

An Examination of Frequencies of Prosecuted Crimes in Selected Gaming Industry Establishments (Casinos)

Steve Wells
Tim Wilson
William Pinney*

The Association of Certified Fraud Examiners' (ACFE) *2006 Report to the Nation on Occupational Fraud and Abuse* states "At the outset, it should be clear to anyone who has spent time dealing with the subject of occupational fraud that attempts to accurately measure the frequency or cost associated with occupational fraud in the United States will be, at best, incomplete." (ACFE, 2006, 8). For a micro-industry viewpoint, the National Anti-Fraud Director for Blue Cross Blue Shield Association, in addressing the issue of how much fraud exists in the health care industry, stated that "...no one really knows how much fraud really exists in the health-care system." (Carozza, 2006, 39).

A similar statement can likely be made about the frequency of prosecutions of fraud and related crimes. Using a survey of 1,134 Certified Fraud Examiners (CFEs) across the U.S., the 2006 ACFE report indicates that even when crime is detected, 29.4% of the cases were not referred to law enforcement authorities. Most interesting is the finding that some industries were less likely to prosecute than others. The percentage of cases not referred to authorities varied among the 19 industry categories. The report provides several reasons why an organization might decline to seek prosecution of

* The authors are, respectively, at Western Kentucky University, Assistant Professor of Accounting at Texas A&M University-Commerce, and Professor of Management Science at Alcorn State University-Natchez.

wrongdoers if/when detected. Among those cited were: fear of bad publicity; internal discipline; private settlement; the cost of prosecution; lack of evidence; civil suit; and disappearance of the perpetrator(s) (ACFE, 2006, 56, 57).

While the ACFE reports data on cases in 19 industry categories, most, if not all, were related to enterprises retaining CFEs (ACFE, 2006, 18). It is a report on occupational fraud broadly defined to encompass a wide range of misconduct by employees, managers, and executives within the enterprise (ACFE, 2006, 6). Data on enterprises not retaining CFEs and misconduct by individuals other than those within the enterprise are not included. While both could be significant, this study is based on the premise that any attempt to measure the cost and frequency of various types of misconduct in business enterprises is likely to be incomplete. It also assumes any attempt to measure the costs and frequencies of prosecutions of certain felonies by business enterprises is likely to be incomplete.

The gaming industry is one of the newest industries in the state of Mississippi and has quickly become a significant component of the state's economy. When securing passage of legislation to allow legalized gaming in the state, much attention was given to transparency, accountability, strict reporting regulations, and concern about increased crime. This paper presents the initiation of formal research on prosecutions of crime by the gaming industry, and the research is localized to a specific legal jurisdiction within the state.

This study examines the frequencies of prosecuted felonies that occurred in selected casinos operating in Tunica County, Mississippi over a four-year period from 2000 to 2003. This industry was chosen for two primary reasons. The gaming industry

revolves around cash transactions and the accessibility of cash. Opportunity is widely recognized as one of the three key factors used in assessing risk of misappropriation of assets and theft. While opportunities for fraud, theft, and other crimes exist in all industries, opportunities are generally greater in enterprises where cash is accessible (Arens, Elder, and Beasley, 2006, 318). Cash is readily accessible to individuals employed in casinos and by customers who come and go freely and frequently.

A second reason lies with the legislative and regulatory requirements with which casinos must comply to obtain and maintain a license to operate in the state of Mississippi. The state requires casinos to install and maintain internal controls to insure the reliability of information reported to the state; report failures of internal controls on a regular basis; notify immediately by telephone any violation or suspected violation of any criminal statute or regulation; and report on a follow-up basis the manner in which the incident was resolved. Like casinos located in other states where gaming is legal, casinos in Mississippi have strong motivation to monitor and report criminal activities associated with their operations or occurring on their premises.

There are a number of casinos operating in Mississippi. State statutes require their proximity to a body of water. With the exception of two located on the Mississippi Choctaw Indian Reservation, all casinos are therefore located near the Mississippi River or the Mississippi Gulf Coast. Casinos operating on the Mississippi Gulf Coast are located in several different legal jurisdictions. Tunica County is unique because there are ten casinos operating within the confines of its boundaries. It is the only legal jurisdiction in the state allowing accessibility to public records of ten enterprises. The Circuit Clerk's Office in Tunica County houses the public records of reported felonies by

each of the ten casinos. These public records were used to identify the frequency of prosecutions of felonies that occurred in that county during the four calendar years 2000 to 2003. The ten casinos and the frequencies of prosecuted crimes are found in Table 1.

