

**AN EXAMINATION OF THE RELATIVE DETERRENT
EFFECTS OF LEGISLATED SANCTIONS ON ATTITUDES
ABOUT FINANCIAL STATEMENT FRAUD: A POLICY
CAPTURING APPROACH**

Joseph C. Ugrin
Kansas State University

Stacy E. Kovar
Kansas State University

J. Michael Pearson
Southern Illinois University Carbondale

Key Words: Fraudulent Financial Reporting; Deterrence;
Sanctions; Enforcement; Sarbanes-Oxley

JEL Classification(s): K42, M4, P37

Abstract

To advance knowledge about fraudulent financial reporting and the value of recent legislation, this study examines the relative deterrence effects of three types of legislated sanctions for fraudulently reporting financial data. Specifically, the study tests the relative effects of threats of incarceration, fines and professional censure on attitudes about committing financial statement fraud using a policy capturing methodology which is useful for developing an understanding of multi-criteria decisions. The results show that the threat of incarceration is less salient than threats of fines and professional censure in the formulation of attitudes about committing financial statement fraud. Reasons for that are tested and the findings suggest

that individuals believe that the enforcement of jail sentences is less certain and less likely to be enforced to the maximum as compared to fines and professional censure, making incarceration less effectual in the formulation of attitudes. The results should be of interest to policy makers and regulators aiming to curb fraudulent financial reporting.

INTRODUCTION

The Sarbanes-Oxley Act (SOX) and similar legislation like the Ontario/Canadian Securities Commission Bill 198 (CSOX) have past their 10th anniversaries, yet questions still remain as to their effectiveness at deterring financial statement fraud. A key facet of those legislations is an increase in potential sanctions that can be leveled for fraudulent financial reporting, specifically potential jail time and fines. Despite the legislations' intentions to reduce financial statement fraud, there has been little research as to the effectiveness of the sanctions imposed by SOX and CSOX relative to one another or relative to other types of sanctions.

Given the magnitude of losses related to financial fraud, potentially more than \$2.9 trillion globally according to the ACFE 2010 Report to the Nations on Occupational Fraud and Abuse, the need to consider which deterrence mechanisms are most effective is paramount. Deterrence mechanisms are particularly important given the context of financial statement fraud. Making up only 4.8% of occupational fraud in 2010, financial statement fraud is the least common type of fraud but is by far the most costly, with median losses of \$4.1 million per incident. It also takes the longest to detect at an average of approximately 27 months (ACFE, 2010).

Financial statement fraud is also difficult to monitor and control because it is most often committed by executives who have authority to override internal controls (DeZoort, Hermanson, and Houston, 2008; Cohen, Krishnamoorthy, and Wright, 2008; Singleton et al., 2003). Since internal controls may not be an

effective deterrent, other factors such as potential sanctions by external agencies may provide a better defense against financial statement fraud. As such, the relative effectiveness of various types of formal sanctions that are typically leveled against those that commit financial statement fraud should be of interest to regulators who have to allocate scarce resources over a number of deterrence mechanisms.

Recent literature suggests that financial statement fraud is, at least in part, a thoughtfully conceived behavior that is significantly influenced by the potential perpetrator's attitudes about fraud (Murphy and Dacin, 2011; Carpenter and Reimers, 2005). Even when a perpetrator knows that an action is fraudulent, attitudes are further developed through careful consideration of the benefits and consequences of that behavior (Murphy and Dacin, 2011). A recent study of the effects of potential incarceration on attitudes about fraud has shown that the threat of jail time can effectively reduce accountants' and executives' intentions to commit financial statement fraud, but only if they expect that jail time will actually be imposed (Ugrin and Odom, 2010). However, given that incarcerating criminals is the most expensive type of legal remedy (Polinsky and Shavell, 1984), it is critical to examine its relative effectiveness compared to other options. Thus, this paper contributes by analyzing the effectiveness of incarceration as compared with other types of legal sanctions present in current legislation such as fines or professional censure¹.

This study tests which sanction provides the most effective deterrent – incarceration, fines or professional censure – and the reasons for their effectiveness in influencing individuals' attitudes about committing financial statement fraud. By using a policy capturing methodology which is useful for evaluating how decision makers incorporate multiple criteria, this paper is able to examine

¹ Barring individuals from serving in an executive capacity which the Security and Exchange Commission (SEC) has authority to impose under SOX section 1105 and has pursued in recent cases (e.g. Taub, 2007).

how individuals incorporate the different forms of sanctions into the formulation of their attitude about financial statement fraud and also to assess how they stack up against one another. Participants evaluated a scenario where a financial manager was considering falsifying financial information with the intention of receiving a bonus in the presence (or absence) of laws threatening incarceration, a fine, or professional censure. The relative effects of those sanctions on participants' attitudes about falsifying the financial data were compared and additional analyses tested how perceptions about the certainty and severity of each type of sanction influence the sanctions' relative salience on attitudes.

The results show that potential incarceration is less salient compared to potential fines and professional censure in the formulation of attitudes about fraudulently reporting financial data. That finding is explained by participants' belief that the enforcement of potential jail sentences is less certain and enforced less strictly than potential fines and professional censure. The study provides insight into the effects of fraud deterrence mechanisms and the results should be of interest to policy makers and regulators aiming to curb fraudulent financial reporting.

The remainder of this paper is organized as follows. First, a discussion of fraud deterrence is presented. Then, recent legislation aimed at deterring financial statement fraud is discussed and a hypothesis is put forth. Finally, the research design is presented along with an analysis of the results, and the paper is concluded by discussing the potential contributions of this research.

FRAUD DETERRENCE FROM A GENERAL DETERRENCE THEORY PERSPECTIVE

Background

General Deterrence Theory (GDT) provides a theoretical foundation for evaluating fraud deterrence mechanisms that result in sanctions for fraudulently reporting financial data. Stemming

from early economic-based literature on crime prevention (e.g. Beccaria, 1963; Becker, 1968), GDT is centered around rational choice where individuals make risk/reward decisions based on their expected gratification from taking advantage of opportunities versus their perceptions of the likelihood and severity of potential sanctions. It is expected that deterrence mechanisms have a greater effect on white collar crimes like financial statement fraud as compared to other forms of crime, since white collar crimes are typically not purely "...crimes of passion; they are not spontaneous or emotional, but calculated risks taken by rational actors. As such, they should be more amenable to control by policies based on the utilitarian assumptions of the deterrence doctrine (Braithwaite and Geise, 1982, pg. 300)". In short, GDT should be a particularly effective theory for examining white collar crimes like financial statement fraud.

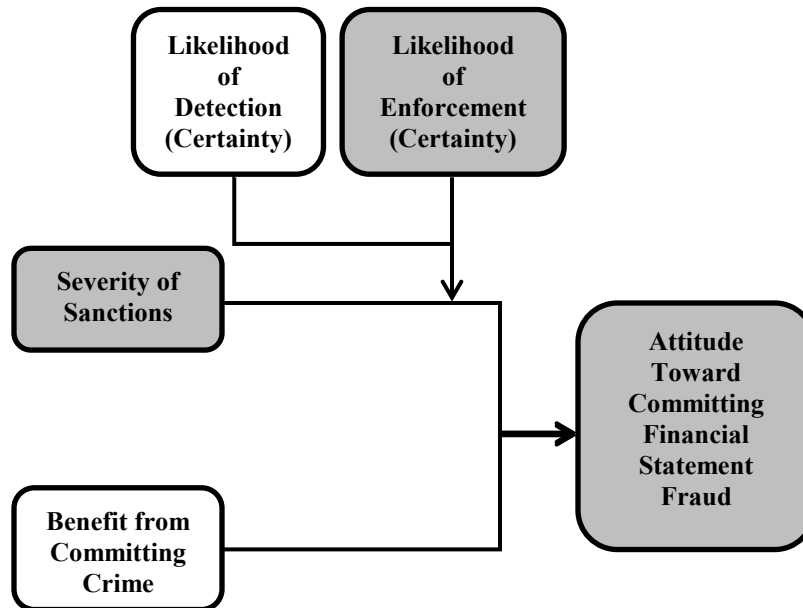
GDT has long been the foundation for crime prevention and has been used by criminologists to examine the effects of laws on a host of crimes. However, GDT has only recently been used as a lens to examine the effects of deterrence-based legislation on fraudulent financial reporting and only in the limited setting of examining jail time on intentions to commit fraud (Ugrin and Odom, 2010). From a GDT perspective, three factors must be present to stop financial statement fraud legislatively - potential sanctions, detection, and enforcement (Beccaria, 1963; Becker, 1968; Williams and Hawkins, 1986)². From an individual

