

Audit Response to Money Laundering by Financial Institutions: An Economic Perspective

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Abstract: This article focuses on the interplay between a corporation (its executives and managers) and auditors in the presence of an opportunity to launder funds. Auditor responsibilities to detect illegal acts are significantly different than their responsibilities to detect fraud. In addition the changing audit and business environment conspire to complicate the role of the auditor. The paper begins with a discussion of crime by organizations. This is followed by a review of auditor responsibilities to detect irregularities and illegal acts. Economic theory is then used to analyze auditor payoffs and incentives related to client money laundering activities. The paper concludes with recommendations for both practice and future research.

Key Words: Audit, Illegal Acts, Money Laundering

I. Introduction

A recent survey of 500 financial service professionals in the United States and United Kingdom disclosed that 26 percent had observed or had first-hand knowledge of wrongdoing in the workplace (Labatron Sucharow, 2012). The survey further reported that almost one quarter of the respondents believed that financial service professionals need to engage in unethical or illegal activities to be successful and that 16 percent disclosed that they would engage in insider trading if they thought that they could get away with it. These survey results are consistent with Reed and Yeager's (1996) observation that organizational crime may be endemic and epidemic.

Money laundering, the process of concealing the source of money obtained through illicit means, has become a significant global issue. Money laundering uses financial institutions as a tool and at the same time corrupts the institutions, the legal system and society. For example, the Federal government decided not to indict the global bank HSBC in a money-laundering case over concerns that criminal charges could jeopardize the bank and ultimately destabilize the global financial system. Nevertheless HSBC agreed to a \$1.92 billion settlement (Protess and Silver-Greenberg, 2012).

It is difficult to estimate the global size of the money laundering problem and Morris (1998), the then outgoing chairman for the OECD's Financial Action Task Force, stated that a mechanism to accurately measure the global volume of money laundering did not exist. However a recent estimate of illicit financial flows indicates that between \$1.26 trillion and \$1.44 trillion disappeared from poorer countries in 2008 due to corruption alone (FATF, 2011). Most likely some proportion of that was laundered. This estimate does not include the laundering of proceeds from other illegal activities like the drug trade. OECD (2009) estimated that the international drug trade is worth approximately \$400 billion annually of which US\$300 billion was estimated to have been laundered. Finally Walker (1999) developed an input-output model that generated an annual, world-wide money laundering estimate of \$2.85 billion. Money laundering is a significant global problem, however it is measured. This is highlighted in Figure 1 which summarizes the dollar magnitude of bank forfeitures from recent money laundering cases prosecuted in the United States.

Table 1
Money Laundering by Financial Institutions
(All amounts in millions)

<i>Financial Institution</i>	<i>Year</i>	<i>Forfeiture</i>
Bank of Credit and Commerce International ¹	1991	\$550.0
BankAtlantic ²	2006	\$ 10.0
Union Bank of California ³	2007	\$ 21.6

¹USA v. Santiago Uribe et al. 8:91-cr-00239-JDW-9, Middle District, FL, 1991 and USA v. Gerardo Moncada et al, 89:91-cr-00239-JDW-9, Middle District, FL, 1001.

²USA v. Bank Atlantic, 06-60126-CR-COHN, Southern District, FL, 2006.

American Express Bank International ⁴	2007	\$ 55.0
Union Bank of Switzerland ⁵	2009	\$780.0
Credit Suisse AG ⁶	2009	\$536.0
Lloyds TBS Bank PLC ⁷	2009	\$350.0
Wachovia Bank, NA ⁸	2010	\$160.0
Barclays Bank PLC ⁹	2010	\$298.0
ABN Amro Bank NV ¹⁰	2010	\$500.0
Deutsche Bank AG	2010	\$553.6
Ocean Bank ¹¹	2011	\$ 11.0
ING ¹²	2012	\$619.0
Lebanese Canadian Bank ¹³	2013	\$102.0

This article focuses on the interplay between a corporation (its executives and managers) and auditors in the presence of an opportunity to launder funds. Auditor responsibilities to detect illegal acts are significantly different than their responsibilities to detect fraud. In addition the changing audit and business environment conspires to complicate the role of the auditor. The paper begins with a discussion of crime by organizations. This is followed by a review of auditor responsibilities to detect irregularities and illegal acts. Economic theory is then used to analyze auditor payoffs and incentives related to client money laundering activities. The paper concludes with recommendations for both practice and future research.

