FORENSIC ACCOUNTING, FRAUD THEORY, AND THE END OF THE FRAUD TRIANGLE

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ABSTRACT

Defenders of the fraud triangle have risen to the challenges of the many criticisms of the fraud triangle, mostly by ignoring them. Criticisms notwithstanding, the fraud triangle has endured and has formed the basis of fraud theory since its origination to this day. Yet, the elements of the fraud triangle (or any geometric shape of choice) as originally developed and modified, have been misused, abused, contorted, stretched out of shape, and pressed into uses for which it was never intended and cannot possibly accommodate.

This paper analyzes the geometry of fraud theory and argues that forensic accounting researchers and practitioners must recognize that the fraud triangle does not apply to fraud and must consider that there are n-dimensions of financial crime that must be accounted for in any model that attempts to explain, predict, prevent, detect, and prosecute financial crimes, of which fraud is merely a subset.

INTRODUCTION AND PURPOSE

Defenders of the fraud triangle have risen to the challenges of the many criticisms of the fraud triangle, mostly by ignoring them and, criticisms of the fraud triangle notwithstanding, the fraud triangle has endured and has formed the basis of what is referred to as "fraud theory" since its origination 60 years ago to this day. Yet, the elements of the fraud triangle (or any geometric shape of choice) as originally developed and subsequently modified, have been misused, abused, contorted, stretched out of shape, and pressed into uses for which it was never intended and cannot possibly accommodate. The fraud triangle has nothing to do with fraud.

This paper analyzes the geometry of fraud theory and argues that forensic accounting researchers and practitioners must recognize that the fraud triangle does not apply to fraud and must consider that there are n-dimensions of financial crime that must be accounted for in any model that attempts to explain, predict, prevent, detect, and prosecute financial crimes, of which fraud is merely a subset.

Forensic accounting researchers and practitioners, fraud examiners, and financial crime investigators are quite familiar with the “fraud triangle” that for decades has been the mainstay of fraud research. The three elements of what came to be known as the fraud triangle, originally developed by Cressey in 1953 and later named the fraud triangle by others, consist of incentive (motivation), opportunity, and rationalization. There are several variations, permutations, and iterations of the fraud triangle, for example, placing incentive, opportunity, and rationalization on the legs instead of at the points, but the basics remain.

Instead of a triangle, some have posited a fraud diamond (or fraud square) with the fourth point (or leg) representing “capability.” One is named after a rodent (MICE”). The diamond, square, and rodent models have not been accepted as readily as the triangle.

The fraud triangle has had been the subject of several criticisms such as the fraud triangle emphasizes only individual factors that contribute to fraud while ignoring social and organizational factors. Defenders of the fraud triangle have risen to the challenges and all but ignored the criticisms. Criticisms notwithstanding, the fraud triangle has endured and has formed the basis of what is frequently considered to be “fraud theory” from its origination 60 years ago to this day.

Yet, the fraud triangle (or any geometric shape of choice) as originally developed and modified, has been misused, abused, contorted, stretched out of shape, and pressed into uses for which it was never intended and cannot possibly accommodate. This is not only the result of the inherent limitations of the fraud triangle as identified by its critics. It is not just because the complex phenomena of fraud and other financial crimes cannot legitimately be reduced to the simple geometric representations of current “fraud theory.” It is because the fraud triangle simply cannot be applied to fraud.

The fraud triangle has been accepted as canon since its conception with no consideration of the validity of its application to fraud. Even its critics assume it applies to fraud. However, the simple fact is there is not now, and never has been, a fraud triangle other than in name. Fraud does not, and cannot, map to the fraud triangle and thus the term “fraud triangle” is misleading.