² General Deterrence Theory (GDT) explains how imposed sanctions and security measures dissuade improper conduct. The more likely that improper behavior will be detected, and the greater the severity of the punishment for the behavior, the more effective a deterrent will be. GDT "...starts from the simple premise that individuals are willing to commit crimes if the expected benefits of the crime exceed the expected benefits of engaging in lawful activity. In other words, the decision to commit a crime is simply another type of decision-making under conditions of uncertainty, the same kind of calculus that a rational utility-maximizing individual will apply to the decision to engage in any activity. In this model, penalties are necessary for prohibited activities so that individuals internalize the cost of those activities," (Perino, 2002, Pg. 675).

behavioral perspective, the salience of sanctions in an individual's decision process is a function of the perceived severity and certainty of the sanction (e.g. Klepper and Nagin, 1989; Latham and Jacobs, 2000; D'Arcy, Hovav and Galletta, 2009; Ugrin and Odom, 2010). The effects of potential sanctions are enhanced by increasing their perceived certainty through detection and enforcement. Thus, in addition to threats of sanctions, detection mechanisms and strict enforcement are necessary to influence perceptions as to the certainty of severe sanctions. The relationship between these factors is depicted in Figure 1 and is further described in the context of financial statement fraud below.

Severity of Sanctions

To create an effective deterrence mechanism, consistent with GDT, legislators should seek to impose sanctions that will be perceived to be severe, while balancing the cost of imposing these sanctions. Legislatively, the Sarbanes-Oxley act of 2002 (SOX) and its Canadian equivalent the Ontario/Canadian Securities Commission Bill 198 (CSOX) outline potential sanctions that managers may face if they intentionally falsify financial information. In the United States, section 906 of SOX covers corporate responsibility for financial reports, and states that management's intentional false certification of financial statements carries a prison sentence of up to 20 years in jail, along with monetary sanctions up to five million dollars. Canadian legislators, through CSOX, threaten similar sanctions but to a lesser degree, threatening jail time up to five years and maximum fines of one million dollars. But the question is, are these the most effectual sanctions, given the context of financial statement fraud? Below, we examine past research for indicators of what types of sanctions may be important in the context of financial statement fraud.



Note:

General Deterrence Theory suggests that crimes will be committed when the costs of committing the crime are less than the benefits derived. The costs of criminal activity are determined by the severity and certainty of sanctions for committing the crime. Certainty of sanctions is influenced by their likelihood of detection as well as their enforcement. This research focuses on the shaded boxes in the model, presuming that the non-shaded factors remain constant for the specific type of financial statement fraud addressed in the experiment.

Fig. 1 General Deterrence Theory (Theoretical Constructs)

An underlying presumption in lawmaking is that incarceration is the most severe potential legal sanction. Despite its inherent severity, theorists have argued that increased length of incarceration becomes marginally less effectual on white collar criminals. Each potential year in jail may reduce the expected utility (disutility) for committing fraud, but as the years increase, the disutility decreases (Polinsky and Shavell, 1999). Especially for white collar crime, the expected disutility associated with

incarceration includes many factors, including the earnings an offender loses while in jail, and job opportunities missed after an offender's release from jail. As a result, for the most serious offenses, the increased jail time proposed by SOX and CSOX may not be as effectual as other types of sanctions, because the impact of jail time comes not from being in jail but from the other ancillary effects.

Consistent with this idea, more recent literature has examined the effect of incarceration on attitudes about committing financial statement fraud finding that incarceration can have some deterrence but it is more effective if individuals perceive that serving time in jail will result in lost future earnings and employment opportunities (Ugrin and Odom, 2010). That study did not examine the effects of incarceration versus other types of sanctions but it can be conjectured from their findings that money is a primary deterrent of white collar crime, even in the case of jail time considering that jail time was most effective when it resulted financial losses. As a result, alternative mechanisms that have similar financial effects may be similarly effectual.

One alternative deterrence mechanism that may be used in lieu of jail time is fines. Perpetrators involved in high-profile frauds have paid huge settlements. For example Lou Pai, former CEO of Enron Energy Services paid \$1.6 million in fines as part of a \$30 million settlement with the SEC over insider trading charges (Sukhraj, 2008). The marginal utility of fines does not decrease as they get larger, as with jail time, so they should be more effective as they are increased. The argument for fines is also enhanced by the fact that they are significantly less costly to enforce than incarceration. On the other hand, some evidence suggests that white-collar fraudsters may prefer even seemingly large fines to incarceration (Hays, 2007). This may be because these sanctions do not have as significant an influence on factors such as future earnings and job opportunities as incarceration.

In addition to jail time and fines, other formal mechanisms may be as effective and even less costly to enforce. For instance,

the Sarbanes-Oxley Act, Section 1105, gives the SEC the authority to "...prohibit, conditionally, or unconditionally, and permanently or such period of time as it shall determine, any person who has violated section 10(b) [of the Securities act of 1934]... from acting as an officer or director of any issuer..." That type of potential sanction-the threat of professional censure-is also used in other areas of the financial community. For example, the Institute of Chartered Financial Analyst's (CFA) code of professional conduct threatens professional censure, including loss of the use of the CFA designation, for a host of violations. The AICPA's code of professional conduct threatens similar actions for code violations. Like the codes of conduct in those professional organizations, banning individuals from working in an executive capacity if they fraudulently falsify financial information may have a significant and lasting effect on future earnings, having as great, or possibly even greater economic impact than fines.

In addition to the decreases in marginal disutility of incarceration over time and as compared with other sanctions, empirical evidence has shown that jail time served by white collar criminals in low security prisons is not as severe as that served by perpetrators of other types of crimes (Braithwaite, 1985). Legal theorists have argued (but not tested) that the threat of jail time imposed by recent legislation will be less effective at reducing financial statement fraud as compared to the threat of monetary sanctions due to a perceived lack of strict enforcement of laws threatening incarceration (e.g. Perino, 2002; Recine, 2003). Other literature suggests that people generally perceive that maximum jail sentences are not usually handed down (Braithwaite, 1985).

Thus, compared to other contexts, in addition to examining the inherent severity of the sanction, jail time, it is important to also consider the imposed severity of the sanction, which comes from the degree of enforcement, rather than the sheer likelihood the sanction will be enforced. As such, we add an additional factor, beyond that in GDT, to the applied model shown in Figure 2, to reflect the difference between inherent severity of the sanction

compared with the imposed severity of the sanction, stemming from the perceived degree of enforcement. In general, we predict that, though incarceration may be more inherently severe in most contexts, in the case of financial statement fraud, professional censure in particular may have just as large an inherent severity, and may be more effectual because the higher expected degree of enforcement. See a summary of these factors in the first 2 rows of Table 1.

Certainty, as Influenced by Likelihood of Detection and Enforcement

In addition to severity of sanctions, GDT focuses on the certainty of sanctions, as influenced by the likelihood that the unlawful behavior will be detected, as well as the likelihood of enforcement of the sanction. It is worthy to note that efforts within the accounting community related to financial statement fraud have focused extensively on strengthening detection mechanisms. From a regulatory standpoint, the Statement on Auditing Standards (SAS) No. 99, which was issued in 2002 by the American Institute of Public Accountants (AICPA), the Auditing Standards Board and its Canadian equivalent the Canadian Auditing Standard (CAS) 320, outlines the auditor's function in assessing and identifying fraudulent financial reporting. Thus, SAS 99 and CAS 320 enhance deterrence by providing oversight and establishing a mechanism for detection. While detection is an important component of GDT, for a single type of criminal activity (i.e. a particular financial

Table 1
 Summary of the Hypothesis Development

	Incarceration	Fines	Professional Censure
Inherent Severity	Incarceration has: <ul style="list-style-type: none"> • Financial consequences related to loss of earnings while incarcerated • Social and career consequences (de facto professional censure) related to loss of future opportunities resulting from the stigma of being a felon. 	Fines have defined financial consequences.	Professional censure has: <ul style="list-style-type: none"> • Financial consequences related to the length of censure. • Social and career consequences related to loss of future opportunities resulting from stigma/reputational detriment
Likelihood of Enforcement	<ul style="list-style-type: none"> • Traditionally not enforced • Costly to enforce 	<ul style="list-style-type: none"> • Traditionally enforced • Less costly to enforce 	<ul style="list-style-type: none"> • Traditionally enforced • Less costly to enforce
Degree of Enforcement	<ul style="list-style-type: none"> • Traditionally enforced less strictly • Costly to enforce strictly 	<ul style="list-style-type: none"> • Traditionally enforced more strictly • Less costly to enforce 	<ul style="list-style-type: none"> • Traditionally enforced more strictly • Less costly to enforce

statement fraud like we study in this paper), detection mechanisms are the same regardless of the types of sanction used. Therefore, detection mechanisms are not a component of the analysis in this paper.