II. CRIME BY ORGANIZATION

Corporations, to be financially successful, are not required to engage in illegal activity. Thus corporations are not, by definition criminal enterprises. However, executives and other managers may make the reasoned choice to engage in criminal activities either explicitly or by designing organizational structures and incentives, e.g., compensation systems, that alter the probability of the occurrence of illegal activities. Thus, by its choices, an organization, rather than being criminal, may become criminogenic. However, a criminogenic culture and organizational structure may lead an organization on the path towards being truly criminal.

Note that corporations do not make decisions; rather, individuals within the corporations are the decision makers. Decision makers are assumed to be rational, which means that they make choices that maximize their own utility. If those decisions are congruent with organizational goals and objectives then they will also advance the organization's goals. We propose that the decision of an individual to engage in money laundering activities within a financial institution is a utility-maximizing choice that takes the risk of professional or legal sanctions into account, but rather to maximize personal utility and at the same time maximize the utility of the financial institution.

Thus, if two alternative business decisions are possible and mutually exclusive then rational decision makers would select between them by comparing their respective expected utilities and select the alternative that maximizes their personal expected utility. The secondary gain from this decision, if organizationally goal congruent, would be to enhance the organization's expected utility. Read and Yeager (1996) argued that risks of detection, prosecution and punishment for organizational crime are so remote as to be rationally worth assuming. The financial rewards obtained through money laundering activities may significantly outweigh the costs of those actions.

Expected utility in general is given by the formula:

³USA v. *Union Bank of California, NA*, 07CR2566-W, Southern District, CA, 2007.

⁴USA v. *American Express Bank International*, 07-20602-CR-ZLOCH/SNOW, Southern District, FL, 2007.

⁵USA v. *UBS AG*, 09-60033-CR-COHN, Southern District, FL, 2009.

⁶USA v. *Credit Suisse AG*, 1:09-cr-00352-RCL, District of Columbia, 2010.

⁷USA v. *Lloyds TSB Bank PLC*, 1:09-cr-00007-ESH, District of Columbia, 2010.

⁸USA v. *Wachovia Bank NA*, 10-20165-CR-LENARD, Southern District, FL, 2010.

⁹USA v. *Barclays Bank PLC*, 1:10-cr-00218-EGS, District of Columbia, 2010.

¹⁰USA v. *ABN Amro Bank NA*, 1:10-cr-00124-CKK, District of Columbia, 2010.

¹¹USA v. *Ocean Bank*, 1:11-cr-20553-JEM, Southern District, FL 2011.

¹²Department of Justice. (2012). ING Bank N.V. Agrees to Forfeit \$619 Million for Illegal Transactions with Cuban and Iranian Entities, accessed at <http://www.justice.gov/opa/pr/2012/June/12-crm-742.html> on 19 September 2013.

¹³Department of Justice. (2013). Manhattan U.S. Attorney Announces \$102 Million Settlement of Civil Forfeiture and Money Laundering Claims Against Lebanese Canadian Bank, accessed at <http://www.justice.gov/usao/nys/pressreleases/June13/LCBSettlementPR.php?print=1> on 19 September 2013.

$$EU(A) = \sum P_A(o_i)U(o_i) \tag{1}$$

where $P_A(o)$ represents the probability of outcome o given A , and $U(o)$ is the utility of o . In the case of money laundering by a manager in a financial institution acts and outcomes are summarized in the following matrix.