Forensic accounting researchers have published dozens of articles on the fraud triangle. It is parroted in every forensic accounting textbook. But the title of Cressey’s (1953) work should have been self-explanatory from the outset: “Other people’s money: A study in the social psychology of *embezzlement*” (emphasis added), not “the social psychology of *fraud*.”
Forensic accounting researchers have never offered any evidence actually linking the fraud triangle to fraud. That is, published research implicitly assumes that the fraud triangle can be applied to fraud as well as various other financial crimes. It cannot. The “embezzlement triangle,” to use a more accurate term, cannot be used for anything other than its original purpose—to explain theft (embezzlement) in the context of a breach of trust.[1]

For example, if I place my car in your possession to keep for me while I go on a trip, and you sell the car and keep the money, that is not fraud. It is theft. If I hire you to take care of the cash for my business and you steal the money, that is not fraud. That is theft (embezzlement). The embezzlement triangle assists in explaining, although in a limited manner according to its critics, that type of theft.

If, however, I induce you to buy my car by telling you it has low mileage (when I know it has high mileage), and you believe me and purchase it at a higher price, that is fraud. If a corporation intentionally overstates its revenue and you believe its financial statements and buy its stock, that is fraud. The fraud triangle cannot be used to explain or understand fraud.

As Huber and DiGabriele (2014) and DiGabriele and Huber (2015) explain, fraud has been the favorite subject of research of forensic accounting researchers and forensic accounting researchers take care to explain, in various degrees, the fraud triangle. Yet, they have not explained either the legal or accounting criteria of fraud and how the legal or accounting criteria

[1] That the three factors identified by Cressey being always present in crimes of breach of trust is also criticized.

of fraud relate to the fraud triangle. Published research implicitly assumes that the meaning of fraud is understood. Terms such as "fraudster" and "fraud firm" are bandied about carelessly as if the use of the terms is sufficient proof to link the fraud triangle to acts that are not fraud.

But it is not even an understanding of fraud that is assumed, but a misunderstanding of fraud. That is, acts are labeled as fraud without justifying that the acts meet the criteria of fraud—knowingly misrepresenting material facts (including silence when there is a duty to speak) with the intent to induce another to act (or refrain from acting) causing damage to the party relying on the misrepresentation—while expecting the reader and other researchers to accept without question that the act in question is fraud and the fraud triangle naturally applies. Other researchers have been more than happy to oblige by perpetuating the misuse of the term "fraud triangle" to describe acts that are not fraud because they do not meet the criteria of fraud.

Since the fraud triangle does not apply to fraud the results of sixty years of research in fraud using the fraud triangle are, for all practical purposes, invalid because the results do not support the conclusions they are purported to represent—that the fraud triangle applies to fraud.

The purpose of this paper is first, to critically examine the inability of the fraud triangle and its related geometric metaphors for use in fraud and financial crime research. Second, this paper suggests new directions for research into fraud and financial crime. This paper analyzes the errors of the fraud triangle and the geometry of fraud theory. It argues that forensic accounting researchers and practitioners must recognize that there are n-dimensions of fraud and financial crime that must be accounted for in any model that attempts to explain, predict, prevent, deter, detect, and prosecute financial crimes, of which fraud is merely a subset.[2]

The rest of this paper is organized as follows. First, the importance and contribution of the paper are discussed. Second, literature concerning the geometry of fraud as portrayed by the fraud triangle and its related geometric metaphors is reviewed along with their criticisms. Next, the

[2] Fraud is not only a type of financial crime, of which there are several, it is also a civil wrong.

fraud triangle is considered in the context of select non-fraud financial crimes. Fourth, the n-dimensions of fraud and financial crime is presented. Conclusions and recommendations follow.

IMPORTANCE AND CONTRIBUTION

Focusing fraud research on the traditional fraud triangle and other simple geometric metaphors obstructs meaningful research into fraud and leads to misleading, inaccurate or incomplete conclusions. Thus, the importance and contribution of this paper lies first in demonstrating that what is known as the fraud triangle does not apply to fraud and therefore fraud research is misdirected. It therefore brings an end to the fraud triangle for use in fraud research.

Second, it recognizes the inadequacy of fraud theory to explain fraud and broader financial crimes. Third, it recognizes there are n-dimensions of fraud and financial crime and suggests a more comprehensive model be developed that considers explicitly the multiple dimensions of fraud and financial crime in order to guide future research.

