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# FORENSIC DISCIPLINES FOR OBJECTIVE GLOBAL STRATEGIC ANALYSIS

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#### ABSTRACT:

The global nature of investing requires a thorough analysis of the firm to determine the strategic viability of the firm for investment purposes. In addition, businesses are being held more accountable for the statements they make and the actions they take concerning their business. Several forensic disciplines have recently emerged that may supply subjective and objective data that can assist investors in making their final investment decisions and determining if ongoing businesses are truly doing what is in the best interest of their shareholders. Another factor influencing the increase forensic analyses of national and multinational corporations is the increase in criminal activity within these corporations. Laws have recently been passed to better protect the individual and corporate investor, but other precautions such as a more thorough pre-investment analysis may be necessary. In the past, forensic methodologies have been used to reveal criminal activities after they have occurred. These same methods may be able to provide investment firms with knowledge regarding possible criminal activities before they occur and, just as importantly, before the individual or firm invests in the questionable organization. Because of the relative newness of forensic methodologies in business, it would be valuable to have a model that illustrates the tools used in these relatively new fields of study. This paper will discuss the emerging fields of forensic accounting, forensic economics, forensic finance, forensic marketing, forensic psychology, and other concepts, and their relationships in analyzing business cases.

Keywords: Global business, Forensic Analysis, Forensic Accounting, Forensic Finance, Forensic Economics, Forensic Marketing, Forensic Psychology, Business Case Analysis

#### 1. INTRODUCTION

The purpose of this paper is to highlight and better classify the various forensic disciplines, and their relationships to one another, that may be used to analyze business court cases. Each methodology is available, but not necessarily needed for all business court cases. Determining which forensic methodology to apply to each case is the responsibility of the expert witnesses used by the law firms involved with the case. This paper discusses some important emerging forensic disciplines that the various functional academic disciplines should be familiar with in our changing dynamic global economy. Forensic data, such as fingerprints, have existed since the appearance of prehistoric man. Forensic methodology use has been documented in China from around 700 A.D. Forensic evidence first appeared in Roman courts approximately 1000 A.D. (Rudin & Inman, 2002) The importance of global influences on multi-national corporations is now a commonly accepted fact. The use of forensic methodologies in business court cases have appeared relatively recently, in both national and international cases, e.g., forensic accounting was first used in China in the late 1990s (Renzhou, 2011).

Most individuals are familiar with some forensic applications associated with routine criminal investigations. These traditional forensic tools, as well as, new emerging functional area forensic tools can be applied to the rapidly growing number of court cases involving businesses e.g., sports betting (Bernhardt, & Heston, 2010)), increasing productivity, and safeguarding personnel and assets. This emerging application of forensics to business cases is an art as much as a science, even with expert analysis, there are no perfect data sets (Speicher, 2008). All the expert can do is use their knowledge and experience to attempt to present a logical and legal argument that supports their client's view of a situation. In some cases the forensic expert bases their opinion on respected, concepts, that are acknowledged in academic communities as being sound and reliable (Eden. et.al., 2004). In other cases, expert opinions are based on respected concepts that are not the only acceptable tool that may be used to analyze the data (Brush, 2011). Other expert opinions might question views that have been accepted, but that new research may call in to question (Bernhardt, et. al., 2010). Regardless of which concepts an expert bases their analyses and final opinions on, they are still opinions.

Another factor affecting the analyses and final opinion of the expert is if they are being paid for their opinion. Expert witnesses in court cases may not be paid out of the proceeds of a win in a case. If the expert were paid as a percentage of the amount that a client wins, it is more likely they would bias the results of their testimony. Not allowing this increases the likelihood of the expert providing an objective opinion.

