THE IMPACT OF TRIBAL GAMING ON
TRIBAL SOVEREIGNTY AND FINANCIAL MANAGEMENT

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ABSTRACT. From 1995 to 2011, tribal gaming has grown from $5.5B to $27.2B in revenues (NIGC website, 2012). When so much money is changing hands, a lack of adequate policies heightens the possibility of financial mismanagement. In fact, gaming violations have grown during this time period. This paper explores the relationship between financial management policies and regulatory violations among American Indian Tribal gaming activities. Through empirical testing, we conclude that deductive models of proactive and reactive policies do not accurately predict the incidence of gaming violations and these policies are ineffective. The results raise normative questions about regulatory policy parity. These findings and related implications for future financial management regulations, policies and practices are tremendous, given the amount of money involved.

INTRODUCTION

In twenty-nine states across the country, Native American Tribes operate more than 250 casinos. Revenue from these business ventures has been growing steadily. Parallel to this has been a growth in gaming violations investigated by the National Indian Gaming Commission. Financial management literature reminds us that even good people can be tempted when the financial rewards are high and the threat of detection is low. Recent events underscore this concern. For example, tribal leaders with the Kickapoo Tribe of Texas have been accused of conducting a scheme that embezzled over $900,000 in funds from the tribe and their casino ("Information

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Issued," 2004). In 2010, the Seminole Tribe of Florida received Civil Fine Assessments of $500,000 and a federal notice of violation for six separate incidents of financial mismanagement totaling over $190,000. One incident included a series of 14 personal purchases on a Tribal Council American Express card in excess of $85,000 (NIGC, 2012a).

The lack of effective financial management policies and insufficient accountability of tribal officials can contribute to mismanagement of gaming revenues, which hurts all tribal members and weakens the perceived credibility of these operations. Problems like those encountered by the Kickapoo and Seminole Tribes may have been avoided if proper financial management policies were in place to prevent tribal officials from embezzling.

The financial management of Tribal gaming revenues is becoming an increasingly salient issue. To explore the efficacy of financial management policies over tribal gaming operations, we examine financial mismanagement, specifically violations documented by the National Indian Gaming Commission (NIGC).

Two types of policies are tested: proactive (ex ante) and reactive (ex post facto) using the gaming compacts each tribe negotiates with the relevant state, which are then confirmed by the federal government and the reporting documents that tribes submit to the National Indian Gaming Commission. Combined, these two types of policies attempt to regulate financial management behavior at the tribe and the casino levels. Through deductive analysis of secondary data, we systematically test the efficacy of ex ante and ex post policies at the tribal and casino level, respectively. Discovery of the most effective models, or significant factors that influence the rate of gaming violations, can inform policy discussions of financial management frameworks in the future.

BACKGROUND: TRIBAL GAMING IN THE CONTEXT OF SOVEREIGNTY

In order to understand the financial management policies that have developed around tribal gaming enterprises, one needs to fully understand the environmental context. Unlike a business that wishes to begin operations in a particular state, tribes are sovereign entities outside of traditional state level regulation. However, they are still subject to federal laws. Since tribes began to embrace self

determination in the 1960s and 1970s "...they searched for ways to use their sovereignty to enhance revenue-producing ventures" (Wilkinson, 2005, p. 330). Gaming ventures emerged as a critical economic development tool for the tribes. Various tribes turned to gaming as a source of revenue, using their sovereign status to conduct gaming operations outside of the purview of state laws on commercial gaming.

The gaming issue quickly became one of state versus tribal sovereignty. The states attempted to prohibit what they saw as "illegal gambling." The federal courts took up the issue. In the 1987 *California v Cabazon Band of Mission Indians* case, the Supreme Court upheld the tribe's right to conduct gaming on reservation lands. This court case may have been a win for tribal sovereignty but it was checked by this statement: "It is clear, however, that state laws may be applied to tribal Indians on their reservation if Congress has expressly so provided" (Light & Rand, 2005, p. 36).