Perceptions of enforcement, on the other hand, can vary significantly for different types of sanctions and consequently influence their relative salience. Historically, financial crimes are rarely prosecuted as criminal proceedings due to a number of factors - namely cost. The result, according to theorists, is that criminal laws are ineffective (Hansen, 2009; Nossen and Norvelle, 1996; Puri, 2005). For example, Perino (2002) argues that SOX will provide little additional deterrence beyond measures that were in place prior to its introduction because maximum sentences are rarely handed down. Perceptions are formed by awareness of past enforcement (or lack of enforcement) activity (Braithwaite, 1985).

Ugrin and Odom's results (2010) show that increasing potential incarceration can be effectual. However, Ugrin and Odom's participants were influenced by the threat of incarceration to a greater degree when they were cognizant of the prosecution of executives from Enron and WorldCom. In short, awareness of enforcement increased the salience of incarceration as a determinant of attitudes about committing fraud.

Relative to jail time, financial consequences are generally perceived to be more likely and enforced more strictly for white collar crimes like financial fraud (Perino, 2002; Recine 2003). As mentioned, primary reason is cost. As such, it is proposed that potential fines will be more effectual than jail time. For consequences like professional censure the literature is less clear about its potential effectiveness relative to jail but like fines, censure is less costly to enforce. Statistics also show that professional censure like that introduced here is being enforced in a similar context. For example, the Ethics Enforcement Division of the AICPA reports that 784 investigations of ethics code violations were completed by state societies and referred to the 'Joint Trial Board' by state societies in 2010 and 2011 (AICPA, 2011). Of the

784 investigations completed, 438 (56%) resulted in a violation requiring some amount of corrective action. More importantly however, of the 438 violations, 194 (44%) resulted in individuals being expelled or suspended suggesting active and strict enforcement. Considering that, it is also proposed that professional censure will be more effectual than jail time because the greater likelihood of enforcement. These observations are summarized in line three of table 1.

Based on the cumulative effect of differences in both perceived and enforced severity of sanctions, along with the likelihood of enforcement, we posit that the threat of incarceration will be less salient in the formulation of attitudes about fraudulently reporting financial information relative to the threats of fines or professional censure.

Hypothesis: The threat of incarceration is less salient in the formulation of attitudes about fraudulently reporting financial information relative to threats of fines or professional censure.

In the process of testing the hypothesis, we also examine the degree to which observed results are influenced by GDT constructs of severity and certainty as shown in Figure 2.

METHODOLOGY

To test the hypothesis about the relative effects of jail, fines, and censure on attitudes about financial statement fraud are assessed using a policy capturing methodology. Policy capturing is a robust method for understanding multi-criteria decisions (Aiman-Smith, Scullen, and Barr, 2002; Cooksey, 1996). Policy capturing is ideally suited to test our hypothesis because it explains which available items of information are most salient to an individual decision maker.

The accuracy and acceptance of policy capturing has been evidenced in previous studies in a variety of disciplines. For

example, Karren and Barringer (2002) examined 37 policy capturing studies in fields such as organizational behavior, management and psychology, illustrating its acceptance as a research tool. Policy capturing has also been used to examine business ethics (e.g. Butler and Cantrell, 1984, Pearson, Crosby, and Shim, 1996) and has been an important method in other business literatures (e.g. Ashton, 1974; Maletta and Kida, 1993). Karren and Barringer (2002) discuss several advantages to using policy capturing versus other methods used to find relative salience (e.g. having individuals rank variables). One key problem with having individuals merely rank variables is the social desirability effect. Policy capturing mitigates the social desirability effect by "indirectly assessing the importance of explanatory variables" (pg. 338).

Specifically, policy capturing creates an additive linear model that allows researchers to capture individual decision-making policies. It can also compare and contrast differences among decision makers and identifies clusters of individuals with similar decision making policies (Karren and Barringer, 2002). Policy capturing regresses a dependent variable on multiple decision cues resulting in a regression equation for each individual and the beta weights of each individual are aggregated resulting in a hierarchy of the decision cues as indicated by their overall average beta weights. Kline and Sulsky (1995, p. 394) state that:

...the goal of this approach is to understand an individual's decision making "policy" by observing the relationships between the decision cues given to the individual, and the final decision made by the individual and then modeling that relationship using an idiographic multiple regression analysis (i.e., regression analysis carried out for a single individual). The results of the analysis provide a description of how the individual decision-maker weights the various cues to arrive at his or her

decision. Thus, within the constraints of the cue information presented, each individual's decision-making "policy" can be observed.

The model underlying policy capturing can be stated as:

$$Y_j = \sum_{i=1}^n b_i X_{ij} \text{ where } j=1,2,\dots, n$$

The cues (or independent variables), X_{ij} , in this study are (1) the threat of incarceration, (2) the threat of a fine, and (3) the threat of professional censure. The final decision (or dependent variable), Y_j , is the individual's attitude about fraudulently reporting financial information. Finally, the differences in anticipated enforcement were tested using an ANOVA and the effect of anticipated enforcement on the relative salience of incarceration, fines, and censure was tested using regression.

Procedure

Consistent with the policy capturing methodology, participants were asked to evaluate eight scenarios (described in more detail later in this section) representing all possible combinations of the three sanctions (the decision cues). Each sanction was described as either present or absent ($2 \times 2 \times 2 = 8$). Participants were asked a number of attitudinal questions about committing financial fraud in each of the eight cases. After responding to the eight scenarios, individuals answered questions assessing their perceptions about the certainty and severity of the potential sanctions. Finally, participants answered a number of questions related to potential control variables, explanatory factors and demographics.

Participants

Two samples were collected. The first consisted of 85 MBA students. Graduate students have been shown to be reliable proxies for professionals in a number of studies on ethics (Elliot et al., 2005; Hirst, Koonce, and Simko, 1995; Maines and McDaniel, 2000; Hodge, Kennedy, and Maines, 2004; Heuer, Cummings and Hutabarat, 1999; Cohen, Pant and Sharp, 2001) and were also used in other studies testing attitudes about fraud by Carpenter and Reimers (2005) and Ugrin and Odom (2010). The second sample was collected from 77 financial professionals working in diverse industries. All of the professionals were currently serving in an executive or supervisory capacity in an accounting or financial related field and 40 were serving in a Controller, CFO, or CEO capacity. The makeup of the professional sample is significant because of the responsibility and influence these participants would have over financial reporting. Controllers, CFOs and CEOs specifically, are the primary force behind financial manipulation and earnings management (Jiang, Petroni, and Wang, 2010)³. By collecting data from graduate students and professionals we were able to assess if differences in experience influence results.