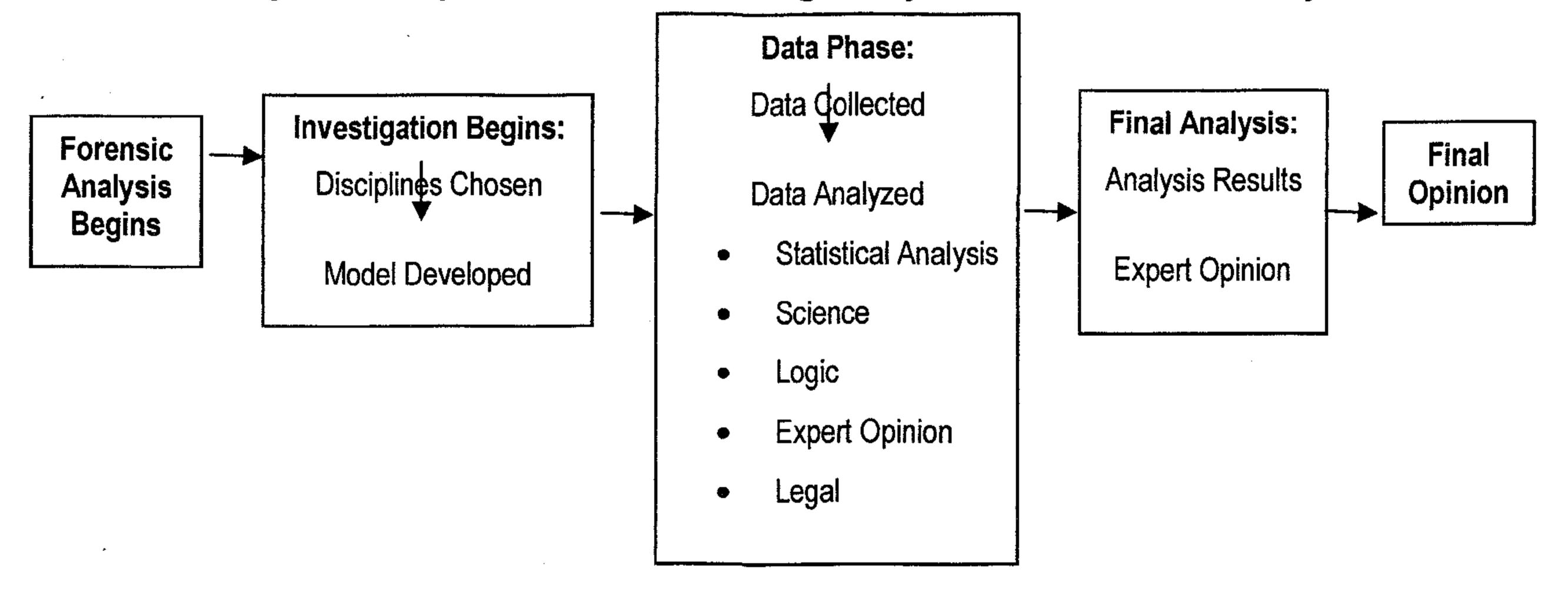
International data collection is as much knowing the law of the country as it is interpreting the data, once it is collected. By studying the laws of the country, it is many times possible to obtain data that was thought to be unobtainable (Rahming, 2011).

There are two major types of requested analysis:

- Objective Analysis where the expert may be a researcher attempting to uncover a new theory or relationships. Scientific principles of objectives analyses as well as review of the analyses by respected academicians and industry professionals occurs that, in theory, ensures the results of the research study are reliable.
- 2. Expert Legal Opinion where the expert is being paid for their testimony. In these cases an obvious bias can occur since the expert is usually hired to provide evidence that backs up the opinion of the person who has hired the expert. In theory, any hired expert should provide an objective opinion, but it is usually accepted that an expert works for the client who hires them. In any court case, the expert is routinely asked what the compensation is for their testimony.

Regardless of the objectivity of the analysis, several major factors are usually included in any final analyses. Diagram 2 below provides the main phases in any forensic analysis.

Diagram 1 - Important Factors Relating to any Forensic Business Analysis:



# 2. DISCIPLINES USED IN FORENSIC BUSINESS ANALYSIS

Businesses may find a need to reconstruct financial events and transactions including motives, intentions, and characteristics of actors. Wells (2005, p. 30) notes that within the United States occupational fraud cost organizations "...28 times what the federal government paid to fight crimes in 2003." Cases concerning Enron, Tyco, WorldCom, and many others are well publicized with discussions surrounding ethics, finance, fraud, and forensic detection methods and forensic applications (Ross, 2002). Using forensics disciplines for business applications is nothing new.

Although some authors (see Renzhou, 2011; Schap, 2010) suggest forensics really emerged in the 1950s for the United States, Connor (2007) provides compelling evidence to dispute this assertion. Connor offers a case in 326 B.C.E. (citing Kotsiris, 1988) where an Athenian prosecutor argued forensically reconstructed economic concepts illustrating grain dealers colluded together to fix market prices six times the legal price. Furthermore, The Sherman Act (1890), The Addyston Pipe & Steel (1898), a 1925 U.S. Supreme Court case referencing the work of an economist, and the 1914 Act establishing a Bureau of Economics are significant examples preceding 1950 (Connor, 2007, p. 5).