Congress concurred with the Supreme Court's decision and provided legislation to regulate the growing Tribal gaming industry the following year. The Indian Gaming Regulatory Act of 1988 (IGRA) set up the framework for federal and state regulation of Tribal gaming. The IGRA legislation was designed to promote tribal economic development, self-sufficiency and strong tribal government; and to develop federal standards for regulation of tribal gaming (Light & Rand, 2005). With the authorization of casino-style gaming, a concern arose that outside commercial, as well as criminal, interests would take advantage of Tribal gaming, and then the tribes would not be benefiting from their own businesses. IGRA gives regulatory power to federal and state authorities to prevent this from happening. This is the crux of federal Indian policy: in order to allow the sovereign nations to govern themselves, limitations on their sovereignty are necessary.

Limited tribal sovereignty given to the tribes has influenced how their governments are designed. Though each tribe is able to develop its own constitution and self-governing body, there are similarities and continuities over tribal governments in general, mainly as a result of the federal government's influence in this process. Understanding how tribal government functions puts financial management practices into context. The predominant form of government among the tribes is the council form of government (Meredith, 1993). The

type and make-up of the council may vary across tribes but the basic idea is the same. The most important feature of the council to note is that it is a unitary form of government, as compared to the divided form seen in the American federal government, where a separation of powers is maintained between the executive and legislative branches. The council, often called the Tribal Council, Tribal Commission, or Business Committee, encompasses functions traditionally carried out by both the executive and legislative branches.

A typical council has a chairperson who often serves as ceremonial head of the tribe as well as the leader on council affairs (Meredith, 1993). The chairperson is often very powerful, holding key decision making power over budgetary and finance issues. According to Meredith, one of the most common problems within tribal governments is the high turnover among tribal council members. Meredith cites two related causes for this: lack of political knowledge and experience by the council members and a lack of trust in the council by the tribal members at large. When the motives of the chairperson or other council members are in question, it is difficult for them to effectively lead the tribe. High turnover results in instability among the tribe and makes it difficult for the tribe to set policy direction and achieve its goals.

The potential for political instability to have a deleterious effect on tribal enterprises can be overcome by rigorous financial management policies and practices. In the past, the vast majority of tribal funds came from various federal assistance programs, and today, this remains true for some tribes. Historically, financial management of tribal federal assistance was almost a non-issue, since this money usually came to tribes with many strings attached and specific instructions for use. As more of tribal revenues come from sources outside of the federal government, tribes gain more of a say in how the money is spent. The additional revenue sources expand tribal sovereignty, but they also require persons skilled in financial control for enhanced accountability.

Tribal financial management responsibility generally lies with the treasurer and the tribal business manager. The treasurer deals primarily with the banking aspects of the tribal finances while the business manager is "the chief bookkeeper and accountant" for the tribe (Meredith, 1993, p. 118). Growth in tribal business activities

requires development of further expertise on financial control and responsibility systems and best financial management practices.

External and internal actors influence the intergovernmental context in which tribal gaming enterprises operate. The primary external actors are the federal and relevant state governments (when compacts for Class III gaming must be signed). The internal actors are the members of the governing council. Changes in federal and state regulatory structures, combined with tribal governance instability, can be overcome by strong financial management practices to assure efficacy in casino operations.

The analysis in this paper focuses on the formal policies set in place by legal documents and regulatory frameworks that guide the multiple governmental actors in the tribal gaming arena. There are two sources of these formal policies. First are the gaming compacts (contractual agreements between states and tribes that are ratified by the federal government) that provide a formal, legal framework governing gaming operations and typically include a combination of proactive and reactive policies. Second are the NIGC required submissions of multiple documents, reports and fees for tribes to continue to operate their casinos. These regulatory requirements represent a formal control framework that has both proactive and reactive elements.

The tribal-state compacts required to conduct Class III gaming articulate formal structural/governance policies that guide tribal gaming operations. Content analysis of the compacts governing all gaming tribes finds these provisions to be typical:

- explication of the roles of and relationship between the state gaming agency and tribal gaming agency;

- provisions for non-gaming tribes to give their machine allotments to gaming tribes in exchange for a revenue sharing arrangement;

- establishment of types and numbers of games and gaming devices allowed;

- arrangements for the payment of regulatory fees to the state and any revenue sharing obligations between tribes and the state;

- payments to charities or local governments;

- rules about responsibility for the licensing of employees;

- articulation of the duties of the different actors for monitoring and inspecting facilities;

- requirements for an audit and who will review the audit.

