraud had been committed, I specifically looked for violations of SEC rules 10(b),10b-5, 13(a), 13(b)(2)(A), and 13(b)(2)(B). From these releases I collected information such as the company involved. the year the fraud began, and whether the CEO was involved or not. Because my research focused on applying Black's theory to nonfinancial firms, I eliminated all companies in the financial industry from my sample.

After gathering my sample, I used the SEC's Edgar® search tool to access each company's proxy statements (Form DEF 14a) for the year beginning of and year prior to the fraud. The proxy statements provided me with CEO compensation data in the form of base pay, stock options, and bonuses for the relevant years. I also used Standard and Poor's Research

Insight database, which provides financial statement material such as the income statement, balance sheet, and cash flows from both active and inactive publicly traded companies. This database gave me information such as the company's total assets, total equity, total debt, and net income. I then compiled all of the data I had collected into an Excel spreadsheet, and eliminated from my sample any firms within the financial industry, as well as those whose necessary financial information was unavailable from my sample, which resulted in a sample size of 65 companies.

Using the data that I had gathered, I computed each firm's growth and leverage rate for the year prior to and beginning of the fraud. Growth was measured by the change in current assets over total assets, as well as change in net income, while leverage was measured by the percentage of total debt to total assets, and total debt to total equity. I then compiled these calculations, along with the CEO compensation data I had collected and a column specifying my binary dependent variable, into a different Excel spreadsheet. This spreadsheet was then imported into IBM's SPSS® software to run the logistic regression model.

Results:

A logistic regression model was utilized because I had a dichotomous dependent variable, with multiple independent variables. Logistic regression models predict any significance in the relationships between the dependent variable and independent variables.

I ran multiple logistic regression models in SPSS using my dependent variable and different combinations of five control variables at a time, which enabled me to compare levels of significance with each independent variable. Figure 1 summarizes the results of one of the logistic regression models I ran, using the firms' leverage rates for the year the fraud began, their

growth rates measured by the change in net income from the year prior to and beginning of the

fraud, and their CEO compensation in the form of base pay, stock options, and bonuses from the

year the fraud began. Using this combination of variables resulted in no significance.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Total Debt/Total Equity: Y0	.000	.001	.246	1	.620	1.000
	Change in Net Income: from Y-1 to Y0	.001	.001	.814	1	.367	1.001
	Stock Options: CY	.000	.000	.693	1	.405	1.000
	Base Pay: CY	.000	.000	.020	1	.888	1.000
	Bonuses: CY	.000	.000	.176	1	.674	1.000
	Constant	-.344	.387	.792	1	.373	.709

Figure 1 – Y0 and CY signifies the year the fraud began, Y-1 the year prior.

To further test the existence of significance, I ran another logistic regression model using

different control variables. Figure 2 below summarizes the results, in which I chose to look at the

firms' leverage rates for the year prior to the fraud, their growth rates measured as the change

from the two years prior and the year prior to the beginning of the fraud, and their current year

CEO compensation methods.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Total Debt/Total Assets: Y-1	.000	.001	.206	1	.650	1.000
	Change in Assets: from Y-2 to Y-1	-.003	.005	.266	1	.606	.997
	Stock Options: CY	.000	.000	.456	1	.500	1.000
	Base Pay: CY	.000	.000	.059	1	.808	1.000
	Bonuses: CY	.000	.000	.297	1	.586	1.000
	Constant	-.203	.489	.172	1	.679	.816

Figure 2 – Y0 and CY signifies the year the fraud began, Y-1 the year prior, and Y-2 two years prior   .

 Just like the first model I ran, I was not able to find any significance using this set of variables. Based on the results of the two logistic regression models I ran, there is no significance between the companies' growth and leverage rates and CEO compensations, and CEO involvement in the fraud.

Discussion:

Although Black's control fraud theory indicates that accounting frauds involving the CEO exhibit greater growth and leverage rates, as well as higher CEO compensation than those that do not have CEO involvement, my research findings do not support this. Though these results are unexpected, there are some limitations of my research that could have skewed them. After eliminating firms that did not meet the requirements, my sample consisted of 65 firms. There is the possibility that the sample size is not sufficiently large enough to test Black's theory, thus the lack of significance found is not an accurate representation of its application. To my knowledge there has been no further application of his theory other than anecdotally, so very little corroboration for my results exists. If this research was to be continued, expanding the years from which the companies were collected would provide a bigger sample size, which could lead to significant results.

The methods of valuation for certain assets differ between financial institutions that Black initially applies his theory to and manufacturing, merchandising, and service firms that I include in my sample, which could have contributed to the lack of significance in the characteristics that he theorized would vary between control-fraud firms and other fraudulent firms. Two reasons why finance sectors tend to be more fraudulent are the absence of effective

regulation and the investing in assets that lack a readily verifiable value[4]. The type of assets commonly held by financial institutions include loans, investments, and mortgages; in determining values these assets do not follow the Generally Accepted Accounting Principles as others such as land, equipment, and buildings do, but typically rely on the judgment of third-party evaluators. This provides top management an opportunity to exert influence and control over third-parties through coercion in order to receive more favorable, yet fraudulent asset valuations[5]. Such opportunities for fraud are less common in nonfinancial industries such as the manufacturing, merchandising, and service firms included in my sample, and could contribute to the lack of significance in my model. If this research was to be continued, I would recommend future researchers include both financial and nonfinancial firms in the sample size and compare significance between the two in order to further test Black's theory.

Conclusion:

Black's control fraud theory states that accounting fraud led by the CEO is more damaging that fraud that is not; however, his theory has only been anecdotally applied to financial firms. This research sought to test the applicability of his theory to nonfinancial firms using a logistic regression model. I hypothesized that control fraudulent firms would exhibit greater growth, greater leverage, and higher CEO compensations. My research did not find any significance, thus does not support Black's theory when applied to nonfinancial firms. Further research using a wider sample size or financial industries may result in significant results.

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[4] Black, "Epidemics of 'Control Fraud' pg.1.

[5] Black, William K., When Fragile Become Friable: Endemic Control Fraud as a Cause of Economic Stagnation and Collapse (2007). WHITE COLLAR CRIMES: A DEBATE, K. Naga Srivalli, ed., Hyderabad, India, The Icfai University Press, pp. 162-178, 2007. Available at SSRN: http://ssrn.com/abstract=1536528

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