"...[I]f people were honest we could do away with a lot of economics..." but "[e]veryone has their price." (Ross, 2002, p. 21). Anyone is capable of being dishonest (Grossman, 2003) and dishonesty is influenced by hedonic benefits either financial or non-financial (Morewedge, Gilbert, Keysar, Berkovits, & Wilson, 2007). Economic events are unique to the actors and environmental factors and therefore appropriate methodologies and forensic tools must be engaged to facilitate investigations (Dorrell, Gadawski, & Brown, 2011; Brush, 2011a). On the surface, reconstruction of financial events may require the expertise of a Forensic Accountant (Albrecht, Albrecht, & Albrecht, 2008; Brookshire, 2002; Dorrell, Gadawski, & Brown, 2011; Renzhou, 2011), a Forensic Economist (Brookshire, 2002; Schap, 2010; Zitzewitz, 2011), a Forensic Pathologist (Ross, 2002, p. 10), an expert for dental bites and teeth patterns in Forensic Odontology (Anderson, Volker, & Philips, 2008, p. 4),

Accounting Economics

Psychology Marketing

Diagram 2 – Major Forensic Methodologies

The forensic disciplines presented in Diagram 2 above all overlap a bit and many times topics that are from one discipline are claimed by other functional areas. The following sections will define the unique characteristics that allow each of the various function areas to maintain their distinctiveness.

### 2.1 Forensic Accounting

Forensic accounting focuses on the reconstruction of historical transactions beyond the information presented. Forensic Accountants investigate discrepancies, deviations, and ordinary occurrences, transactions, and financial behaviors to uncover the probable truth. Although multiple methodologies and perspectives exist within forensic accounting (Dorrell, Gadawski, & Brown, 2011; Renzhou, 2011), the convergence of probabilities of possible truths provide a basis for external decisions such as in the court room. Renzhou (2011) notes forensic accounting blends traditional accounting practices with law and sociology to discover the truth surrounding events. In essence, forensic accounting provides additional assurances and alternative investigative methods to protect property especially since financial crimes are more difficult to investigate. Some common models used by forensic accounts are Cressey's Fraud Triangle, Albrecht's Fraud Scale (Wells, 2005), and The Fraud Diamond (Wolfe & Hermanson, 2004).

### 2.2 Forensic Economists

Forensic economists translate "words to numbers" (Brookshire, 2002, p. 21) to facilitate understanding of valuations (Schap, 2010). Schap (2010, p. 347) notes examples of forensic economist cases include profit analysis, financial valuations, employment losses, and civil disagreements. In addition, forensic economics can facilitate understanding behaviors behind decisions (Zitzewitz, 2011). Understanding these behaviors provides a basis that can be applied to improve detection techniques and enhance organizational security. Forensic Economists consider behaviors in constructing models that benchmark decisions (Zitewitz, 2011) with accuracy and precision (Connor, 2007). Consequently, valuations can differ significantly (Brush, 2011a, 2011b) especially considering that risk is a subjective and provocative concept (2011b).

# 2.3 Forensic Finance

Forensic finance, according to Ross (2002), is reconstructing fiscal events and transactions within a specific time frame. Ross considers refers to himself as a financial pathologist (p. 10) and generally refers

to the practice of forensic finance as "financial autopsies". In addition, expert witnesses in this area "...possess a strong background understanding of how specific financial institutions or mechanisms work in a particular market." (Riter, 2008) Essentially, forensic finance systematically deconstructs events usually in from present to past to discover the probable sequence of events and types of events. Forensic finance can be applied to small scale events or to large scale economies. Some examples of the use of forensic finance include the late trading of mutual funds, stock option backdating, the allocation of underpriced initial public offerings to corporate executives, and changes in the records of stock analyst recommendations (Riter, 2008). Lane and Milesi-Ferretti (2009) conducted an examination of the U.S. external position also known as changes in debt.

# 2.4 Forensic Marketing

Forensic marketing is a newer, emerging field that focuses on "...dealing with the application of marketing facts and laws gathered through case study and auditing methods to address legal challenges usually dealing with market exchange issues..." and products, places, prices, and promotions (Anderson, Volker, and Philips, 2008, p. 6). This area is not as well developed as the others, but is growing in its importance.