Specific provisions can vary greatly from state to state and tribe to tribe, but the theme behind each compact is to provide mechanisms to encourage proper financial management and prudent fiscal actions by the tribes. This can assure that gaming revenues are distributed according to federally-monitored provisions.

The National Indian Gaming Commission has also developed formal policies to encourage good financial management practices among gaming tribes. For example, the NIGC must approve contracts the tribe wishes to sign with a private firm for management of their casino(s). In addition, the NIGC establishes reporting requirements and performs surveillance activities include including these seven elements that tribes periodically submit to the NIGC:

1. presence of a Department of Interior approved compact,

2. presence of an gaming ordinance approved by the NIGC,

3. submission of regulatory fees to the NIGC,[1]

4. casino operations are licensed by the tribe,

5. submission of annual audits to the NIGC,

6. Minimum Internal Control Standards,[2] and

7. Requirements for compliance and periodic reporting.

The NIGC Director is the primary authority responsible for enforcement actions when violations occur. Overall, the Commission Director has the authority to issue Notices of Violations, Closure Orders, Civil Fine Assessment and enter into Settlement Agreements with members of the regulated industry for violations relating to the IGRA and its implementing regulations (NIGC website, 2012). In addition, the Commission, as a whole, issues final agency decisions when it reviews the NIGC Chairman's actions or civil fine actions that exceed $25,000. Since 1998, there have been 325 Chairman and 57 Commission enforcement actions. This number is somewhat misleading, since the pace of activity has grown alongside increases in tribal gaming activities. In the year 2009 alone, the Chairman took 47 actions and the Commission took one action. With increasing

rates of violations, understanding the efficacy of various control mechanisms becomes a more urgent concern to bolster the likelihood of prudent fiscal management and effective oversight. Many of these compact terms are policies that coincide with generally accepted best practices in public financial management (Finkler, 2005), described next in the literature review.

LITERATURE: FINANCIAL MANAGEMENT PRACTICES

As described by Bland (2007, p. 82), there are three internal processes that must be considered when designing financial controls: budgeting, accounting and financial reporting. To analyze tribal gaming operations, we limit our focus to accounting and financial reporting to explore normative concerns and recommended practices. These are critical since they inform cash management practices, the maintenance of transaction records and preparation of financial statements and audit expectations (Ebdon, 2013). The best financial controls are those that clearly establish responsibility and accountability (US GAO, 2000). In addition, they monitor operations, assure accurate reporting, prevent or detect fraud or errors, safeguard assets and verify compliance with laws and regulations (GFOA, 2008). When multiple organizations are involved, such as the federal, state and local governments who interact with tribal casinos, Hendrick (2013, p. 231) recommends the establishment of strong reporting requirements to assure that financial transactions are reported accurately as well as to demonstrate operational compliance with legal requirements.

Intergovernmental reporting requirements such as those found in gaming compacts and periodic reporting to the NIGC can mitigate internal control risks. The publication of audit findings of sanctions and assessment of financial penalties can deter non-compliant behavior. The incentive to reduce violations may also rise when information is shared since negative perceptions of the trustworthiness of operations may result in decreased gaming revenue (Ebdon, 2013, p. 78). All of these are controls that organizations often put in place for financial activities.

Controls are most effective when they are codified to set behavioral expectations and to describe punitive actions that will be taken in the event of violations. Policies that guide expected behavior and establish monitoring systems are important elements of

management control systems to protect the financial resources of any organization (Hofstede, 1981). The objective is to protect the public's interest by managing money and resources to achieve the goals of the organization. Management control systems must be able to collect information for planning, setting standards and establishing the basic operations of the organization (Sandino, 2007). More sophisticated systems can include a focus on cost, revenue, and/or risk. When viewed through the lens of tribal gaming, the emphasis should be on reducing violation risks and protecting financial assets. This may be accomplished by establishing policies on financial management practices to avoid violations such as inadequate documentation, non-submission of reports or fees, and criminal activities. Tribal gaming enterprises can benefit from the careful design of effective financial management policies.