Measures

The core of each financial fraud scenario was taken from Carpenter and Reimers (2005) and Ugrin and Odom (2010), lending a clear link to those studies. Each scenario consisted of a scheme where a manager misstated supplies expense and was eligible to receive a bonus as a result. 117 of the participants (58 MBA students and 59 Professionals) received a scenario with a \$150,000 misstatement, as used in previous studies. To test if the findings hold true when the misstatement is significantly larger, a group of 44 participants (27 MBA students and 17 Professionals)

³ SOX attempts to place more emphasis on the responsibilities of the Board of Directors but literature has shown that management's influence over financial reporting is central (Cohen, Krishnamoorthy, and Wright, 2008).

received a scenario with a \$4 million misstatement which is the median misstatement in the 2010 ACFE report. Additional information about potential incarceration and fines, based on the language in SOX section 906, and changed only slightly to fit within the context of the scenario was presented to all participants. In particular, the maximal penalties used in SOX were included in an effort to test the salience of these sanctions as legislated. A statement was created for the third sanction to present the threat of being banned from future employment; it was worded similar to the other two. The cues were presented by stating: "whoever willfully presents a financial statement knowing that the statement does not comport with Generally Accepted Accounting Principles shall be"... imprisoned for a period not to exceed 20 years, fined an amount not to exceed \$5 million dollars, and barred from serving in any management or executive capacity with influence over financial reporting. The existence or non-existence of each of these laws was stated as being present with a yes statement or absent with a no statement in each of the eight scenarios. The certainty of sanctions was measured in two ways: (1) participants were asked in general the likelihood of being imprisoned, fined, or censured and, (2) participants were asked to indicate their perceptions of the likelihood that type of sanction would be enforced and how strictly. In all questions about sanctions, detection was held constant by instructing participants to assume that the financial misstatement was uncovered by an external oversight agency.

The dependent variable, attitude about fraudulently reporting financial information, was collected using a three item scale previously used by Carpenter and Reimers (2005) and Ugrin and Odom (2010). Attitudes were measured in two ways: (1) by asking participants about their attitude directly and, (2) asking participants what they felt the attitude of the manager in the scenario (a referent other) would be. The reason for eliciting participants' perceptions about a referent other is that responses to ethical decisions are often biased by the effect of social desirability

where individuals do not reveal their true intentions when they are asked directly about actions that may have potential social ramifications, but project them on a referent other when asked how the other would respond (Beeler and Hunton, 2002; Clement and Krueger, 2000; Cohen, Pant, and Sharp, 1993; 2001; Mikulincer and Horesh, 1999; Ruvolo and Fabin, 1999; Smith, 1997). In particular, past GDT research has found significantly different results, depending upon which measure of attitudes was used (Williams and Hawkins, 1986).

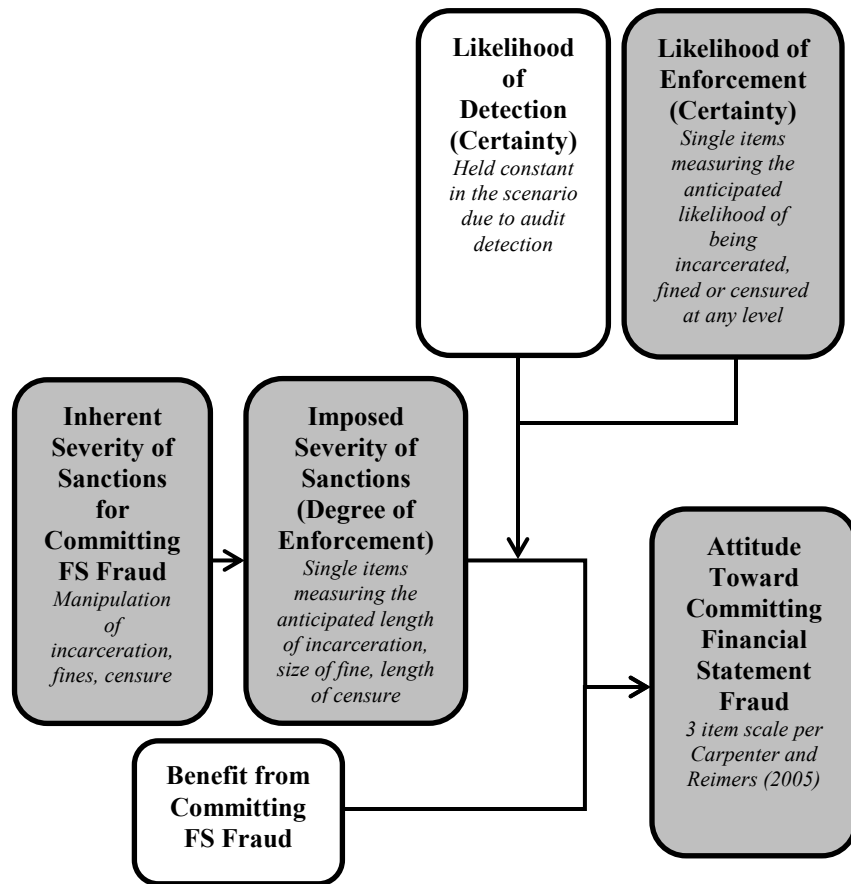


Fig. 2 General Deterrence Theory (Observed Constructs)

RESULTS

Manipulation Checks and Screening

Two manipulation check items tested if participants understood the scenario and a third check item tested if the participants understood that they were to assume that the misstatement would be detected. One question asked participants if the manager in the scenario would receive a bonus if the recording of the supplies expense was delayed. The second asked if delaying the supplies expense would result in a departure from Generally Accepted Accounting Principles. The third asked participants if the manager in the scenario would be caught. The data for participants who failed to answer the check questions correctly were removed from further analyses. Data for six out of 85 students and one out of 77 professionals were removed.

Following the method outlined in Kline and Sulsky (1995) and Karren and Barringer (2002), an initial test of internal consistency and reliability was conducted by examining the adjusted R square of each individual's responses about their attitudes about fraud. The adjusted R square ranged from -0.686 to 0.946 for the MBA students and from -.301 to 0.936 for the professionals and executives. Responses with an adjusted R square below .50 indicate inconsistent application of the cues and were thus eliminated from further analysis. Based on this, 27 responses were eliminated from the analysis for the student group and 21 from the professional group. The average adjusted R square for the remaining student respondents was 0.707 and for the remaining professional respondents was 0.738. In total, data from 52 MBA students were retained for analyses yielding 416 data points (52 respondents x 8 scenarios) and data from 55 professionals was retained yielding 440 data points (55 respondents x 8 scenarios). Table 2 provides descriptive information for the initial respondents that passed the manipulation checks and those that were retained for further analysis. The respective makeup of the sample on each demographic factor does not change significantly after elimination

of the unusable responses, suggesting there is no systematic reason for individuals to not respond diligently to the survey (all $p > .05$). Table 3 illustrates the demographics by treatment group for the usable data. There are no differences in demographics across treatments (all $p > .05$)

Test of the Hypothesis

We tested the hypothesis by first developing a hierarchy of the relative salience of the legislated sanctions (incarceration, fines, and censure) on participants' attitudes about fraudulently reporting financial information. Consistent with Figure 2, this test examines the overall effect of each of the sanctions, stemming from their inherent severity but also from subjects' perceptions about enforcement, both in likelihood and degree. We then collected information related to participants' perceptions about the certainty (likelihood of enforcement) and severity (imposed severity, influenced by the degree of enforcement) of each type of sanction and tested how those perceptions influence each sanctions relative salience in the formulation of participants' attitudes. This follow-up analysis allows us to examine the underlying tenets of GDT.

Initially, all tests were performed separately for the MBA and professional groups. Because the results were nearly identical for both groups, combined results are provided throughout the paper. The tests of the relative salience of the sanctions and perceptions about the likely certainty and severity of the sanctions were performed separately (and presented separately below) for the group that received the treatment with the \$150,000 misstatement and the group that received the \$4 million misstatement. However, the order of the relative salience of the sanctions were the same under both treatments and the patterns in perceptions about likely certainty and severity were similar and all follow-up analyses were performed on combined data.

In the initial test of the hypothesis, consistent with a policy capturing approach, a linear regression was performed for each respondent that was retained for analysis. The beta weights from

the individual regression results were averaged. The independent variables in each regression were 0/1 variables indicating the presence or absence of each of the legislated sanctions. The average standardized regression weight, or beta (b_i), for each sanction indicates its relative importance in determining the individual's attitude toward fraudulently reporting financial information. The intercept term in the regression, therefore, indicates the attitude, absent any legislated sanctions, with negative beta weights indicating a reduction in the attitude as a result of the presence of that type of sanction. Table 4 reports the average beta weights of the three sanctions on the dependent variable at both levels of misstatement.