Table 2
Outcome Matrix

<i>Acts</i>	<i>Outcomes</i>	
	<i>Act is Undetected</i>	<i>Act is Detected and Punished</i>
Engage in money laundering	o_1	o_2
Do not engage in money laundering	o_3	o_4

Obviously the expected utility of an action is dependent on both the utility of an outcome and the probability that the outcome will be realized. A rational decision maker will selected an act when its outcome is greater than that of alternative actions. Thus a manager at a financial institution would engage in money laundering when

$$EU(\text{Money Laundering}) > EU(\text{No Money Laundering}).$$

Money laundering by financial institutions is one way for managers and executives to potentially maximize their utility and enhance the financial position or results of operations of their employer. Money laundering is defined in the United States as the act of knowingly engaging in or attempting to engage in a monetary transaction in criminally derived property of a value greater than \$10,000 and is which is derived from specified unlawful activity (18 USC §1957). Money laundering is usually viewed as a three-stage process undertaken by a criminal organization that includes the following steps:

1. Placement – the movement of criminally sourced funds from direct association with the criminal activity and into the monetary system,
2. Layering – disguising the money trail to make it difficult to trace funds back to their source, and
3. Integration – making the funds available to the criminal organization with their criminal and geographic origins hidden from view.

The involvement of financial institutions is critical in all three stages. Multinational financial institutions make it possible for individuals and businesses to electronically move large amounts of money from account to account and country to country.

Sliter (2006) identified three types of business organizations:

1. Ethical corporations that are not and will not be involved in criminal activities.
2. Silent partners – corporations indirectly involved with organized crime but which try to maintain sufficient distance from their business partners so that they can reasonably claim a lack of direct knowledge of criminal activity. These organizations are criminogenic.
3. Full partners – corporations that know with whom they are dealing, understand the risks, and are not concerned with breaking the law. These organizations have made the transition from being criminogenic to being criminal.

Unfortunately it is easy for executives and managers in financial institutions, in their self-motivated search for profits, to become silent partners and risk moving into full partner status. For example, senior bank executives at The Bank of Credit & Commerce International (BCCI) were convicted of laundering money for the Medellin cartel. Mazur (2009) reported that executives at BCCI developed their money laundering techniques after studying what they believed to be the best methods used by executives at other institutions. This is an example of a bank that became a full partner.

Wachovia Bank is a more recent example of a bank becoming a full partner with a criminal organization. Wachovia Bank failed to apply the proper anti-laundering strictures to the transfer of \$378.4 billion (one-third of Mexico's gross national product) into dollar accounts from currency exchange houses in Mexico with which the bank did business. Jeffrey Sloman, the U. S. federal prosecutor of the Wachovia case, stated that, "Wachovia's blatant disregard for our banking laws gave international cocaine cartels a virtual carte blanche to finance their operations" (Vulliamy, 2011).

The United States government, under 18 U.S.C. Sec 983(c)(3) claims to right to force property forfeiture if the Government is able to establish that property was used, facilitated or was involved in the commission of a criminal offense, and that there was a substantial connection between the property and the offense. As show in Table 1 financial institutions have been forced to forfeit substantial sums as the result of their involvement in money laundering.

III. Auditor Responsibilities

Auditing standards state that, "The auditor has a responsibility to plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether caused by error or fraud" (PCAOB, 2002, AU§316.01). Paragraph 5 of AU§316 provides a very limited definition of fraud for audit purposes stating that "... fraud is an intentional act that results in a material misstatement in financial statements that are the subject of an audit." Thus money laundering would not be considered to be fraud by an auditor if it didn't result in a material misstatement of financial statements.

Hassink, Meuwissen and Bollen (2010, p. 874) conclude that, "fraud detection by auditors is a relatively rare event." Surprisingly they further reported that non-Big Four auditors detected more serious fraud cases than did Big-Four auditors¹⁴. The ACFE (2012) reported that auditors were responsible for only 3.3 percent of the initial detection of occupational frauds in 2010 and 2011. It appears that auditors, although required by standard to design their audits to detect material fraud if it exists, do a poor job.