FRAUD, FRAUD THEORY, AND THE GEOMETRY OF FRAUD

Fraud and other financial crimes are a worldwide phenomenon. While this paper uses American legal and accounting concepts and definitions, the concepts and definitions are substantially similar to those of other countries and therefore are equally applicable to other legal and accounting regimes and traditions. Since fraud lies at the intersection of law and accounting, to understand what is advocated as fraud theory and the fraud triangle it is first necessary to understand fraud from both legal and accounting perspectives.

FRAUD

Legal

In American jurisprudence, “Fraud necessarily includes a knowing misrepresentation of a fact by one party which induces another party to act or fail to act, which in the end, causes damage to the party relying upon the misrepresentation.” (CJS 2016). Another, similar definition of fraud is that fraud is “an intentional perversion of the truth for purpose of inducing another in reliance upon it to part with some valuable thing belonging to him or her or to surrender a legal right." (AmJur2d 2016). The hallmark of fraud is misrepresentation or deceit. (AmJur2d 2016). The legal definitions and conditions of fraud in most other countries are substantially similar to those of the U.S.

These definitions concern civil fraud where a plaintiff must prove each element in order to recover damages. Criminal definitions of fraud are similar, but the commission of an act defined as fraud by statute is fraud simply because the statute so defines it. In the United States, various frauds are defined in Title 18 of the United States Code, Chapter 63. A person convicted of mail fraud, for example, may be sentenced to 20 years in prison. The essence of mail fraud is using the U.S. mail to obtain money or property by means of false or fraudulent pretenses, representations, or promises.[3] Title 18 also defines bank fraud;[4] fraud by wire, television, or radio;[5] securities and commodities fraud;[6] health care (Medicare) fraud;[7] and fraud in foreign labor contracting.[8] All definitions of criminal fraud contain the same essential elements, however—obtaining money or property by inducing another party to act of refrain from acting by intentionally making false representations, either written or oral.[9]

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[3] Whoever, having devised or intending to devise any scheme or artifice to defraud, or for obtaining money or property by means of false or fraudulent pretenses, representations, or promises, or to sell, dispose of, loan, exchange, alter, give away, distribute, supply, or furnish or procure for unlawful use any counterfeit or spurious coin, obligation, security, or other article, or anything represented to be or intimated or held out to be such counterfeit or spurious article, for the purpose of executing such scheme or artifice or attempting so to do, places in any post office or authorized depository for mail matter, any matter or thing whatever to be sent or delivered by the Postal Service, or deposits or causes to be deposited any matter or thing whatever to be sent or delivered by any private or commercial interstate carrier, or takes or receives therefrom, any such matter or thing, or knowingly causes to be delivered by mail or such carrier according to the direction thereon, or at the place at which it is directed to be delivered by the person to whom it is addressed, any such matter or thing, shall be fined under this title or imprisoned not more than 20 years, or both. 18 U.S. Code § 1341 - Frauds and swindles. Certain types of mail fraud carry the penalty of $1M and 30 years in prison.

[4] 18 U.S. Code § 1344.

[5] 18 U.S. Code § 1343.

[6] 18 U.S. Code § 1348.

[7] 18 U.S. Code § 1347.

[8] 18 U.S. Code § 1351.

[9] Silence when there is a duty to speak is also a misrepresentation.

Other frauds against the government are defined elsewhere in the Code. For example, tax fraud, officially referred to as tax evasion in the statute but as tax fraud elsewhere, is defined as the willful attempt to evade or defeat any tax imposed or the payment of tax.[10] Willfully filing a tax return with information known to be fraudulent is subject to a prison sentence of not more than one year.[11]

Accounting

From an accounting perspective, fraud is defined much more simply and narrowly. "[F]raud is an intentional act that results in a material misstatement in financial statements that are the subject of an audit." (AICPA 2002). Again, the emphasis is on intentional misrepresentations of facts (financial statements) known to be false and reliance on the misrepresentation. The purchaser or seller of securities relies on the audited financial statements made by the corporation.

As with the legal definitions and conditions of fraud, the accounting definition in other countries, at least economically developed countries, is substantially similar to the American accounting definition.