At both \$150,000 and \$4 million misstatement, the threat of being barred from serving in a future management capacity (professionally censured) had the highest average beta weight of -.588 with a \$150,000 misstatement and -.597 with a \$4 million misstatement. The threat of being fined had the next highest with betas of -.420 and -.511, and the threat of incarceration had the lowest betas of -.303 and -.375⁴. To determine if significant differences existed between the three betas at each level of misstatement, F-tests were conducted. The F-test showed a significance between the betas for potential incarceration, fines, and censure were $F = 18.062$; $p < .05$ at the \$150,000 level of misstatement and $F = 19.934$; $p < .05$ at the \$4 million level. Tukey's Honestly Significant Difference (HSD) scores were calculated to determine which criteria were significantly different from one another. The results in Table 4 indicate all three sanctions had significantly different betas at both levels of misstatement. The results suggest that the threat of incarceration is less effectual than the threat of fines or professional censure on attitudes, consistent with our hypothesis.

⁴ To mitigate halo effects, results were based on the referent attitude measures.

TABLE 2
Descriptive Statistics (MBA Student Group vs. Executive Group)

Variable	MBA Student Group			Executive Group		
	Complete Data Set ^(a)	Usable Data Set ^(b)	P Value ^(c)	Complete Data Set ^(a)	Usable Data Set ^(b)	P Value ^(c)
Gender - Male (Female)	43(36)	29(23)	>.05	49(27)	36(19)	>.05
Age – Mean (St. Dev.)	24.13(3.92)	23.37(2.94)	>.05	47.82(8.18)	48.56(8.27)	>.05
Country - USA (Non-USA)	62(17)	45(7)	>.05	76(0)	55(0)	>.05
Employed - Yes (No)	55(24)	41(11)	>.05	76(0)	55(0)	>.05
Manager – Yes (No)	NA	NA	NA	76(0)	55(0)	>.05
Current Job						
CEO or President				6	6	
CFO or Director of Finance				13	8	
Controller	NA	NA	NA	21	17	>.05
Other Accounting				28	20	
Other Management				4	2	
Not Reporting				4	2	
Attitude (Self) ^(d)	6.94(3.92)	6.11(2.81)	>.05	6.21(3.67)	5.39(3.53)	>.05
Attitude (Referent) ^(d)	10.96(4.56)	10.27(4.26)	>.05	11.10(4.80)	10.63(4.93)	>.05

(a) Complete Data Set: MBA Student Group n = 79; Executive Group n = 76

(b) Usable Data Set: MBA Student Group n = 52; Executive Group n = 55

(c) Difference between usable and unusable data within the group (p < .05 = significant difference)

(d) Three item scale measuring attitude about committing financial statement fraud (Min = 3, Max = 21)

Table 3
Demographic Differences between Treatment Groups (Usable Data)

Variable	MBA Student Group (n = 52)		Executive Group (n = 55)	
	\$150,000 Misstatement Group (n = 28)	\$4 Million Misstatement Group (n = 24)	\$150,000 Misstatement Group (n = 42)	\$4 Million Misstatement Group (n = 13)
Gender - Male (Female)	15(13)	14(10)	28(14)	8(5)
Age – Mean (St. Dev.)	22.71(1.44)	24.13(3.96)	48.43(8.22)	49.00(8.77)
Home Country - USA (Non-USA)	25(3)	20(4)	42(0)	13(0)
Employed - Yes (No)	23(5)	18(6)	42	13
Work in Management – Yes (No)	NA	NA	42	13
Current Job				
CEO or President			5	1
CFO or Director of Finance			5	3
Controller	NA	NA	13	4
Other Accounting			15	5
Other Management			2	0
Not Reporting			2	0
Attitude (Self) ^(a)	6.54(3.75)	5.61(1.71)	5.23(3.11)	5.91(2.16)
Attitude (Referent) ^(a)	12.04(4.62)	8.21(3.84)	11.11(4.95)	9.12(4.86)

(a) Three item scale measuring attitude about committing financial statement fraud (Min = 3, Max = 21)

TABLE 4
Relative Salience of the Sanctions on attitudes

Decision Cues (Deterrence Mechanisms)	\$150,000 Misstatement ^b		\$4 Million Misstatement ^c	
	Beta Mean (StdDev)	HSD (F = 18.062)	Beta Mean (StdDev)	HSD (F = 19.934)
Barred from serving in any management or executive capacity with influence over financial reporting.	-.588(.279)	A	-.597(.156)	A
Fined an amount not to exceed 5 million dollars.	-.420(.234)	B	-.511(.088)	B
Imprisoned for a period not to exceed 20 years.	-.303(.328)	C	-.375(.194)	C

- a. $p < .050$ (Items labeled A are significantly different than B and C, B are significantly different than A and C, and C is significantly different than A and B)
- b. $n = 70$ (28 MBA students and 42 Executives)
- c. $n = 37$ (24 MBA students and 13 Executives)
- d. The relative salience of the cues did not change when the data was split between students and executives.
- e. To mitigate halo effects, results were based on the referent attitude measures.
- f. The results represent beta coefficients for regressions performed without controlling for perceptions about the size of the bonus, perceptions that the misstatement was unethical, perceptions that financial fraud harms others, or participants inherent level of responsibility denial or ethical orientation. The relative salience and order of the beta weights do not change significantly when including those factors as controls.

To test the underlying reasons for the differences in salience between the three sanctions, participants' responses to measures aimed at assessing how certain and severe participants expected enforcement of each type of sanction to be were averaged and the mean certainty and severity differences were compared across the three types of sanctions. The first measure asked, "In general, what is the likelihood of being imprisoned (or fined, or barred)?" The results show that with a \$150,000 misstatement, participants feel that being fined (mean = 4.171) or barred (censured) (mean = 3.829) are more likely than being incarcerated (mean = 2.771). Similarly, with a \$4 million misstatement, participants feel that being fined (mean = 4.189) or barred (censured) (mean = 4.216) are more likely than being incarcerated (mean = 3.162) (Table 5).

The next measure asked "In general, how long do you expect the manager would go to prison (from Short Prison Time (1) to Maximum Prison Time (7)); or, how large of fine do you expect the manager will receive (from A Small Fine (1) to A Maximum Fine (7)); or, how long do you expect the manager will be barred from serving in a management or executive capacity (from Barred for a Short Time (1) to Barred for Life (7))" The results show that with a \$150,000 misstatement, participants feel that being fined (mean = 3.700) or barred (censured) (mean = 3.714) are enforced to a greater degree (more severely) than being incarcerated (mean = 2.714). With a \$4 million misstatement, participants feel that being fined (mean = 4.324) or barred (censured) (mean = 4.378) are enforced more severely than being incarcerated (mean = 3.162) (Table 5). The results support the underlying theoretical tenets of GDT that form the basis of our propositions, by showing that potential incarceration is rated less certain and less severely enforced than potential fines and professional censure.

TABLE 5
Mean Perceptions about the Certainty and Severity of the Sanctions

	150,000 Misstatement ^b		\$4 Million Misstatement ^c	
	Mean	(Std. Error)	Mean	(Std. Error)
Certainty Measures (1 to 7)				
Likelihood of being incarcerated	2.771	(1.456)	3.162	(1.280)
Likelihood of being fined	4.171	(1.600)	4.189	(1.151)
Likelihood of being censured	3.829	(1.503)	4.216	(1.734)
Severity Measures (1 to 7)				
Likely length of time being incarcerated	2.714	(1.429)	3.162	(.928)
Likely size of Fine	3.700	(1.266)	4.324	(1.226)
Likely length of time being censured	3.714	(1.105)	4.378	(1.639)

a. $p < .050$ (Items labeled A are significantly different than B)

b. $n = 70$ (28 MBA students and 42 Executives)

c. $n = 37$ (24MBA students and 13 Executives)

d. GROUP (MBA students versus executives) is entered as a covariate but is not significant in the model (all $p > .10$)

To further test the underlying model, the perceived certainty and severity metrics and a certainty x severity interaction term were independently regressed on the betas for each sanction, controlling for the size of the misstatement and whether the participant was a MBA student or a professional, to test if the differences in the salience of the sanction on participants' attitudes was a function of anticipated certainty(C) and severity(S). The model can be expressed as:

$$\text{BETA}_i = b_0 + b_1\text{CERTAINTY}_i + b_2\text{SEVERITY}_i + b_3\text{CERTAINTY} \\ \times \text{SEVERITY}_i + E_i$$

The results, shown in Table 6, reveal that the beta (or relative salience) of potential incarceration is influenced by certainty but not influenced by severity or the certainty x severity interaction term⁵. This result suggests that the threat of incarceration is more influential on attitudes when they are perceived to be more certain, regardless of their severity, at least when severity is measured in terms of the perceived length of incarceration. The beta for fines is influenced by the certainty of the fine, and a certainty x severity interaction term. Further examination of the result indicates that the importance of fines on attitudes is contingent on the certainty of the fine being enforced if the size of the fine is large⁶. Finally, the beta for professional censure is influenced by certainty and severity. The interaction term does not yield a significant relationship.