Auditors do not have the same responsibility to plan and perform an audit to obtain reasonable assurance about whether illegal acts have occurred. PCAOB AU§317.02 defines illegal acts as "... violations of laws or governmental regulations. Illegal acts by clients are acts attributable to the entity whose financial statements are under audit or acts by management or employees acting on behalf of the entity." In fact, auditing standards state that, "Normally, an audit in accordance with generally accepted auditing standards does *not* include audit procedures specifically designed to detect illegal acts [emphasis added]" (PCAOB, AU§317.08, 2002). Thus, given that auditors do a poor job of detecting fraud even though required to do so, it is less likely that they will detect illegal acts. However, if auditors do in fact detect an illegal act, their responsibilities are similar to their responsibilities in the case of fraud and irregularities.

If an auditor does become aware of a possible illegal act, then accounting standards require that the auditor obtain information about the nature of the act, the circumstance in which the possible illegal act occurred and gather sufficient evidence to evaluate the effect of the act on the financial statements (PCAOB, 2002, AU§317.10). The auditor should also consider the implications of the illegal act on the audit and the reliability of management's representations (PCAOB, 2002, AU§317.16). Finally, and this is critical from a game theory perspective, audit standards instruct the auditor to inform those charged with governance about the possible illegal act (PCAOB, 2002, AU§317.17). From an audit and game theory perspective this may be of little consequence because senior managers, Chief Executive Officers, and/or Chief Financial Officers, who may also have been significant shareholders, have been involved most of the recent frauds. Auditing standards may place auditors in the nonsensical position of informing those involved in illegal acts that they are involved in illegal acts. This disclosure by the auditors may have no significant result except for the termination of the auditor-client relationship.

A second issue related to auditor responsibilities is that of auditor motivation or incentive. The traditional view is that auditors will disclose management fraud or illegal acts and thus act to control corporate conduct because of the reputational penalties imposed upon them if (1) they fail to act and (2) their failure is discovered. Tillman (2009, 370) observed that economists view reputational intermediaries like auditors as barriers to corporate fraud and illegal acts while these same intermediaries are viewed by sociologists and criminologists as "key facilitators of fraud." This second view is consistent with Byrne (2002), who noted the perversion of the accounting profession and claimed that auditors and analysts have become players in a game of nods and winks. Tillman&Indergaarg(2005, 206) further noted that "the culture of conformity that big accounting firms had traditionally promoted was shifting from stressing adherence to accounting rules to conforming to the new priority of maximizing revenue and pleasing clients."

This can be seen most clearly in the 2010 Deutsche Bank AG case. Deutsche Bank admitted to conspiracy to commit tax evasion and tax fraud in the United States. The tax evasion scheme was made possible with the participation of senior members of the international auditing firm KPMG and two law firms (Bray, 2010)¹⁵. Clearly this was a case where the utility derived from pleasing the client exceeded the utility derived from maintenance of the accounting firm's reputation. As Norris (2007) observed, "It takes a team to pull off a good corporate fraud." In the BCCI case, the team included BCCI senior executives and senior members of BCCI's audit firm and law firms.

With this background, we now turn to the formulation and analysis of the client and auditor models. Our analysis begins with a definition of the expected value of an audit client.

14 The Big-Four audit firms are Deloitte Touche Tohmatsu, Ernst & Young, KPMG and PricewaterhouseCoopers (PwC).

15 BCCI paid a \$553.6 million penalty and KPMG agreed to pay a \$456 million penalty (See Table 1).

IV. Audit Client Value

The value of an audit client can be expressed as the present value of the expected net future cash inflows from the client, less the costs of obtaining the client. Berger (2006) formalized customer lifetime value (CLV) as:

$$CLV = \sum_{t=1}^n \left[\frac{(M_t - C_t)(r_t)^{t-1}}{(1+d)^t} \right] - I \quad (2)$$

Where:

t = time index

n = number of client relationship years forecast

d = discount rate

M = Marginal cash inflow from client

C = Additional costs incurred to serve and retain the client

r = Client retention rate

I = Initial cost of client acquisition

CLV will be use below as an estimate of the value of a client in the formulation of the model of the audit firm's expected utility.