In 2002 the American Institute of Certified Public Accountants (AICPA) incorporated the elements of the fraud triangle, although not using the term, into Statement on Auditing Standards 99:

> "Three conditions generally are present when fraud occurs. First, management or other employees have an incentive or are under pressure, which provides a reason to commit fraud. Second, circumstances exist…that provide an opportunity for a fraud to be perpetrated. Third, those involved are able to rationalize committing a fraudulent act." (AICPA 2002, AU 316.07)

The Association of Certified Fraud Examiners ("ACFE") has made the fraud triangle the cornerstone of its organization. (ACFE 2016; Lokanan 2015).

[10] 26 U.S. Code § 7201.
[11] 26 U.S. Code § 7202.

From both legal and accounting definitions of fraud, securities fraud, financial statement fraud, and Ponzi schemes represent some of the largest modern frauds in terms of dollar size and geographic extent. Although not exhaustive, well known examples, which will not be discussed here, include Enron, WorldCom, Tyco, HealthSouth, Satyam, Parmalat, BCCI, Madoff, Rothstein, and Stanford. These all include a knowing misrepresentation of a fact by one party, either a person or a corporation, which induced another party to act or fail to act, which caused damage to the party relying upon the misrepresentation. In addition, Enron, HealthSouth, Parmalat, and Sataym meet the requirements of intentional acts that result in a material misstatement in financial statements. None of these involve embezzlement.

FRAUD THEORY

The fraud triangle and its related geometric metaphors have been used in what is referred to as "fraud theory" for over 60 years. Although it has several criticisms, including criticisms of its assumptions, the criticisms of the fraud triangle are largely ignored and the fraud triangle continues to be a popular tool for fraud and financial crime research.

Fraud is the intersection of law and accounting, and fraud theory has been the subject of much research in law and forensic accounting. The term "fraud theory" has been used to refer to a theory of fraud built on the foundation of the fraud triangle. (Dorminey, Fleming, Kranacher, and Riley 2012)

It could be said that fraud theory has been reduced to easily recognized and understood geometric metaphors, with the fraud triangle being the most popular. Yet even that is not accurate. There is no theory of fraud. As observed by Wall and Fogarty (2016), the fraud triangle is understood as a general framework and not as theory *per se*. Rather, as discussed below, the fraud triangle was created and fraud theory was subsequently built on the foundation of the fraud triangle. (Dorminey, Fleming, Kranacher and Riley, Jr. 2012)

Methods of research in which the fraud triangle has formed the research question include case studies, interviews, and empirical/statistical methods. Notwithstanding the fact that the embezzlement triangle was not intended to be a predictive model, let alone a fraud model, some research has even attempted to use the fraud triangle to predict the occurrence of financial statement fraud. (Alden, Bryan, Lessley, and Tripathy 2012; Skousen and Wright 2006).

The Fraud Triangle

In discussing the geometry of fraud, it must be kept in mind that the geometric representation is merely a visual aid, a conceptual metaphor, a model. But a model must actually represent the thing being modeled. The fraud triangle as a model does not represent fraud.

It is generally believed that the elements that make up what has come to be known as the fraud triangle were first developed by Cressey in 1953. Cressey, a criminologist, interviewed prisoners and identified three traits common in all convicted embezzlers—incentive (motivation) described as unshareable, opportunity, and rationalization. (Cressey, 1953).

The origin of the term "fraud triangle" is less than clear. According to Albrecht (2014), he was the first to use the term "fraud triangle" in 1991.[12] He states that he and four other researchers[13] conducted a study in 1979 in which they generalized the embezzlement triangle (my term) to fraud of all kinds, and coined the term "fraud triangle."