# 2.5 Forensic Psychology

Forensic psychology can offer insight (Brookshire, 2002). The American Board of Forensic Psychology, defines Forensic Psychology as "the application of the science and profession of psychology to questions and issues relating to law and the legal system." (ABFP, 2012) A few examples of where forensic psychology is used includes testimony and evaluation regarding civil issues such as personal injury, child custody, employment discrimination, mental disability, product liability, professional malpractice, civil commitment and guardianship, specialized treatment service to individuals involved with the legal system, consultation to lawmakers about public policy issues with psychological implications, analysis of issues related to human performance, product liability and safety, and mediation and conflict resolution. (ABFP, 2012)

The following five areas describe the five major disciplines currently used in forensic business analysis. The next section discusses relationships between the various forensic disciplines and their emerging importance to the general business community.

## 3. THE RELATIONSHIPS OF FORENSIC BUSINESS APPLICATIONS

Forensic disciplines have a long history of being adapted to serve businesses from early price fixing of grain in Ancient Athens (Connor, 2007) to providing testimony in court (Brookshire, 2002). Whilst forensics business applications are not new, they rely on estimates and projections which are subjective (Brush, 2011a).

Deductive skills are just as important in forensic analysis in business situations as the data used in the analyses. Performing a truly objective analysis requires an unbiased view to be able to properly collect and analyze the data. Realizing data can be disguised, changed, and hidden, coupled with a strong understanding of financial considerations; increases the odds an expert will not overlook potential sources of reliable data. As previously mentioned, forensic analyses in business is as much of an art form as it is a scientific endeavor. Each of the disciplines previously discussed are becoming greater in their importance in analyzing which companies are the best investments and performing autopsies if a company fails. As the complexity of the relationships within and among organizations increase, due to such occurrences as global influences and increasing legal restrictions, each of the disciplines will become more and more important to companies that wish to understand what is occurring and what has occurred within the firm.

We have discussed five forensic disciplines that have emerged as being of great importance to the business community. As these disciplines evolve, other disciplines will more than likely become part of the set of methodologies used to analyze the increasing global firms. Forensic applications such as those that blend elements of sociology and psychology to understand and predict the behavior of potential offenders or fraudsters (Ramamoori, 2008; Siegal, 1998; Wells, 2005) will grow in importance. It is also becoming apparent that, although forensics applications appear to benefit large businesses, small

businesses can enhance productivity and safeguard employees and assets. For example, criminal profiling (Siegel, 1998) even on a smaller scale such as Application Tailoring (McKinney & Sikula, 2008; 2009) can be cost effective and easy to implement. The forensic areas will expand their influence on the business community.

#### 4. CONCLUSION

The global nature of investing requires a thorough analysis of the firm to determine the strategic viability of the firm for investment purposes. Several recent forensic disciplines have emerged recently that may supply objective and subjective data that can assist investors in making their final investment decisions. It has become more dangerous to invest in multinational organizations, due to increasing criminal activities by organizational administrations. Laws have recently been passed to better protect the individual and corporate investor, but other protections may be necessary. Forensic methodologies have been used to reveal criminal activities after they have occurred, these same methods may be able to provide investment firms with knowledge regarding possible criminal activities before they occur and, more importantly, before the individual or firm invests in the questionable organization. This paper discussed the emerging fields of forensic accounting, forensic economics, forensic finance, forensic marketing, and other concepts, and there relationships in analyzing business cases. The paper presented a model to assist in understanding the various forensic methodologies that are emerging in the forensic analyses of emerging organization situations.

Contingent upon the model (Brush, 2011a), methodology (Bernhardt, & Heston, 2010; Eden, Williams, & Ackermann, 2005), and experience of the investigator, estimates and projections can yield different models and results. Thus, it is imperative to distinguish among the facts, fictions, and estimations resulting from the final opinions of forensic investigators. Seekers of forensic experts must understand that the mostly subjective investigations that occur in forensic investigations must be grounded in facts to be rigorous and robust and thereby appeal and be accepted as a probable truth to a wider audience.