Financial management policies set expectations and describe specifically the range of desirable behavior and the consequences of not performing as desired. As Tankersly and Grizzle (1994) reported, there are variable combinations of elements that should be included in a management control system. All must work together to guide the political, personnel and behavioral dimensions of the organization and the protection of financial resources.

Policies can be classified by whether they are formal or informal. Formal policies are evidenced by legal and administrative arrangements establishing expected behavior and articulating punitive actions to be taken when policies are disregarded. Informal policies are commonly accepted practices that serve as norms on behavior but to which no standard expectations or consequences are articulated. Formal policies are generally preferred since they offer the ability to direct the behavior of all actors, include mechanisms for monitoring and articulate necessary remedies if there is a contractual default. Informal policies rely on shared values and performance based more on principles of integrity and the establishment of trust relationships. Informal policies may not clearly articulate what is desired nor the range of behavior considered acceptable. However, informal policies have more power in terms of being self-enforcing rather than requiring direct monitoring.

Another way to classify policies is to consider the time period for which they govern activities and behaviors. *Ex ante* policies are proactive, that is they establish standards for behavior before any

organizational activity can occur. When designing ex ante policies, Chrits and colleagues (2012) found it was important to make them preventive so that they restrict employee autonomy. Preventive financial management policies can be particularly effective when combined with self-monitoring activities so that employees of the organization can compare practices with policies (Chiccola & Muhlstein, 2005).

Ex post facto policies are reactive since they monitor and evaluate behavior after it has already occurred. Oprosko (2012) values strong financial management policies since they increase managerial confidence in the financial data being reported and help protect the organization's assets. These policies need to be documented, reviewed and updated and tested regularly to be the most effective, suggesting that the combination of ex ante (proactive) and ex post facto (reactive) policies must be included for an effective management control system. Both ex ante and ex post facto policies require periodic comparison of actual performance to what is desired by the control. When there is a variation from expectations, then punitive and/or corrective action normally occurs. Ann Barra (2010) finds that penalties can be effective in influencing the incidence of non-compliance with financial management policies.

METHODS

Research data ware drawn from a variety of tribal, state and federal sources. We obtained copies of all compacts signed by tribes currently involved in Class III gaming.[3] Through content analysis, the individual compacts served as the initial source for developing a list of financial policies placed on tribal gaming operations. Representatives from state gaming agencies were provided with copies of our compact coding for validation. The data for compliance reporting were drawn from the NIGC's *Compliance Reports* for each of the 11 years studied (2001-2012). The data for management compacts were drawn from the NIGC website entitled: *Approved Management Contracts.* The violation rate data were gathered from the NIGC historical records entitled, *Enforcement Actions and Commission Final Decisions.*

The analysis features a dichotomous dependent variable - Violation Rate – to measure the concept of financial management. A zero means that there are no gaming violations for a tribe in a

specific year. A value of one is evidence of financial mismanagement – meaning the tribe does have a gaming violation(s) in a specific year. Using this information we constructed an 11-year panel data set encompassing 251 tribes. Some tribes did not have casinos in a particular year, reducing the number of observations from 2761 possible to 2477 reported. In addition to testing the relationships between the control, independent and dependent variables, the data analysis also looks at the predictive power of four models containing various combinations of the independent variables to determine the relative strength of proactive and reactive controls that are targeted to the tribal organization or the casino operations, respectively.

Variables and Descriptive Statistics

To explore factors that may lead to gaming violations, we test four control variables and 15 independent variables drawn from the compacts and NIGC reporting documents for 11 years (shown in Table 1). The first of the four control variables tested is a dichotomous variable reporting if the tribe has a **management** agreement with a private firm to operate gaming enterprises on behalf of the tribe. These management contracts are reported to and reviewed by the NIGC. The number of tribes using a management firm has risen steadily starting at 30 in 2001 and rising to 49 in 2011, or 19.5% of all gaming tribes. The second variable is a categorical variable representing the six geographic regions for **NIGC** offices and oversight. Across the six regional offices, the number of tribes overseen ranges from 99 in the Northeast to 737 in California and Nevada. We also include interval variables representing the number of casinos a tribe operates in any given year, as well as the number of new casinos established in the reporting year. The number of tribes operating **casinos** in a specific year ranges from 206 to 244 between 2001 and 2011 and the number of casinos each operates ranges from one to 21, with a median and mode of one. The number of **new casinos** opened by all tribes in one-year ranges from six to 21 in any one year and 170 total in the eleven year period of the study.