⁵ Results are based on centered data to alleviate multicollinearity between the independent variables.

⁶ Control variables for the Group (student versus executive) and the Misstatement Size (\$150,000 versus \$4 million) were significant when included in the analysis of the salience of fines. However when the data was split by Group or Misstatement Size, the interaction term was significant for fines and the effects of certainty and severity with the split data are interpreted the same as the combined data.

In summary, both certainty and severity are important determinants of the salience of sanctions in determining attitudes about fraudulently reporting financial statement information for fines and professional censure, and certainty is important for determining salience for incarceration. These results are consistent with the idea that any type or amount of jail time is salient for white collar criminals, but that the amount and certainty of fines and professional censure are important.

TABLE 6

Certainty and Severity Perceptions Effect on Sanction Beta Weights (N = 107; 52 MBA Students and 55 Professionals)

Panel A: (Dependent Variable: Incarcerated Beta)

Model	Unstand. Coef.		Std. Coef. Beta	t	Sig.
	B	Std. Error			
(C)ertainty	-.085	.019	-.412	-4.494	.000
(S)everity	-.028	.021	-.126	-1.350	.180
C x S	-.007	.011	-.056	-.628	.532

a. Adj R Square: .195

Panel B: (Dependent Variable: Fined Beta)

Model	Unstand. Coef.		Std. Coef. Beta	t	Sig.
	B	Std. Error			
(C)ertainty	-.037	.012	-.250	-2.935	.004
(S)everity	.001	.014	.006	.064	.949
C x S	-.031	.008	-.337	-3.809	.000

a. Adj R Square: .244

Panel C: (Dependent Variable: Professional Censure (Barred) Beta)

Model	Unstand. Coef.		Std. Coef. Beta	t	Sig.
	B	Std. Error			
(C)ertainty	-.058	.014	-.373	-3.935	.000
(S)everity	-.044	.017	-.242	-2.574	.011
C x S	-.001	.009	-.013	-.146	.884

a. Adj R Square: .188

Supplemental analyses

We predicted that incarceration should be less effectual due to perceptions that incarceration for white collar crime is not served under as harsh of conditions as incarceration for other types of crimes (Braithwaite, 1985). Yet, incarceration has been shown to have some effects, particularly if it leads to long-term financial consequences (Polinsky and Shavell, 1999; Ugrin and Odom, 2010). Given that those propositions are a primary tenet underlying our anticipated outcome, we performed a supplemental analysis of those assumptions by substituting our initial measure of perceived severity of likely incarceration with perceptions of the harshness of conditions of incarceration and the magnitude of lasting effects from being incarcerated. Specifically, participants' perceptions of the severity factors were captured by 7 point Likert-scaled questions that asked if participants felt that incarceration for white collar crime is "served under harsh conditions" (from 1 = not harsh; to 7 = very harsh) and if being incarcerated, fined, or professionally censured would negatively influence future professional opportunities after serving their time (or paying their fine) (from 1 = will have not negatively influence; 7 = will have a large negative influence). The mean (std. dev.) for the harshness question was 3.393 (1.540). For the effect on future professional opportunities question, the mean (std. dev.) for incarceration was 5.953 (1.423), the mean (std. dev.) for fines was 3.271 (1.371), and the mean (std. dev.) for professional censure was 4.636 (1.410).

The measure of perceptions of the harshness of jail time served was entered into the regression tests for the underlying GDT model as a substitute measure of severity and the regression on the beta weight for incarceration was ran again. The result failed to find significance for the substitute measure and failed to find a significant interaction between the perceived certainty of incarceration and the perceived harshness of time served (both $p > .05$).

Perceptions that being incarcerated, fined or professionally censured would negatively influence future professional

opportunities after serving time (or paying a fine) were also substituted into the regression tests as measures of severity and the regressions were ran again on the betas for each sanction. The results show that stronger perceptions that being incarcerated will negatively influence future career opportunities enhanced the effect of certainty on the salience of incarceration relative to other sanctions ($p < .05$) (Table 7, panel A)⁷⁸. An increase in the adjusted R^2 from .195 when using the original test of the severity of incarceration (length of jail time served) to .271 when using future career consequences as the measure of severity of being jailed suggests that the length of incarceration is less effectual than the long-term career consequences. Stronger feelings that being fined would limit future career opportunities did not relate significantly with the beta for fines, nor did the perceptions interact with perceived certainty in determining the salience of the beta ($p > .10$) (Table 7, panel B). Together with the lower adjusted R^2 for this test (the R^2 changed from .249 to .138), these results suggest that participants were influenced by the size of the fines and not additional consequences related to being fined. Finally, stronger feelings that being censured would limit future career opportunities related significantly marginally with the beta for professional censure ($p < .05$) but the perception did not interact with perceived certainty in determining the salience of the beta. The adjusted R^2 for this model is .174 (Table 7, panel C). We conjecture that even though individuals perceive that being censured has a negative effect on one's future professional career opportunities, these implications do not carry the same stigma as being incarcerated.

Taken as a whole, these supplemental findings suggest that the financial consequences of each type of sanction have the biggest influence on financial statement fraud. This supports our underlying assumption that the threat of incarceration is considered

⁷ Results are based on centered data to alleviate multicollinearity between the independent variables.

⁸ Control variables for the Group (student versus executive) and the Misstatement Size (\$150,000 versus \$4 million) are included in the analysis.

economically. The more participants felt like incarceration would adversely affect their future career, the more they were affected by the threat of it. The findings also suggest that the size of fines were without concern for any effects on future career opportunities.

TABLE 7
 Certainty and Perceived Effects on Future Career Opportunities
 Effect on Sanction Beta Weights ((N = 107; 52 MBA Students and
 55 Professionals)

Panel A: Dependent Variable: Incarceration Beta

Model	Unstand. Coef.		Std. Coef. Beta	T	Sig.
	B	Std. Error			
(C)ertainty	-.063	.019	-.307	-3.308	.001
(C)areer	-.066	.019	-.326	-3.552	.001
C x C	-.018	.013	-.125	- 1.429	.156

c. Adj R Square: .271

Panel B: Dependent Variable: Fined Beta

Model	Unstand. Coef.		Std. Coef. Beta	t	Sig.
	B	Std. Error			
(C)ertainty	-.031	.013	-.221	-2.420	.017
(C)areer	-.006	.013	-.043	-.468	.641
C x C	.004	.011	.037	.401	.690

c. Adj R Square: .138

Panel C: Dependent Variable: Professional Censure (Barred) Beta

Model	Unstand. Coef.		Std. Coef. Beta	T	Sig.
	B	Std. Error			
(C)ertainty	-.063	.014	-.410	-4.328	.000
(C)areer	-.033	.016	-.189	-2.071	.041
C x C	.004	.010	.036	.381	.704

c. Adj R Square: .174

DISCUSSION, LIMITATIONS AND CONCLUSION

We predicted that the threat of incarceration would be less effectual on participants' attitudes about fraud relative to threats of fines and professional censure. The findings support that proposition and provide an explanation for it by showing that incarceration is perceived to be significantly less certain and imposed less strictly than fines and professional censure. As such, the threat of incarceration is significantly less salient in the formulation of attitudes relative to fines and professional censure. However, when incarceration was perceived to be more certain; it became more salient. Salience was not enhanced by longer anticipated jail time supporting arguments that the threat of incarceration's marginal utility as a deterrent decreases for every additional year in jail. The supplemental analysis suggested that this can, in part, be explained by looking at other measures of severity. It was found that being incarcerated is perceived to have a larger influence on future career opportunities, its salience relative to fines and professional censure increases.

The deterrence model holds true for fines; it is contingent on both certainty and severity. In general, participants perceived that fines would be more strictly enforced than threats of incarceration. That supports Perino (2002) and Recine's (2003) arguments that the normative belief about enforcement is that maximum potential jail sentences are rarely enforced; or at least not as strictly enforced as other sanctions.