V. AUDITOR UTILITY MODELS

5.1 Basic Model

Assume a financial institution (the client) audited by a firm of Certified Public Accountants (the auditor). The actions of the executives and managers of the financial institutions are not directly observable by the auditors. The value of the financial institution is determined by management's business model or operating strategy (*S*). Management makes the decision to engage in money laundering (*S=ML*) and gain an illegal profit (*I*), or to be strictly honest and not engage in money laundering (*S=~ML*) with *I = 0*. In both cases management reports the value of the financial institution *V* while in the case of *S=ML* the value of *I* is hidden or included in *V* and thus management does not disclose the presence or absence of money laundering. The normal, although hidden, profit under *S=ML* would be *V-I*. However, managers receive compensation proportional (α) to the reported value of the financial institution (*V*) and thus if *I > 0* will be compensated in part for the illegal profit earned.

The actions of managers when *S=ML* increase the risk that the financial institution will face legal sanctions. In addition the managers may also be subject to criminal prosecution and the resultant legal penalties. The combined organizational and personal sanctions are denoted globally in the model that follows as (*F*).

The audit firm does not know, *a priori*, whether the client has engaged in money laundering (*ML*) or not (*~ML*). The firm may, over the course of its audit, uncover evidence that the client has engaged in money laundering, an illegal activity, with a probability of ϵ . If an illegal act is uncovered the audit firm must then decide whether to appropriately disclose (*D*) or not disclose (*~D*) the illegal act. This decision is not a chance event and so no probability is attached to it. The auditor's decision matrix is shown in Figure 1 below. Given that auditors do not have a responsibility to design their audit programs to detect illegal acts their null hypothesis is that the client's strategy is *~ML*. If the auditor incorrectly rejects the null hypothesis then the auditor commits a Type I error. If the auditor incorrectly fails to reject the null hypothesis when in fact the client strategy is *S=ML* then a Type II error is committed. Again, the decision to disclose or not is distinct from the discovery or failure to discover evidence

Figure 1
Auditor Decision Matrix

Auditor	Client	
	~ML	ML
~D	<i>Correct Decision</i>	<i>Type II Error</i>
D	<i>Type I Error</i>	<i>Correct</i>

The likelihood of the imposition of sanctions is assumed to increase if the audit firm discloses money laundering activities. Consequently we define the probability of sanctions in the absence or presence of disclosure as:

$$P(\text{Sanctions}|\sim D) = \pi_1 < P(\text{Sanctions}|D) = \pi_2 \quad (3)$$

and the cost of sanction as F and the absence of sanction as $\sim F$. Thus the value of a financial institution under the conditions of no money laundering and given money laundering without and with disclosure can be represented as as:

$$\text{if } \sim\text{MLV} = V_{\sim\text{ML}} \tag{4}$$

$$\text{if ML and DV} = V_{\sim\text{ML}} + I - (\pi_2)F \tag{5}$$

$$\text{if ML and } \sim\text{DV} = V_{\sim\text{ML}} + I - (\pi_1)(\sim F) \tag{6}$$

The expected value of the financial institution, conditioned by the probability that the auditor will uncover money laundering is given by:

$$\text{if ML then EV} = (\varepsilon)[V_{\sim\text{ML}} + I - (\pi_2)F] + (1-\varepsilon)[V_{\sim\text{ML}} + I - (\pi_1)F] \tag{7}$$

$$= V_{\sim\text{ML}} + I - [(\varepsilon)(\pi_2)F + (1-\varepsilon)[(\pi_1)F]] \tag{8}$$