This claim is disputed, however, with Wells claiming credit for at least putting the three items in the shape of a triangle in 1985.[14] W. Steve Albrecht was the first president of the ACFE. (Albrecht,

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[12] "I started calling the three elements that motivate fraud the 'fraud triangle' and began stating that we can prevent fraud by extinguishing any one of the three elements of the triangle. Here's what I wrote in a 1991 journal publication: '*Research has shown that individuals commit fraud when a combination of three factors exist: (1) perceived pressure, (2) perceived opportunity to commit and conceal, and (3) a way to rationalize the behavior as acceptable. These three factors combine to create the 'fraud triangle.'*' (I even included quotation marks around the term because I hadn't heard it used before.)" (italics in original)

[13] Marshall B. Romney, David J. Cherrington, I. Reed Payne and Allan V. Roe.

[14] Morales, Gendron, and Guénin-Paracini (2014) contacted the ACFE by email in 2011 concerning the origins of the term "fraud triangle." They received the following response from an ACFE representative: "'Dr. Cressey developed the three items [incentive, opportunity and rationalization], but he did not call it the Fraud Triangle.

2014b). Yet, as noted by Donegan and Ganon (2008), "By 1983 [Cressey] had formed an association with Joseph Walsh [sic], who ascribes much of the credit for the founding of the ACFE to his relationship with Cressey (Walsh [sic] 1997, 22)."[15]

Cressey had a vested interest in promoting the "fraud triangle" since it was built on his work, and Wells was more than willing to have Cressey's implicit endorsement of the new organization. Albrecht (2009) insists, however, that he, Romney, Cherrington, Paine and Roe (1981) were the first to use the term. (See also Albrecht 2014).

Since 1985, or at least 1991, various modifications of the three elements of the fraud triangle have been proposed. For example, placing the elements on the points (vertices) of the triangle, on the edges (sides) of the triangle, or forming a three-dimensional pyramid. There is no functional difference.

Variations on a theme by Albrecht and Wells

The fraud triangle is not the only geometric metaphor used to describe fraud. The "fraud diamond" was proposed by Wolfe and Hermanson (2004) who added "capability" to the three points (or legs) of the fraud triangle. The presence of the three factors are meaningless unless a person has the ability to take advantage of the opportunity.

A fraud square was proposed by Cieslewicz (2010) to add societal-level to the basic fraud triangle. He proposed the idea again in 2012 (Cieslewicz 2012), but nothing more has been done with it. Albrecht (2009) proposes a "Dyad Reciprocal Model" which "describes the process by which individuals within organizations are recruited and become involved in financial statement fraud schemes" (p. 31).

Actually, Dr. Wells is the first person we know of to take the three items and put [them] in a triangle format. He was working on a video featuring Dr. Cressey in 1985, and he used a triangle graphic in the video to illustrate the 3 factors that are present in most white-collar offenses. He began using the triangle graphic in training programs after that time. People saw the graphic and began referring to it as the Fraud Triangle over the years. So although we have never undertaken an extensive review of its use, as far as we know, that's how it came about." (See also Free,2014).

[15] The ACFE was co-founded by Joseph Wells, not Joseph Walsh. The reference to Walsh was a misprint.

The "fraud scale" as created by Albrecht, Howe, and Romney (984) combines personal characteristics and occupational environment where acts they describe as fraud are committed by persons exhibiting the personal characteristics described by the fraud triangle with occupational pressure reaching a certain point on a sliding scale. A rodent model ("MICE"), developed by Kranacher, Riley Jr., and Wells (2011), modifies the pressure and motivation elements to include Money, Ideology, Coercion, and Ego.

Dorminey, Fleming, Kranacher, and Riley, Jr. (2012) created what they refer to as a meta-model which attempts to add the probability of committing fraud (the act, concealment, and conversion) to the individual elements of the fraud triangle.[16] To be commended, Ramamoorti et al. (2009) proposed an A-B-C model which recognized the interplay of individual, collusion by several individuals, and cultural and societal mechanisms that influence fraud. This has not been further developed.

Errors and Criticisms of the Fraud Triangle

Attribution of the founding of the fraud triangle is replete with errors. While there are also criticisms, the criticisms share a basic assumption—that the fraud triangle actually refers to fraud.

Errors

Research attributing to Cressey the application of the elements of the embezzlement triangle to fraud and the formation of the fraud triangle are replete with errors. Some of the more blatant errors are reviewed below.