Professional censure was the most salient sanction. It seems that censure retains facets of both incarceration and fines, which may explain why it was more effectual relative to the other two sanctions. For example, like fines, the enforcement of professional censure was expected to be certain and severe and both the certainty and severity factors significantly influenced censure's relative salience. Like incarceration, censure is expected to have a lasting effect on one's future career, which marginally influences censure's relative salience in determining attitudes toward committing financial statement fraud.

Our findings have implications at three different levels within the business community. First, at the state, provincial and federal level of government, agencies must make a decision on which basket of deterrence mechanisms they want to focus their resources on. For example, it appears that new laws are ineffectual without changes in perceptions about enforcement. Without enforcement, they do not effectively deter, reduce, or eliminate financial statement fraud. Thus, rather than impose new legislations, agencies would be better served to focus existing or additional resources on improving their ability to detect financial statement fraud and to ensure conviction of those accused. Investments in manpower (additional employees, training, etc.) or software applications that help with detection of financial fraud could help prosecutors develop stronger cases against individuals charged with financial fraud. As shown in our findings, adding a level of certainty about getting caught and prosecuted will increase the deterrence effect of laws that are already in existence.

The results also have implications for professional societies such as the American Institute of Public Accountants or the Canadian Institute of Chartered Accountants; these organizations cannot significantly impact the formation of law but they can influence member behavior by adopting strong codes of conducts and communicating possible consequences of violation of this code. Our research indicates that censure from the profession has a significant influence of deterring financial fraud, and through a strong code of conduct or required training in ethical behavior, we believe that these mechanisms would be significant in deterring most individuals from committing financial fraud.

The final component is at the organizational level; organizations and their stakeholders have the most vested interests in eliminating financial fraud as they are the ones that suffer the actual financial loss. Like professional societies, organizations cannot typically influence the creation of state or federal laws, however, they can also promote codes of conduct, provide training in ethical behavior, and enforce work processes that make financial

fraud difficult to commit (separation of duties, require employees to take vacation, etc.). While our study did not examine the impact that these types of activities can have on deterrence of committing financial statement fraud, it is not difficult to see how codes of conduct or additional ethical training could increase the awareness of the possible implications (incarceration, fines, or censure) this illegal activity could have on the employee's life.

Another conclusion that can be drawn from our findings is that increased awareness of possible detection and conviction will decrease the likelihood that an individual would commit financial statement fraud. This awareness can be increased by greater publication of successful cases of detection and conviction. For example, the state and federal government can utilize the different media (newspapers, websites, etc.) to communicate new methods of detection that are being implemented, statistics to show what percentage of financial statement fraud cases are identified, conviction rates, and the type of penalties that are being imposed. Professional societies could communicate similar information to its members through conferences and newsletters; this could take the form of statistics similar to what the government would utilize, but it also could take the form of stories or cases about individuals (ID protected) or organizations and the impact that conviction had on their lives or organizational performance. Organizations can have perhaps the greatest impact in deterring fraud of any kind; they can create a culture that emphasizes "doing the right thing"; for example, not committing financial fraud, or reporting someone who is. The organization can utilize methods similar to those suggested for government agencies or professional societies (statistics, awareness of programs within the organization to prevent or detect financial statement fraud, potential and actual penalties for those caught committing financial statement fraud, and stories / cases about previous employees who were convicted of financial fraud). Probably the strongest steps the organization can take is to implement and enforce processes that make it very

difficult for any individual or group of individuals to commit this type of crime.

Taken as a whole, the findings illustrate the importance of normative beliefs about strict enforcement on attitude formulation. Considering that, it would seem worthy to extend this research to test if perceptions can be influenced. For example, future research could test the effects of training, professional codes of conduct, or publication of enforcement activities through the media mentioned above. Similarly, supplemental analyses suggest that individuals who perceive that incarceration will have lasting effects on their career react more strongly to incarceration as a sanction, especially when there is a high level of certainty. This result suggests that emphasizing the influence of incarceration on career opportunities would be beneficial, as might be the combination of different sanctions, especially incarceration and professional sanctions.

The study has a number of limitations. First, we used a scenario-based approach. Although the design is quite common in ethics literature, there is still the possibility that individuals will respond differently in a real situation. As sufficient data becomes available, future researchers could test the propositions made here with archival studies. A combination of experimental and archival analyses would likely result in a rich understanding of financial statement fraud deterrence. Next, in an effort to isolate the effects of enforcement, we held detection constant. In a real setting, detection would be uncertain. A follow-up study could use the scenario and manipulate detection to assess its effects in conjunction with enforcement. Additionally, the scenario utilized here was clearly a fraudulent GAAP departure. Real dilemmas may not be as clear or other factors including situational factors may influence the calculus behind attitude formulation. Testing the effects of deterrence mechanisms in an uncertain dilemma would be meaningful and interesting. Our analyses examined severity of sanctions in terms of their severity of enforcement – length of incarceration, size of fine, length of professional censure – harshness of jail time and impact on professional opportunities.

Further research examining the effect of different components of perceptions of severity may be informative. Finally, the scenario used in the study included a bonus of only \$25,000 and the GAAP departure could be deemed relatively small. Even though the order of the sanctions in terms of relative salience did not change at a \$150,000 misstatement or a \$4 million misstatement or when controlling for participants' perceptions about the size of the bonus and their perceptions about the degree to which the misstatement was unethical, it would be interesting to test the variables examined here on an even larger scale. Even though fraud schemes often start small before escalating out of control and become large in scale (Schrand and Zechman, 2011), it would still be interesting to test our results on a fraud in the millions or even billions considering the size losses we have seen in the last decade.

In conclusion, our results support and extend the literature started by Carpenter and Reimers (2005) and Ugrin and Odom (2010) and provide some explanation for studies like McEnroe's (2006) survey that found that financial executives do not perceive that legislation like SOX will reduce earnings management practices. The findings are well situated within the theoretical underpinnings of the recent work of Murphy and Dacin (2011) who outline the psychological pathways to fraud. Murphy and Dacin (2011) suggest that individuals weigh costs versus benefits of committing fraud even when they are aware that the behavior is fraudulent. Our participants were all aware that delaying the supplies expense was a GAAP departure yet they weighed the costs of the sanction against the benefits of the bonus.

The results are also supportive of Ronen's (2002) editorial position that economic factors are the best deterrents of financial crimes and that regulatory policy continues to need overhaul. Considering the lack of effect of increasing the length of incarceration, enforcing long jail sentences may indeed be socially wasteful and it may be more cost beneficial to focus resources elsewhere. That does not suggest that the threat of jail is not important, just that lengthening it and spending additional

resources on longer sentences does not pass a cost/benefit test considering jail is as effective at shorter durations due to other factors that arise. The results of a cost/benefit analysis may be more favorable towards the assessment of fines and/or professional censure.

ACKNOWLEDGMENTS

We would like to acknowledge Chris Wolfe of Texas A&M University, Marcus Odom of Southern Illinois University Carbondale, and the accounting faculty at Oregon State University and Colorado State University for their comments, recommendations, and assistance. We would like to thank Mandy Harlow, the North Dakota Society of CPAs, and others for their assistance with data collection. Finally, we would like to acknowledge and thank those involved with the 2012 American Accounting Association Southwest Conference where an early version of this manuscript was awarded the McGraw-Hill Irwin Distinguished Paper Award.