The purpose of the study was to examine the frequency of prosecutions by the selected casinos and report findings of significance. Given the commonalities of opportunity, i.e., accessibility to cash, the stringent legislative and regulatory requirements, and the remoteness of the locale, one could assume that the frequencies of prosecuted crimes would be equally likely in any casino located in Tunica, County, Mississippi.

The observed rates of prosecutions were compared to rates of prosecutions based on casino size. Square footage was chosen because it was a stable basis for comparison of casinos of different sizes. While the number of employees, total revenues, and other bases for comparison varied for each from year to year, the respective square footage remained constant during the study period. The expected numbers of prosecuted crimes, based on casino size for each of the casinos in each crime category, are shown in Table 1.

Differences in observed and expected rates of prosecutions were tested for statistical significance using chi-square and two-tailed Z-tests with a five percent acceptable error rate. The statistical tests were used to test differences related to five types of crime: attempted forgery, forgery, embezzlement, gaming, and miscellaneous crime.

The Mississippi statutes provide definitions of the five types of crime. Forgery is defined as “uttering”, with the intent to defraud, any forged, altered, or counterfeit instrument. Attempted forgery occurs when the instrument is uttered, but the crime is

detected before the intended victim is harmed. For both forgery and attempted forgery, the crime is the “uttering” and not the receipt of the proceeds. Embezzlement occurs when an agent or employee converts to their own use assets entrusted to their care by virtue of their employment or agency duties. For gaming crimes, the statutes state that it is unlawful for any person, whether he is an owner, or employee, or a player, to cheat at casino games. Miscellaneous crimes include larceny and armed robbery. Larceny is the unlawful taking of property of another with the intent to deprive the owner of the use of the property. Armed robbery is the use or exhibition of a deadly weapon to take property from another person. (Mississippi Code of 1972, et.seq., as amended).

Various statistical tests do detect statistically significant differences in rates of prosecution of the crimes. Differences discovered may be key issues of concern for forensic accountants and others, and thus worthy of future research. It is hoped that this information will assist forensic accountants, internal auditors, upper-level managers in the gaming industry, law enforcement officials, and the staff and members of state regulatory agencies in the performance of their respective responsibilities. It could also serve as the foundation for a case study for appropriate academic courses in forensic accounting/auditing.

The Expectation Of Uniform Frequencies Of Prosecution

The ability and willingness of managers to prosecute crimes is an important part of the internal control environment of any business enterprise (Albrecht, 203, 101). This is especially true for casinos, a state-regulated industry perceived as having a past association with certain criminal activities. Crimes cannot be prosecuted without evidence provided by effective internal controls. Even if internal controls are effective,

the crimes detected, and the criminal(s) identified, most crimes are not prosecuted (Albrecht, 2003, 74). The failure to prosecute crimes reduces the effectiveness and thus the value of internal controls.

Prosecution of a crime causes a loss of privacy and creates an obligation to cooperate with law enforcement. It may or may not provide a tangible benefit.

On the other hand, the perception that managers can and will prosecute crimes has a deterring effect on the conduct of persons who might otherwise commit crimes that would result in a loss of assets.

State regulations encourage prosecution of crimes. The issuance and continued validity of a Mississippi casino license is conditioned on compliance with state internal control regulations (§ 75-76-33 of the Mississippi Code of 1972, et. seq., as amended). State regulations require “adequate” internal control to provide reasonable assurance that information provided by casinos is reliable and actions of casino employees are controlled by the operator (Regulations of the Mississippi Gaming Commission, Section VII.I.). State regulations shift the burden of proof to casino operators wherever the adequacy of controls is an issue (Regulations of the Mississippi Gaming Commission, Section VII.B (8)). These regulations include quarterly reports of internal control failures, including steps taken to investigate the loss and the manner in which the loss was resolved (Regulations of the Mississippi Gaming Commission, Section III.A(2)).

Mississippi casinos must also “immediately notify the commission by telephone of the discovery of any violation or suspected violation of any criminal statute of this state or the United States, the act, or any regulation promulgated thereunder.” (Regulations of the Mississippi Gaming Commission, Section III. A.(12)). “Act” and

“regulation” refer to the Mississippi Gaming Control Act and regulations of the Mississippi Gaming Commission.