Schuchter and Levi (2016) state, "This article revisits the Fraud Triangle, an explanatory framework for financial fraud, originally developed by the American criminologist Donald Cressey from his interviews with embezzlers." This is not true. The fraud triangle was not "originally

[16] Conversion is not an element of fraud.

developed by Donald Cressey." What Cressey developed was not "an explanatory framework for financial fraud." Cressey said nothing about fraud.

Skousen, Smith and Wright (2009) state, "Cressey (1953) contends that, to some extent, three conditions are always present when financial statement fraud occurs" (p. 54). This is incorrect. Cressey did not "contend that, to some extent, three conditions are always present when financial statement fraud occurs." Again, Cressey said nothing about fraud.

They continue, "Cressey's (1953) fraud risk factor theory is based largely on a series of interviews conducted with people who had been convicted of embezzlement. He concludes that frauds generally share three common traits" (p. 56). This, too, is inaccurate first because Cressey did not develop a fraud risk factor theory, and second because he did not conclude that "frauds generally share three common traits." Cressey said nothing about fraud.

Finally, they say, "Cressey contends that, to some extent, all three factors are present in any given fraud" (p. 56). This is another error. Cressey did not "contend that to some extent, all three factors are present in any given fraud." He said nothing about fraud.

Albrecht (2014) states that Cressey defined fraud in his 1953 book which he quotes as "a violation of a position of trust." Albrecht even cites the page number of Cressey's book (p. 79) for the source of the quote. But the fact is, Cressey never defined fraud in his 1953 book, not to mention that fraud is not a violation of a position of trust. Such careless use of terms serves only to increase confusion, not aid in understanding fraud or other financial crimes.

Schuchter and Levi (2016) state, "Cressey proved that there have to be more elements than just a financial incentive to commit fraud" (p. 178-79). This is not true. Cressey did not prove that there have to be more elements than just a financial incentive to commit fraud because he had nothing at all to say about fraud.

Donegan and Ganon (2008) state, "If we have generated interest in alternative criminological explanations for fraudulent financial reporting, then Cressey's fraud triangle cannot be accepted as the only valid model." This is inaccurate. While there should be alternative criminological explanations for fraudulent financial reporting, the fraud triangle is not Cressey's.

With such flagrant errors, it is difficult to understand how the fraud triangle continues to be used, or rather misused, in forensic accounting research.

Criticisms

There are many criticisms of the fraud triangle. The major ones are discussed here.

Albrecht (2009) criticizes the fraud triangle as being limited because it only "provides a one-dimensional psychological analysis of the initial perpetrator of the fraud."

Donegan and Ganon (2008) sharply criticize the fraud triangle and its limiting effect on fraud research because (a) it has no actual empirical support, and (b) ignores other factors that contribute to fraud. They also criticize the AICPA for adopting the elements of the fraud triangle in SAS 99, even if the term fraud triangle is not used, to the exclusion of other criminology based perspectives.

Trompeter, Carpenter, Desai, Jones, and Riley (2013) criticize the fraud triangle because it assumes a single individual acts alone while ignoring group dynamics. Cieslewicz (2012) criticizes the fraud triangle because it does not explain collusion or cultural influences. Cieslewicz suggests that culture plays an important role, particularly Hofstede's (1980, 1991) power distance, which the fraud triangle ignores.[17]

According to Lokanan (2015), "the fraud triangle endorses a body of knowledge that lacks the objective criteria required to adequately address every occurrence of fraud" (p. 202). Furthermore, he states that, "The ACFE's discourse conceptualizes fraud as a dishonest act

[17] See Huber (2001, 2012) for an analysis of perceptions of corruption in different cultures, and how auditors perceive auditing risk in different cultures.

perpetuated by an individual for personal enrichment." The result is that fraud is seen as rooted "in the individual's frail morality (not as an effect of wider societal influences)." The ACFE, he continues, "perpetuates a discourse that presents a restricted version of fraud. Fraud is a multifaceted phenomenon, whose contextual factors may not fit into a particular framework. Consequently, the fraud triangle should not be seen as a sufficiently reliable model for antifraud professionals."