It is expected that management agreements weaken financial policies since the tribe delegates their casino and financial management responsibilities to an agent; additionally, the Tribe may not have sufficient expertise to monitor the activities of the contractor to assure prudent financial management. The NIGC region in which the tribe is located is not anticipated to have either a positive or

negative impact on violation rate. Nor are the directional effects of increases in the number of casinos and the opening of new casinos predicted since either positive or negative effects could be justified. On the one hand, larger operations may necessitate an increase in the number of policies, sophistication of an indirect, technology-based monitoring system, as well as higher levels of management expertise and oversight to handle the volume of workload generated, thus reducing the opportunities for undetected violations (a negative relationship). On the other hand, an increase in the amount of money being handled in large operations combined with increases in the number of gaming employees may increase the opportunities for individuals to engage in financial wrongdoing (a positive relationship).

In Table 1, fifteen independent variables (which appear as variable names in bold in the paragraphs that follow), representing the proactive and reactive policies are presented. The ten independent variables that represent proactive policies are drawn from the gaming compact signed between the Tribe and the State. The variables and descriptive statistics for the compacts and NIGC submissions are presented, with delineation of those with a tribal from a casino focus. To test the strength of Proactive controls, we test the ten variables in the third row of the table (labeled **Ha₁: Proactive**). To test the strength of Tribal level controls, we test the nine variables in the second column of the table (labeled **Ha₃: Tribe**).

Compacts may contain a clause requiring a **uniform** or standard compact that governs all tribes within a state. This is present in nearly 40% of the compacts. Just over one-half of all compacts reviewed included provisions for the compact to be **renegotiated** at a specified date in the future. Compacts signed by tribes in Arizona, California and Nevada (representing more than 1/3 of all casinos) have provisions for revenue sharing by gaming tribes with **non-gaming** tribes in exchange for the non-gaming tribes machine allotments. A fourth compact provision specifies what is **licensed** by the state, ranging from licensing both tribes and facilities, just the tribe or just the facility. Around 70% of all compacts require state licensing of the facility only. Compacts in seven states, governing more than one-half of all casinos, include **limits** on the number of slot machines a tribe can operate. Compacts can also require tribes to share a portion of their revenues with the state or they can also require the payment of

TABLE 1
Independent Variables & Expected Relationship [-/+] to
Gaming Violations (DV)

	Ha3: Tribe	Ha4: Casino
Control Variables	Mgmt Agreement [Federal] (N/Y) Region [Federal] (1-6)	# of Casinos [State] (+/-) # of New Casinos [State] (+/-)
Ha1: Proactive Compact Terms [State]	Uniform Compact (N/Y) [-] Renegotiate (N/Y) [-] Nongaming sharing (N/Y) [-] License (casino, tribe, both) [-] Machine Limits (N/Y) [-] State Revenue (none, fees, revenues) [-] Local Revenue (N/Y) [-]	Class III Gaming (N/Y) [-] Inspection (Tribe/St/Jt) [-] Audits (3rd party/Tribe/Jt) [-]
Ha2: Reactive NIGC Submission [Federal]	Compact (N/Y) [+] Ordinance (N/Y) [+]	Tribal License (N/Y) [+] Fees Submitted (N/Y) [+] Audits Submitted (N/Y) [+]

Notes: * Lowest values for all IVs are reported first. For dichotomous variables 0 = No, 1 = Yes

regulatory fees from the tribe to the state. Two-thirds of compacts provide for **state revenue** sharing. Compacts may also feature a revenue sharing arrangement with local governments or local charities. Nearly two-thirds of the compacts have **local revenue** sharing features.

There are three compact provisions related to casino level operations; however not all compacts include each of these

provisions. The first specifies the types of **Class III** gaming activity allowed. Less than ½ of the casinos are limited to slot machines and table (poker) games; forty-seven percent have more gaming activities such as table pari-mutuel betting. In 36% of the compacts, the state retains **inspection** responsibility. Tribes have sole responsibility for inspections in 41% of states and inspection responsibility is shared between tribes and states in 9% of compacts. **Audits** must be reviewed jointly in 46% of the compacts. The tribe is not required to share audit reports in 44% of the compacts.