The casino regulatory environment includes a direct link between the going-concern assumption and the ability to carry the burden of proof of adequate internal controls. The suspension or revocation of the license to operate gaming activities provides managers and operators of casinos a strong motive to report any incident that may, in hindsight, be viewed as an internal control failure. The consequences of a suspended or revoked operating license are so severe that the casinos are motivated to report mere suspicions of a crime. Once an incident has been reported, a follow-up report must be submitted indicating the manner in which the incident was resolved. These reporting requirements encourage criminal prosecutions and apply to each of the ten casinos included in this research.

The casinos observed were located in an extremely remote and isolated area in the Mississippi Delta within a close proximity of each other. They shared a common operating and regulatory environment. Following the traditional approach to research, a hypothesis based on the expectation of uniformity in the frequencies of prosecutions was tested to see if the data suggested otherwise.

Expected Frequencies Based On Casino Size

If prosecuted crimes were equally likely to occur at each casino, then the frequency of prosecuted crimes occurring at each casino would be determined by factors that differ between casinos. Because of the uniformity of environmental factors, the only identifiable factor that differed in this research was the size of the casino. The expected frequencies are based on an assumption of uniformity, adjusted for the differing sizes of

the individual casinos. The sizes of the casinos are based on public disclosures filed by the casinos with the Mississippi Gaming Commission (Mississippi Gaming Commission, Quarterly Survey Information, 2005).

Comparison Of Observed And Expected Frequencies Of Prosecutions

Table 1 reports the frequencies of observed prosecutions and the “expected” numbers, based on casino size, of five types of crimes against casinos: attempted forgery, forgery, embezzlement, gaming crimes, miscellaneous crimes, and total crimes.

Statistical Analysis of Differences

Two statistical methods, a chi-square test and a two-tailed Z-test, were used to confirm the expectation that prosecuted crimes are equally likely to occur at each casino. Both used a five percent acceptable error rate, and both considered the different sizes of the casinos by comparing rates of prosecutions. Both used critical values from standard tables (Tabachnick and Ferrell, 1996, 840, 846). The rates of expected prosecutions were based on each casino’s proportion of the total square feet of gaming areas of the ten casinos.

Critical values for chi-square and Z taken from standard tables were compared to values for chi-square and Z calculated from the differences between observed and expected frequencies. Differences were considered significant when calculated values based on observations exceeded critical values derived from standardized tables.

The chi-square test was applied to the casinos as a group, and the Z test was applied separately for each casino. Both tests were performed for each of five types of crime: (1) attempted forgery; (2) forgery; (3) embezzlement; (4) gaming; and (5)

miscellaneous crime. Table 2 presents the results of the chi-square test and the Z-test for each of the five types of crime.

Statistically Significant Differences

The chi-square test detected statistically significant differences in rates of prosecution of three of the five crimes tested: forgery, attempted forgery, and gaming crimes, as well as the total crime category. The differences in prosecution of two types of crime, embezzlement and miscellaneous crime, were not statistically significant.

The Z-test detected statistically significant differences in rates of prosecutions of four of the five types of crimes tested, and the total was likewise significant. Prosecutions of attempted forgeries were more likely to be observed at Gold Strike, Horseshoe, or Sheraton and less likely to be observed at Bally's, Isle of Capri, or Sam's Town. Forgery prosecutions were more likely to occur at Horseshoe and less likely to occur at Grand or the Isle of Capri. Prosecutions of embezzlements were more likely to be observed at Horseshoe. Prosecutions of gaming crimes were more likely to occur at Fitzgerald's, Hollywood, or Horseshoe, and less likely to occur at Grand.

The isolated market and homogenous operating and regulatory environment shared by the ten casinos created an expectation that prosecuted crimes were equally likely to occur at each casino. The expectation has been rejected by evidence that there are significant differences in frequencies of prosecutions of crimes occurring at the ten casinos. This was particularly true for Horseshoe, where four of the five types of prosecuted crimes were more likely to occur. Table 3 is a summary of the significant differences between observed and expected frequencies.

The following inferences were drawn from the results presented in Table 3. In drawing the inferences, the term “over-prosecute” indicates that the frequency of prosecution was higher than would be expected based on the size of the casino, and “under-prosecute” indicates that the frequency of prosecution was lower than expected. Relative to their size, Bally's, Grand, Isle of Capri, and Sam's Town under-prosecute crimes. Horseshoe over-prosecutes in all categories except the category of Miscellaneous Crime. All the casinos follow the expectations for their respective sizes regarding this category of crime. Gold Strike, Sheraton, and Horseshoe over-prosecute for Attempted Forgery, and Bally's, Isle of Capri, and Sam's Town under-prosecute. Gaming Crime is over-prosecuted by Fitzgerald's, Hollywood, and Horseshoe, and under-prosecuted by Grand. Horseshoe is the only casino that over-prosecutes for Embezzlement.