REFERENCES

- AICPA. 2011. Annual Report of AICPA Disciplinary Activity January 1 – December 31, 2011 and 2010. Retrieved online at:<http://www.aicpa.org/InterestAreas/ProfessionalEthics/Resources/EthicsEnforcement/DownloadableDocuments/2011Annual%20Report%20of%20AICPA%20Disciplinary%20Activity.pdf>.
- Aiman-Smith, L., Scullen, S., and S. Barr. 2002. Conducting studies of decision making in organizational contexts: A tutorial for policy-capturing and other regression-based techniques. *Organizational Research Methods* 5: 388-414.
- Ashton, R. 1974. An experimental study of internal control judgments. *Journal of Accounting Research* Spring: 143-157.
- Association of Certified Fraud Examiners 2010. Report to the Nations on Occupational Fraud and Abuse. Austin, TX: ACFE.
- Beccaria, C. 1963. *On Crime and Punishment*. Indianapolis, IN: Bobbs Merrill.
- Becker, G. 1968. Crime and punishment: an economic approach. *Journal of Political Economy* 76: 169-217.
- Beeler, J. and J. Hunton. 2002. Contingent economic rents: Insidious threats to audit independence. *Advances in Accounting Behavioral Research* 5: 21-50.
- Braithwaite, J. 1985. White collar crime. *Annual Review of Sociology* 11: 1-25.
- Braithwaite, J. and G. Geise. 1982. On Theory and Action for Corporate Crime Control. *Crime and Delinquency* 28.
- Butler, J. and R. Cantrell. 1984. A behavioral model of ethical and unethical decision-making. *Journal of Business Ethics* 6: 265-280.
- Carpenter, T. and J. Reimers. 2005. Unethical and fraudulent financial reporting: Applying the theory of planned behavior. *The Journal of Business Ethics* 60: 115-129.
- Clement, R. and J. Krueger. 2000. The primacy of self-referent information in perceptions of social consensus. *British Journal of Social Psychology* 39 (2): 279-299.

- Cohen, J., Krishnamoorthy, G., and A. Wright. 2008. Corporate governance in the post Sarbanes-Oxley era: Auditors' experiences. Working paper, Boston College.
- Cohen, J., Pant, L., and D. Sharp. 1993. Validation and extension of a multidivisional ethics scale. *Journal of Business Ethics* 12: 13-26.
- Cohen, J., Pant, L., and D. Sharp. 2001. An examination of the differences in ethical decision-making between Canadian business students and accounting professionals. *Journal of Business Ethics* 30: 319-336.
- Cooksey, R. 1996. *Judgment Analysis: Theory, Methods, and Applications*. San Diego, CA: Academic Press.
- D'Arcy, J., Hovav, A. and D. Galletta. 2009. User awareness of security countermeasures and its impact on information security misuse: A deterrence Approach. *Information Systems Research* 20 (1): 79-98.
- DeZoort, F., Hermanson, D., and R. Houston. 2008. Audit committee member support for proposed audit adjustments: Pre-SOX versus post-SOX judgments. *Auditing: A Journal of Practice and Theory* 27 (1): 85-104.
- Elliott, W., Hodge, F., Kennedy, S., and M. Pronk. 2005. When are graduate business students a reasonable proxy for nonprofessional investors? Available online at <http://ssrn.com/abstract=556980>, retrieved January 1, 2012.
- Froelich, K. and J. Kottke. 1991. Measuring individual beliefs about organizational ethics. *Educational and Psychological Measurement* 51: 377-383.
- Hansen, L. 2009. Corporate financial crime: social diagnosis and treatment. *Journal of Financial Crime* 16 (1): 28-40.
- Hays, K. 2007. Enron Shareholders are one Step Closer to Some Money. *Houston Chronicle* (Houston, TX), May 26, 2007.
- Heuer, M., Cummings, J., and W. Hutabarat. 1999. Cultural stability or change among managers in Indonesia? *Journal of International Business Studies* 30 (3): 599-610.

- Hirst, D., Koonce, L., and P. Simko. 1995. Investor reactions to financial analysts' research reports. *Journal of Accounting Research* 33: 335-351.
- Hodge, R., Kennedy, J., and L. Maines. 2004. Does search-facilitating technology improve the transparency of financial reporting? *The Accounting Review* 79 (3): 687-703.
- Jiang, J., Petroni, K. and I. Wang. 2010. CFOs and CEOs: Who have the most influence on earnings management? *Journal of Finance and Economics* 96 (3): 513-526.
- Karren, R., and M. Barringer. 2002. A Review and Analysis of the Policy-Capturing Methodology in Organizational Research: Guidelines for Research and Practice. *Organizational Research Methods* 5 (4): 337-361.
- Klepper, S. and D. Nagin. 1989. Tax compliance and perceptions of the risks of detection and criminal prosecution. *Law and Society Review* 23: 209-240.
- Kline, T and L. Sulsky. 1995. A policy-capturing approach to individual decision-making: a demonstration using professors' judgments of the acceptability of psychology graduate school applicants. *Canadian Journal of Behavioural Science* 27 (4): 393-404.
- Latham, C. and F. Jacobs 2000. Monitoring and incentive effects influencing misleading disclosures. *Journal of Managerial Issues* 12: 169-187.
- Maines, L. and L. McDaniel. 2000. Effects of comprehensive income characteristics on non-professional investors' judgments: The role of financial statement presentation format. *The Accounting Review* 75 (2): 179-207.
- Maletta, M. and T. Kida. 1993. The effect of risk factors on auditors' configural information processing. *The Accounting Review* 68 (3): 681-691.
- McEnroe, J. 2006. Perceptions of the effect of Sarbanes-Oxley on earnings management practices. *Research in Accounting Regulation* 19: 137-157.

- McQuitty, S. 2004. Statistical power and structural equation models in business research. *Journal of Business Research* 57 (2): 175-183.
- Mikulineer, M. and N. Horesh. 1999. Adult attachment style and the perception of others: The role of projective mechanisms. *Journal of Personality and Social Psychology* 79 (6): 1022-1034.
- Murphy, P. and M. Dacin. 2011. Psychological pathways to fraud: Understanding and preventing fraud in organizations. *Journal of Business Ethics* 101 (4): 601-618.
- Nossen, R. and J. Norvelle. 1996. *The Detection, Investigation, and Prosecution of Financial Crimes*. Richmond, VA: Thoth Books.
- Perino, M. 2002. Enron's legislative aftermath: some reflections on the deterrence aspects of the Sarbanes-Oxley act of 2002. *St. John's Law Review* 76 (4): 671-698.
- Pearson, J., Crosby, L., and J. Shim. 1996. Modeling the relative importance of ethical behavior criteria: a simulation of information systems professionals' ethical decisions. *Journal of Strategic Information Systems* 5: 275-291.
- Polinsky, A. and S. Shavell. 1984. The Optimal Use of Fines and Imprisonment. *Journal of Public Economics* 24 (1): 89-99.
- Polinsky, A. and S. Shavell. 1999. On the disutility and discounting of imprisonment and the theory of deterrence. *Journal of Legal Studies* 28: 1-16.
- Puri, P. 2005. Enforcement effectiveness in the Canadian capital markets. Commission of the Capital Markets Institute, June 2005.
- Recine, J. 2003. Enhancement of the white collar crime penalty enhancements in the Sarbanes-Oxley act. *American Criminal Law Review*: 39 (4): 1535-1570.
- Ronen, P. 2002. Policy reforms in the aftermath of accounting scandals. *Journal of Accounting and Public Policy* 21(4-5): 281-286.

- Ruvolo, A. and J. Fabin. 1999. Two of a kind: Perceptions of own and partner's attachment characteristics. *Personal Relationships* 6 (1): 57-79.
- Sarbanes, P. and M. Oxley. 2002. *The Sarbanes-Oxley Act of 2002*. Washington, D.C.: U.S. Congress.
- Schrand, C. and S. Zechman. 2011. Executive overconfidence and the slippery slope to financial misreporting. *Journal of Accounting and Economics* doi:10.1016/j.jacceco.2011.09.001.
- Schwartz, S. 1973. Normative explanations of helping behavior: A critique, proposal, and empirical test. *Journal of Experimental Social Psychology* 9: 349-364.
- Singleton, T., King, B., Messina, F., and R. Turpen. 2003. Pro-ethics activities: Do they really reduce fraud? *The Journal of Corporate Accounting and Finance* 14 (6): 85-94.
- Smith, E. 1997. Private selves and shared meanings: Or forgive us for our projections as we forgive those who project onto us. *Psychodynamic Counseling* 3 (2): 117-131.
- Sukhraj, P. 2008. SEC Fines Enron Subsidiary Exec. *Accountancy* Age 30 (July).
- Taub, S. 2007. Charges for Ex-CEO for Aspen Technology. *CFO*. 9 (January).
- Ugrin, J. and M. Odom. 2010. Exploring Sarbanes-Oxley's effect on attitudes, perceptions of norms, and intentions to commit financial statement fraud from a general deterrence perspective. *Journal of Accounting and Public Policy* 23 (5): 439-458.
- Williams, K. and R. Hawkins. 1986. Perceptual research on general deterrence: a critical review. *Law and Society Review* 20 (4): 545-572.