### REFERENCES:

- American Board of Forensic Psychology, Inc. (ABFP) Web Site, http://www.abfp.com/.
- Albrecht, W. S., Albrecht, C., & Albrecht, C. C. (2008). Current trends in fraud and its detection. Information Security Journal: A Global Perspective, 17(2), 2-12.
- Anderson, S. J., Volker, J. X., & Philips, M. D. (2008). The forensic marketing case study methods. <u>SAM Advanced Management Journal,</u> (Winter), 4-9.
- Bernhardt, D., & Heston, S. (2010). Point shaving in college basketball: a cautionary tale for forensic economics. Economic Inquiry, 48(1), 14-25.
- Brookshire, M. L. (2002). To deter, punish, and not destroy: forensic economic analysis of jury factors for punitive damages. <u>Journal of Legal Economics</u>, 1-25.
- Brush, B. (2011a). Using historical simulation to compare the accuracy of nine alternative methods of estimating the present value of future lost earnings. <u>Journal of Forensic Economics</u>, 22(1), 1-20.
- Brush, B. (2011b). On the relative accuracy of discounting based on risk-free and risky portfolios. <u>Journal of Forensic Economics</u>, 22(1), 1-20.
- Connor, J. M. (2007, March 29). Forensic economics: an introduction with special emphasis on price fixing. <u>Journal of Competition Law & Economics</u>, (2008) 4 (1): 31-59.
- Dorrell, D. D., Gadawski, G. A., & Brown, T. S. (2011). Is the moneyed spouse lying about the money? American Journal of Family Law, 25(1), 298-327.
- Eden, C., Williams, T., & Ackermann, F. (2005). Analysing project cost overruns: concerning the "measured mile" analysis and system dynamics modeling. <u>International Journal of Project Management</u>, 23(2), 135-139.
- Grossman, R. J. (2003). The five-finger bonus. HR Magazine, 2003(10), 38-44.
- Kahneman, D. & Tversky, A. (1979). Prospect theory: an analysis of decisions under risk. Econometrica, 47(2), 263-291.
- Lane, P. R., & Milesi-Ferretti, G. M. (2009). Where did all the borrowing go? <u>Journal of The Japnese and International Economics</u>, 23(2), 177-199.

- McKinney, R. E., Jr. & Sikula, A., Sr. (2008). Application tailoring. <u>Business Journal for Entrepreneurs</u>. <u>2008</u>(1), 91-99.
- McKinney, R. E., Jr. & Sikula, A., Sr. (2009). Application tailoring or resume embellishment? Ethics & Critical Thinking Quarterly Journal, 2009(1).
- Morewedge, C. K., Gilbert, D. T., Keysar, B., Berkovits, M. J., & Wilson, T. D. (2007). Mispredicting the Hedonic Benefits of segregated gains. <u>Journal of Experimental Psychology</u>, 136(4), 700-709.
- Rahming, E. (2011). International Forsenic Investigations and Asset Recovery. <u>The Bahamas Investor</u>, July 13, 2011, 56.
- Ramamoori, S. (2008). The psychology and sociology of fraud: Integrating the behavoral sciences component into fraud and forensic accounting curricula. <u>Issues in Accounting Education</u>, 23(4), 521-533.
- Renzhou, D. (2011). Research on legal procedural functions of forensic accounting. Energy Procedia, 2011(5), 2147-2151.
- Riter, J., "Forensic Finance", Journal of Economic Perspectives, Vol. 22, No. 3, (Summer 2008) 127-147.
- Ross, S. A. (2002). Forensic Finance: Enron and Others. Rivista di Politica Economica, 92(6), 9-27.
- Rudin, N., & Inman, K. (2002) Forensic Science Timeline updated 2/7/02 in the Consulting and Education in Forensic Science Web Site, http://www.forensicdna.com/Timeline020702.pdf.
- Schap, D. (2010). Forensic economics: an overview. Eastern Economic Journal, 36, 347-352.
- Siegel, L. J. (1998). Criminology (6TH ed.). London: West/Wadsworth Publishing Company.
- Speicher, B. (2008). Sleeping time and the twenty-four-hour day time budget constraint: tools in forensic economic analysis. Journal of Legal Economics, 15(1), 87-91.
- Wells, J. T. (2005). Principals of Fraud Examination, Hoboken, N.J.: John Wiley & Sons, Inc.
- Wolfe, D. T., & Hermanson, D. R. (2004). The fraud diamond: considering the four elements of fraud. CPA Journal, 74(12), 38-42.
- Zitzewitz, E. (2011, February). Forensic Economics.

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