For a financial institution to engage in money laundering activities the net gain from money laundering activities must be positive. This implies that:

$$I > [(\varepsilon)(\pi_2)F + (1-\varepsilon)[(\pi_1)F]] \tag{9}$$

If the inequality given in equation 9 holds then ML is the preferred strategy for a financial institution. The key then is to find a way to induce the auditor to discover and then disclose ML. However, this alone, while necessary is not sufficient. Even in the case where the auditor's strategy is D ML still preferred if $I > (1 - \pi_2)F$. Money laundering deterrence only occurs when F or π_2 are raised to a sufficiently high level that $I < [(\varepsilon)(\pi_2)F + (1-\varepsilon)[(\pi_1)F]]$.

5.2 No Type I Error Penalty

The audit firm receives a net audit fee (A) for the performance of its audit in the current year and A' is the discounted net future value of the audit client as computed by equation 2 above if the audit firm retains the client. If the audit firm discovers that money laundering has occurred it is faced with the choice of disclosing (D) the illegal act and losing the client, or not disclosing the illegal act and retaining the client while exposing the firm to the risk of reputational damage with a cost C if the illegal act is subsequently discovered, prosecuted and punished. In this model ε is again defined as the probability of auditor discovery of money laundering. We assume that disclosure will result in the termination of the auditor relationship with the client. This allows the client to terminate the relationship with the audit firm as punishment for disclosure. It follows then that if D occurs, that is that disclosure is certain, then the probability that the audit firm will lose the client is also certain.

If $S = ML$ and the auditor discloses ML then C is assumed to be equal to zero. The probability of auditor reputation impairment if $S = ML$ and the auditor fails to disclose ($\sim D$) is assumed to be equal to the probability of sanctions (π_1) being imposed on the financial institution. If there is no Type I error penalty then based on Berger (2006) the expected lifetime value or profit (P) of the audit client in the absence of money laundering is given by:

$$P(\sim D | \sim ML) = A + A' \quad \text{and} \tag{10}$$

$$P(D | \sim ML) = A \tag{11}$$

and the expected profit is

$$P(\sim ML) = A + \varepsilon A' \tag{12}$$

The sums of the current year net audit fee and the discounted net future audit fee weighted by the probability of client retention or loss (if client lost, $A' = 0$) are assumed to be equal to customer lifetime value. If the client strategy is ML and the auditor discloses the illegal act then P is:

$$P(D | ML) = A \tag{13}$$

The payoff from both equations 10 and 11 are the same, that is, the auditor payoff from D is the same and the auditor loses the client. Finally, if the client strategy is ML and the auditor fails to disclose the illegal act and is subject to potential reputational damage then P is:

$$P(\sim D / ML) = A + A' - \pi_1 C. \tag{14}$$

The auditor would not make the decision to disclose if $A' > \pi_1 C$. Thus in that case $\sim D$ is dominant decision. The auditor's payoff matrix in the face of client states and auditor actions is presented in Figure 2 below.

Figure 2
Auditor Utility Matrix – No Type I Error Penalty

<i>Auditor</i>	<i>Client</i>	
	$\sim ML$	ML
$\sim D$	$A + \varepsilon A'$	$A + \varepsilon A' - \rho C$
D	$A + (1-\varepsilon) A'$	$A + (1-\varepsilon) A'$

The auditor's payoff for D and $\sim D$ when the client adopts the non-money laundering strategy ($S = \sim ML$) are assumed to be equal if there is no penalty for an auditor Type I error.

Using backwards induction it is possible to identify the conditions under which auditors can be induced to disclose money laundering when it exists. Audit firm expected utilities in the presence of money laundering were given in equations 10 and 11 above. To induce audit firm disclosure of client money laundering $P(D/ML)$ must be greater than $P(\sim D/ML)$ or

$$A + (\varepsilon)A' > A + (1-\varepsilon)A' - \rho C \tag{15}$$

The audit client can control ε , the probability of client retention and consequently of no disclosure and to an extent because the client hires the auditor and can terminate the auditor. This is a credible threat. Also, if ε is large and if ρ the probability of sanction imposition is low then $P(\sim D/ML) > P(D/ML)$.