Allowing more forms of Class III gaming is expected to have a positive effect on violation rates, since it expands the number of manual transactions required by gaming employees through things like table games and contest betting. Increases in the amount of employee involvement are expected to increase the temptation for violations by employees. A more expansive range of Class III gaming also increases the monitoring and oversight activities required. Inspection and audit activity that includes state officials, as an additional monitoring actor, is expected to have a positive impact on violations.

In addition to the variables presented in the table, we constructed a dichotomous variable to take into account the impact that prior violations may have on current violations. The **prior violation** variable is also a dichotomous variable with a value of 1 indicating that in a particular year the Tribe had previously been sanctioned by the NIGC for violations. The spearman correlation coefficient between the DV measuring current year violations and the IV for prior year violations is .041 ($p < .05$). Even though the relationship may be statistically significant, the predictive power derived from knowing whether or not there have been prior NIGC violations is quite low.

We examine the accuracy of four different models comparing different combinations of independent variables in predicting tribal violation rates in Class III gaming: 1) *proactive* (ex ante) policies, 2) *reactive* (ex post facto) policies, 3) policies directed to *Tribal* operations and 4) policies directed to the operation of individual *casinos*. The two main sources of policies are derived from content analysis of the State-Tribal compacts and the Tribes' regulatory reporting to the NIGC.

Of the fifteen independent variables, there are five that represent reactive financial policies.[4] These policies are put in place by the

NIGC and the tribes must comply via periodic reporting requirements. The first react control requires submission of the signed and approved **compact**. In three years, all tribes submitted the required compact document. However, non-submissions have ranged as high as 12%. Each tribe must also enact an ordinance governing their gaming enterprises. Compliance with the **ordinance** is very high with complete compliance in eight of 11 years. For the third reactive control, the Tribe must submit evidence that the tribe has **licensed** each casino that will be operated by the tribe. The compliance rate is 94% overall and ranges from 83% to 99% in the period studied. Over the entire eleven-year period studied, **fees** were submitted on time by 77% of casinos. However, in 2008 that figure was a low as 40%; the peak for compliance was in 2002 with 97% compliance. The **audit** reporting compliance rate for the entire time period was 87%, and had a range from 74% to 95%.

Predicting the relationships for the reactive policies is less straightforward. On the one hand, you cannot detect violations without having the prior performance information, suggesting a positive relationship. Likewise, if a tribe does not report annually as required, violation rates would be lower because of a lack of surveillance activity (also a positive relationship). However, since non-reporting may be deliberate to cover-up non-compliance, the NIGC would likely follow-up on non-reporting and more closely scrutinize the information received late (thus suggesting a negative relationship in the short term and a positive relationship in a longer time frame than one year). Using this logic, we predicted positive relationships for the reactive policies supporting the assumption that information reported after the fact is necessary to detect, and then pursue, violations. In addition, if the information is not submitted, then the detection process will not be possible.

In addition to separately testing the proactive and reactive policies, the independent variables are further broken down into levels representing the regulatory focus: the tribe or the casino. In the left hand column of Table 1, we present the 11 independent variables that represent financial policies placed on the Tribe. The right hand column shows tribal level IVs. Violations are assessed to the Tribe by the NIGC, but can be based on violations in either Tribal practices or the operations at an individual casino.

Ha$_1$: Proactive financial policies will reduce gaming violation detection accuracy.

Ha$_2$: Reactive financial policies will increase gaming violation detection accuracy.

Ha$_3$: Tribal level financial policies will decrease gaming violation detection accuracy.

Ha$_4$: Casino level financial policies will increase gaming violation detection accuracy.

Data Analysis

To conduct the analysis, we first examine the bivariate correlations between our independent variables to check for multi-collinearity. Considering the variables that are in the compact, there are a very high number of combinations that suggest collinear relationships. Out of 45 possible combinations, all but one are significant at the $p > .01$ level (two-tailed test), with correlations as high as 0.717. This is not surprising since most states sign a standard compact with all tribes in the state, so the terms will be uniform. Turning to the NIGC reporting variables, of the 10 bivariate relationships, only five that have statistical significance at $p > .01$ (two-tailed test) and the correlation values are lower: 0.025 to 0.235.