Conclusion

Rejection of the expectation of uniform frequencies of prosecution creates a dilemma. If, as shown in this research, prosecutions of crimes are more likely to occur at some casinos than others, what does this mean? The answer to this question requires empirical evidence of two factors – the difference between frequencies of prosecuted and non-prosecuted crimes, and a reduction of uncertainty about specific control procedures used by casinos. Two sources of empirical evidence have been identified. These include knowledge of the specific controls used by casinos and access to the required disclosure statements filed with the regulatory agency. To continue the natural inquiry requires cooperation from at least one casino and access to the reports filed with the Mississippi Gaming Commission. The intense competitive nature of the gaming industry enterprises and the confidentiality of the information reported to the Mississippi Gaming Commission

are serious constraints in obtaining the identified empirical evidence for a definitive answer.

The fundamental problem is uncertainty about specific control procedures used by casinos. This uncertainty is due to the lack of transparency about internal controls. Specific disclosures are made to agents of the public, audit committees of publicly held corporations and state agencies in the case of regulated businesses, but not to the public.

One source of empirical evidence of specific controls used by casinos is the disclosure statements that all casinos are required to file with the Mississippi Gaming Commission. However these disclosures are confidential. Cooperation would be required from one or more casinos and the gaming commission before the disclosures could be accessed as a source of empirical evidence. At a minimum, differences in crimes detected and crimes prosecuted would provide empirical evidence of the frequency of crimes detected and not prosecuted.

Frequencies of causes of losses, procedures used to detect losses and identify their cause, and manner of resolution of the loss would likewise provide evidence of specific procedures used by casinos. Presentation of the differences and frequencies would not require identification of specific casinos.

Reasonable people might differ in their interpretation of the statistically significant differences in frequencies of prosecuted crimes at casinos. Some may believe Horseshoe's consistently high frequencies of prosecution are a sign of effective internal controls. Others may view this fact as a sign of a poor internal control environment.

There are likely a number of speculative responses to the question. Corporate policies may differ. Policies set by corporate offices would obviously impact decisions

of management of the casino in a specific geographical location regarding whether to prosecute or not prosecute a particular type of crime.

The ACFE report identified a number of reasons why enterprises might decide not to seek prosecution of crimes (ACFE, 2006, 57). Not only might corporate policies differ, but the managers/operators of the ten gaming industry enterprises included in the study might value the reasons differently and thus make different decisions regarding prosecutions of crimes. The ACFE report indicates that the fear of bad publicity was the most commonly cited reason why enterprises declined to seek prosecution. The manager/operator of Horseshoe may place less value on the fear of bad publicity than the other nine enterprises. This might explain why Horseshoe was more likely to prosecute than the others. Similar speculations could be made about the other reasons why some casinos decline to seek prosecution of crimes.

The discovery of the fact that prosecutions of crimes are more likely to occur at some casinos than at others should cause skeptics (forensic accountants, internal auditors, external auditors, and regulators) to at least pause and possibly make appropriate inquiries. Casino managers/operators might find value in trying to understand and/or explain the differences reported in this study.

Suggested Inquires or issues include the following:

Are internal controls reviewed on a regular basis and updated when appropriate?

Is compliance with regulatory reporting requirements satisfactory?

Are corporate policies appropriate for the locale of the individual casino?

With respect to each of the specific crimes, are there operating guidelines in place to guide managers/operators in decision making regarding whether to prosecute or not? If so, are the guidelines followed?

Are there exceptions, and if so, how many exceptions within a given time period?

Who makes decisions regarding exceptions?

This paper presents the initiation of formal research on prosecutions of crime by the gaming industry and identifies issues for future research. The data, the analysis, and conclusions drawn should be of value to forensic accountants/auditors, internal auditors, managers/operators, law enforcement officials, and the staff and members of the Mississippi Gaming Commission. They could also serve as the foundation for a case study for appropriate academic courses in forensic accounting/auditing.

References

Association of Certified Fraud Examiners. 2006. ACFE Report to the Nation on Occupational Fraud & Abuse. Austin, TX: ACFE.

Albrecht, W. S. 2003. *Fraud Examination*. Mason, Ohio. Southwestern: 101.

Arens, A. A., R. J. Elder, and M. S. Beasley. 2006. *Auditing and Assurance Services: An Integrated Approach*. 11th edition. Upper Saddle River, N.J.: Pearson Prentice Hall.