When the expected cost of reputation impairment is greater than the expected net future life-time value of the client then the audit firm has a financial incentive to disclose money laundering. In the second case where the expected future life-time value of the client is equal to the expected cost of reputation impairment the audit firm is indifferent between disclosing and not disclosing money laundering. In the third case there is no financial incentive for the auditor to disclose.

VI. Conclusions

If the proceeds from money laundering exceed the probability weighted cost of sanctions as shown in equation 4 then financial institutions have an incentive to engage in illegal activities. Asset forfeiture without prosecution, which is what has happened in the cases highlighted in this paper, is not likely to be a sufficiently strong sanction to reverse the inequality in equation 3. The recent announcement by the U. S. Department of Justice that it would not prosecute Goldman Sachs for alleged illegal acts (ABC, 2012) reinforces the perception that sanctions are weak.

Auditors are required by auditing standards to disclose illegal acts to those responsible for governance. These are the same individuals who may be involved in or aware of money laundering activities and also those who select and retain the audit firm. If financial institution management is able to control ε , the probability of client retention and consequently auditor non-disclosure, so that the financial reward for non-disclosure is greater than the expected cost of reputational impairment then the inequality in equation 15 reverses and auditor have an incentive go along with the client. This may be what causes auditors and client management to become the team that Norris (2007) wrote about.

Several changes can be made to reduce the incentive for financial institutions to engage in money laundering activities and to increase the incentive for auditors to report illegal activities. First, increased financial penalties, for example asset forfeiture at a multiple of the assets earned through illegal activities, would change the cost-benefit analysis related to engage in the decision to participate in money laundering so that equation 3 becomes:

$$I \leq (\pi_2)(\varepsilon)nF \tag{16}$$

where n is the forfeiture multiplier.

Increasing the risk of sanction π_2 and the risk of discovery ε are also necessary steps. If $\pi_2 = \varepsilon = 0$ then any forfeiture multiplier, no matter how large, is meaningless.

There is little incentive for audit firms to disclose illegal activities by their clients as long as they are able to make an external attribution and claim that the client represented that no material illegal activities had been committed and auditors are not punished for the illegal activities of their clients. From a practical standpoint in most cases $\rho C = 0$ because there is no cost to the auditor when the client engages in an illegal activity that is purposefully hidden from the auditor.

Changing auditor responsibilities with respect to material illegal acts that affect financial statements so that it is consistent with their responsibility to design their audit programs to detect material fraud could increase reputational cost. Such a change would both increase auditor responsibility and the possibility of legal and financial sanctions for the failure to discover and disclose material illegal acts.

Currently auditors are to consider the effect of illegal acts on financial statements. The failure of the client to account for or disclose the effect of illegal acts in the financial statements may lead the auditor to issue a qualified or adverse opinion. If the auditor is precluded by the client from obtaining necessary evidence about the potential effect of the illegal act on the financial statements the auditor may issue a disclaimer of opinion. Auditors are only required to communicate the illegal act to those charged with governance. Auditors are not attorneys and nor are the law enforcement investigators. However, the probability of sanction ($1 - \pi_2$) could be increased if auditors were required to disclose the existence of potential illegal acts to a regulatory body given sufficient predication.

Future research should examine the responses of those charged with governance to auditor disclosure of alleged material illegal activities. The degree to which client management exercised influence or control over audit decisions would provide insight into ways to increase the probability of disclosure.

Given the current regulatory environment white collar crime, including money laundering by financial institutions, is likely to increase. Stiffer penalties for white collar crimes, increased risk of sanction, and incentives to disclose illegal acts are ways to combat this increase.

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