The purpose of this research is to forecast error rates using policies currently in place, rather than to estimate the strength of specific variables relative to others in the model. By including all variables, as they exist in the natural setting, then comparing the actual rate of violations with the forecasted rates, researchers can establish the accuracy of the predictions (O'Sullivan, Rassel & Berner, 1999, 2008). This approach also allows for consideration of the Type I and Type II error rates. Combined with the rate of accuracy of predictions overall, this information can be valuable for making recommendations about the relative impact of certain classes of policies. Thus, the potential effects of multi-collinearity between the independent variables do not unduly influence the conclusions that can be drawn from this study and no corrective variable transformations or statistical techniques are introduced into the analysis.

Turning to the relationships between the independent variables and the dependent variable. The dependent variable, the presence of

new violations in a particular year, is dichotomous with the value of 0 meaning the tribe has no violations and 1 representing the presence of one or more violations in a single year. Logistic regression is conducted to accommodate the dichotomous dependent variable, a mix of categorical, ordinal and interval variables and non-normal distributions. A fixed effect model is employed to account for the 11-year time span, with the 2001 being the base year (no dummy variable).

The NIGC violations DV is further divided into two categories: 1) violations based on the non-submission of reports required by the NIGC and 2) violations resulting from casino-based activities that are legally prohibited. Of the 112 violations in the eleven-year time period, 99 (88%) fall into the first category. These violations generally result in a fine to the Tribe of $5,000 or less. Over eleven years, there are thirteen violations caused by illegal activities such as signing a management agreement without federal consent, operating Class 3 gaming without a state compact, opening a casino on non-tribal land, unauthorized per capita payments from gaming revenues and unauthorized payments to individuals from gaming revenues.

DISCUSSION

The results from our data analysis provide interesting insights into the accuracy of predictors of gaming violations. In particular, the models do not identify good deductive predictors of gaming violations. Further, few variables obtain statistical significance. Table 2 displays the beta weights for the independent and control variables of interest as well as the overall model results.

Ha_1 tests the predictive accuracy of the proactive policies contained in the gaming compact signed by the Tribe and the State. None of the independent variables are statistically significant in this model. Considering the entire model, all coefficients are predicted to display a negative relationship, however the actual results do not support this hypothesized relationship. The Chi-square test of the model coefficients suggests a reduction in error of 146.17 and a remaining -2 Log Likelihood error estimate of 729.98. The pseudo R^2 estimates range from .06 to .19, indicating that the predictive accuracy of the model is low for this set of independent variables. These results suggest that the power of the proactive policies in reducing future violations is not substantial. Ha_1 is rejected.

TABLE 2
Beta Coefficients for IVs in the Four Tested Models, DV – New NIGC Violations

	Model 1 [**Proactive**]	Model 2 [**Reactive**]	Model 3 [**Tribe**]	Model 4 [**Casino**]
	Beta	Beta	Beta	Beta
Uniform Compact (=1)	-0.04		-0.69	
Renegotiate (=1)	-0.42		-2.97 **	
Nongaming Sharing (=1)	0.22		-1.03	
License	0.12		0.66 *	
Machine Limits (=1)	-0.61		0.29	
State Revenue	-0.03		0.47	
Local Revenue (=1)	0.39		2.00 **	
Class III Gaming (=1)	0.47			0.44
Inspections	-0.32			-0.18
Audits	0.31			0.22
Compact (=1)		0.18	0.16	
Ordinance (=1)		2.72	1.87	
Tribal License		0.09		0.10
Fees Submitted		0.11		0.05
Audits Submitted		-0.98 ***		-1.17 ***
Management Agree (=1)	0.51	0.47	0.51	0.45
# of Casinos	0.00	-0.02	0.00	-0.04
Prior Violations (=1)	-0.16	-0.23	-0.09	-0.19
Constant	-26.67	-25.08	-28.84	-24.53
X^2	146.17	163.09	160.23	170.02
-2 Log likelihood	729.98	717.98	715.74	694.19
Cox & Snell R Sq	0.06	0.07	0.06	0.07
Nagelkerke R Sq	0.19	0.22	0.21	0.23

Notes: Dummy variable values for Region (n=5) are not shown in the table. None of these beta coefficients were significant except for those noted in text. The beta coefficients for years 2006, 2008 and 2009 are all significant in each of the four models. Further detail is provided in text.