Carozza, D. 2006. Health-Care Fraud Drains Lifeblood From Patients, System. *Fraud Magazine* 20 (March/April): 37-44.

Circuit Clerk of Tunica County, Mississippi. 2000-2003. Public Records of Felony Prosecutions.

Mississippi Gaming Commission. 2004. *Quarterly Survey Information: October 1, 2004-December 31, 2004*. (October 15, 2005). Jackson, MS.
<http://www.mgc.state.ms.us>.

_____. 2004. *Regulations of the Mississippi Gaming Commission*. Various Sections.

Section 75-76-3 of the Mississippi Code of 1972, et.seq., as amended.

Tabachnick, B.G., and L.S. Ferrell. 1996. *Using Multivariate Statistics. Table C.1, Normal Curve Areas, and Table C.4., Critical Values of Chi-Square*. New York, New York: HarperCollins College Publishers.

Table 1 – Observed/Expected Frequencies (Based On Casino Size) Of Crime At Casinos

Casino	Relative Size	Attempted Forgery	Forgery	Embezzlement	Gaming Crime	Miscellaneous Crime	Total
Bally's	.068	5/12.67	6/5.65	4/8.17	0/3.27	2/2.11	17/31.87
Fitzgerald's	.065	13/12.05	6/5.38	9/7.78	8/3.11	1/2.01	37/30.33
Gold Strike	.086	25/16	10/7.14	7/10.32	3/4.13	0/2.67	45/40.26
Grand	.232	38/43.10	9/19.23	26/27.80	2/11.12	7/7.18	82/108.43
Harrah's	.060	9/11.08	7/4.94	11/7.15	1/2.86	3/1.85	31/27.88
Hollywood	.092	23/17.11	3/7.64	7/11.04	10/4.42	5/2.85	48/43.06
Horseshoe	.107	43/19.96	28/8.91	20/12.88	10/5.15	5/3.33	106/50.23
Isle Of Capri	.108	4/20.12	0/8.98	16/12.98	7/5.19	1/3.35	28/50.62
Sam's Town	.126	7/23.51	7/10.49	13/15.17	5/6.07	5/3.92	37/59.16
Sheraton	.056	19/10.40	7/4.64	7/6.71	2/2.68	2/1.73	37/26.16
Total	1.000	186.00	83.00	120.00	48.00	31.00	468.00

Table 2 – Comparisons of Observed and Expected Frequencies Of Crimes At Casinos

Casino	Attempted Forgery *	Forgery *	Embezzlement	Gaming Crime *	Miscellaneous Crime	Total *
Bally's	-2.232**	0.1525	-1.5113	-1.8732	-0.0562	-2.1905**
Fitzgerald's	0.2830	0.2764	0.4532	2.8673**	-0.5985	0.8441
Gold Strike	2.3535**	1.1196	-1.0810	-0.5816	-1.7093	0.5385
Grand	-0.8863	-2.661**	-0.3895	-3.120**	-0.0544	-2.1513**
Harrah's	-0.6444	0.9557	1.4847	-1.1341	0.5452	0.4201
Hollywood	1.4943	-1.7617	-1.2760	2.7855**	0.8256	0.5450
Horseshoe	5.4582**	6.7690**	2.0998**	2.2620**	0.6239	4.9521**
Isle Of Capri	-3.805**	-3.173**	0.8876	0.8413	-1.1816	-2.6757**
Sam's Town	-3.643**	-1.1529	-0.5961	-0.4647	0.3913	-2.3930**
Sheraton	2.7446**	1.1276	0.1152	0.4275	0.1442	1.4140

* = χ^2 test statistically significant, with $\alpha < .05$

** = Two-tailed z-test for differences of actual and expected proportions statistically significant, with $\alpha < .05$

Table 3. Significant Differences Between Observed and Expected Frequencies

Casino	Attempted Forgery	Forgery	Embezzlement	Gaming Crime	Miscellaneous Crime	Total
Bally's	-2.232					-2.191
Fitzgerald's				2.867		
Gold Strike	2.354					
Grand		-2.661		-3.120		-2.151
Harrah's						
Hollywood				2.786		
Horseshoe	5.458	6.769	2.100	2.262		4.952
Isle of Capri	-3.805	-3.173				-2.675
Sam's Town	-3.643					-2.393
Sheraton	2.745					

Observed Frequency is significantly less than Expected Frequency

Observed Frequency is significantly greater than Expected Frequency

The opinions of the authors are not necessarily those of Louisiana State University, the E.J. Ourso College of business, the LSU Accounting Department, or the Editor-In-Chief.