Although Morales, Gendron, and Guénin-Paracini (2014) stress that their research "connects to the power of systems of thought in shaping people's interpretive schemes along a particular angle, in influencing social debates, and in delineating the boundaries of professional jurisdictions" (p. 171), they published what can be considered a scathing criticism of the fraud triangle and the ACFE's use of the fraud triangle. They emphasize that debates among criminologists concerning competing visions of fraud were "largely overshadowed when the fraud triangle was conceptualized in the nascent field of fraud examination" (p. 172). According to Morales, Gendron, and Guénin-Paracini the translation by Wells from criminology to fraud examination was fundamentally incomplete and biased.

Dorminey, Fleming, Kranacher, and Riley (2012) comment that the fraud triangle does not fully capture the antecedents of fraud or adequately address the attributes of other white-collar crime.

While the above criticisms of the fraud triangle are valid they implicitly accept that the fraud triangle applies to fraud. The criticisms strike at the symptom and not the cause, so to speak. The criticisms become moot, however, in light of the fact that the fraud triangle does not apply and cannot be applied to fraud. (See Table 1) The fraud triangle has been used to describe acts that are not fraud which, rather than shedding light on fraud, serves only to confuse the issue.

Table 1

Fraud Triangle (Diamond)		Fraud
• Opportunity	$\nleftarrow$	• Misstatement (silence)
• Motivation		• Material fact
• Rationalization	$\nrightarrow$	• Intent
• (Capability)		• Reliance
		• Damage/injury

The fraud triangle and its permutations include incentive (motivation), opportunity, and rationalization (and capability). Nothing in the fraud triangle refers to intentional written or oral statements made to another party which were known to be false and which were relied upon by the other party causing injury to the party relying on the false statement. The elements of the fraud triangle refer only to theft as a breach of trust (embezzlement). But embezzlement is not crime of fraud. Yet, for the next 60 years the fraud triangle and related geometry have been used to create and sustain the perception that the fraud triangle applies to fraud—a fundamental error. A review of the legal and accounting literature shows quite clearly that the elements of the fraud triangle and its related geometric metaphors have not only been contorted beyond the purposes for which they were originally developed, but their continued misuse impedes the development of more modern and comprehensive models of fraud and financial crime.

Wells and Albrecht created a construct that has no basis in fact or history and a multimillion dollar international organization to support as well as enforce it. The fraud triangle was created by taking Cressey's embezzlement framework which was developed to explain why embezzlers embezzle and, after redefining Cressey's embezzlement framework to apply to fraud, re-labeled it as the "fraud triangle." This has been repeated down through the decades by people and organizations that should have known better.

THE N-DIMENSIONS OF FINANCIAL CRIMES

The complexity of fraud and other financial crimes has been recognized as multifaceted and interrelated which therefore makes it difficult to come up with a unidimensional causal theory. As Cieslewicz (2012), Morales, Gendron, and Guénin-Paracini (2014) and others, Lokanan (2016) also urges that macro social, cultural, and economic dimensions be incorporated into a fraud model. In addition, Free, Macintosh, and Stein (2007) argue that organizational factors must be included.

Any model of fraud and other financial crimes must recognize their multifaceted, multidimensional nature and the factors that contribute to, facilitate, enable, or are otherwise associated with financial or economic crimes, whether fraud, money laundering, Ponzi schemes, securities fraud, embezzlement, or others. Those include personal factors, organizational, sociological, legal/regulatory regimes, economic regimes, political regimes, and cultural dimensions. Some may explain some types of financial crimes, while others may explain other types of financial crimes. Of course, none exist in isolation, but interact with others. Furthermore, financial crimes committed by individuals (e.g., Madoff, Rothstein, Stanford) must be distinguished from financial crimes committed by corporations (e.g., Health South, Paramalot, Satayam).[18] The factors below are suggestive, not definitive.

- *Personal*. Personal factors which include individual psychological factors such as motivation, pressure, rationalization, and capability must be considered.
- *Organizational*. The type of organization must be considered. Is the organization a for-profit corporation, not-for-profit corporation, a government entity, or perhaps a criminal organization? Organizational factors also include internal controls, tone at the top, and organizational hierarchy.[19]

[18] Fraud can be committed by corporations or individuals. Corporate fraud (tax, securities) is committed through the corporation's officers and directors. Corporations cannot commit certain types of financial crime such as embezzlement.
[19] Interestingly, the ACFE and AICPA, who transformed Cressey's elements of the embezzlement triangle stress the importance of internal controls. Yet, Cressey himself was "skeptical about internal controls' ability to eliminate opportunity" (Morales, Gendron, and Guénin-Paracini 2014).

- *Legal/regulatory environment*. The legal and regulatory regime must be considered. To what degree is law based on common law and independent courts? Is the law codified? Is fraud defined by statute? Are civil and criminal laws effectively enforced? Can shell corporations be formed with ease? Are securities laws well developed and enforced?
- *Economic regime*. The economic regime must be considered. Is the economy developed or emerging? Is it free-market or controlled? The type of economic regime influences the possibility and potential types of financial crimes.
- *Political regime*. The political regime must be considered. Is the political regime a democracy or dictatorship? Some types of financial crimes may be more likely to be committed in certain types of political regimes than in others.
- *Cultural dimensions*. Culture must be considered. An often-overlooked factor is the importance of national culture in researching fraud and financial crimes. Hofstede (1980, 1988) and Hofstede and Bond (1991) identified five types of national culture—individual/collectivism, masculine/ feminine, power distance, uncertainty avoidance, and Confucian dynamism. There is some evidence that certain types of national culture as identified by Hofstede are perceived as more corrupt (Huber, 2001; Cieslewicz 2012). There is additional evidence that auditors perceive greater risk when auditing in certain national cultures (Huber, 2012).
- *Sociological*. Sociological factors must be considered. While not claiming that a person who commits fraud or any other type of crime is "just a poor boy from a poor family," nevertheless sociological conditions cannot be ignored as a contributing factor when creating a model to explain and understand fraud and financial crime.

It is tempting to merely add to the fraud triangle additional dimensions to form an n-dimensional polygon (or polyhedron) as some have done by creating diamonds and cubes. But doing so would still fail to capture the interactivity of the dimensions of fraud and financial crime. Rather, like string theory, the dimensions exist beyond simple three-dimensional space and each dimension dynamically acts on, and is acted upon, by all the others. Any theory of fraud and financial crime must recognize and incorporate these factors.

CONCLUSIONS AND RECOMMENDATIONS

The first conclusion is that the fraud triangle has outlived its usefulness, a usefulness it never had since it was never intended to apply to fraud. The fraud triangle cannot, and never was able to, address crimes of fraud committed either by individuals or by corporations. The fraud triangle has been contorted, misused, abused, contorted, stretched out of shape, and pressed into uses for which it was never intended and cannot possibly accommodate. Fraud is not a function of trust or breach of trust, an essential requirement of Cressey's model. On the other hand, Cressey's model is not a function of intentional misrepresentation and reliance, essential requirements of fraud.

The fraud triangle cannot legitimately be used in forensic accounting research of fraud and other financial crimes. Yet, forensic accounting researchers have rallied around the fraud triangle, promoting it as a panacea for fraud and all types of financial crimes, when even criminologists do not agree on the causes and explanations for why fraud and financial crimes are committed. Forensic accounting is multi-disciplinary, encompassing law, accounting, psychology, sociology, criminology, among others (Williams 2002; Huber & DiGabriele 2014).

The results of sixty years of research in fraud using the fraud triangle are, for all practical purposes, invalid because the results do not support the conclusions they purport to represent. The fraud triangle has more than outlived its usefulness and forensic accounting researches must abandon it and its progeny if they are to make meaningful progress in understanding fraud and other financial crimes. It is incumbent on forensic accounting researchers and practitioners to discard the fraud triangle and develop new frameworks and theories to study and understand fraud and other financial crimes.

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