The second hypothesis tests the predictive power of the <u>reactive</u> regulatory policies put in place by the NIGC. In the second model results shown in Table 2, we can see that the submission of audit reports is statistically significant. The odds ratio of .376 is below 1.00, suggesting that violations would be less likely among tribes that fall into these categories. In Ha$_2$, all coefficients are predicted to

display a positive relationship, however the actual results do not support this hypothesis. The error in the Model 2 is reduced by 163.09 (X^2), to a value of 717.98. The pseudo R^2 estimates range from .07 to .22. These results suggest that the predictive power of reactive policies on violations is statistically higher than that of proactive policies; however the real-world explanatory power of the model is minimal. Ha_2 is also rejected.

Policies targeted to the Tribal level are tested in Model 3. In this model, three compact provisions - a predetermined compact renegotiation date, licenses and provisions requiring local government revenue sharing are statistically significant. The ExpB value when compacts do contain provisions for local government revenue sharing (coded as a 1) suggests that Tribes governed by a compact provision requiring sharing of gaming revenues with local government entities are less likely to have NIGC violations. The ExpB values for licenses and local finance suggest that these are important compact provisions to limit the likelihood of violations. Region 1, covering Alaska, Idaho, Oregon and Washington, is also significant in this model with a Beta value of 1.95 and ExpB of 109.26. This NIGC Region oversees about 15% of tribes and accounts for about 18% of violations. Closer examination of the Region 1 Tribal level management policies suggests that there is more Class II gaming, so management policies may be less sophisticated. The -2 log likelihood value for the model is 715.74 and the chi-square value for the independent variables is 160.23, suggesting that a fair amount of variation is reduced by knowing the values of the independent variables. The pseudo R^2 estimates range from .06 to .21. Given these data, Ha_3, testing the effect of policies placed on the tribal level, is rejected. However, the practical significance of the model must be considered. The likelihood of future violations does seem to be diminished with policies that encourage self-monitoring for compliance with agreements with local external actors.

Model 4 looked exclusively at policies directed to the financial management practices of individual casinos. Of the nine variables included in the model, we can see that audit submissions to the NIGC are statistically significant. Considering the odds ratio, these results suggest that failure to submit audits to the NIGC in a timely fashion is a good predictor for violations. The fourth model has a 170.02 reduction in unexplained variance with a value of 694.194 in

variance remaining after the independent variables are taken into consideration. Considering the pseudo R^2 value range of .07 to .23, this model is another weak predictor of violation rates. However, of the four models tested, it does have the highest rate of predictive accuracy. Yet, Ha_4, testing the effect of casino-level policies, must also be rejected.

To compare the predictive accuracy across the three models, Table 3 presents the accuracy rates for each model overall, as well as the accuracy rates within a certain type of violation prediction. There are four possible combinations of prediction for comparing violations with predicted violations. The Yes/Yes combination measures the percent of violation occurrences that are correctly predicted, or the **sensitivity** of the model. The No/No cell measures the percent of non-occurrences that are correctly predicted, or the **specificity** of the model. The No/Yes combination measures the predicted occurrences of violations that are incorrect, or the presence of **Type I** errors (false positive). The Yes/No cell measures the cases where it is predicted that no violations will occur but there are actually violations, the presence of **Type II** errors (false negative).

From a regulatory perspective, we would favor models that are good predictors of violations (Sensitivity) [Column 4], and that maximize the prediction of non-occurrences (Specificity) [Column 5] since they would not predict violations when they are most likely to

TABLE 3
Predictive Accuracy of the Four Models of Gaming Violations by Tribes (%)

Column #	1	2	3	4	5	6	7
	Total Obsv	Overall Correct	Violations Pred/correct	Y/Y	N/N	N/Y	Y/N
Ha1: Proactive	2415	95.6	None predicted	0.0	100.0	0.0	100.0
Ha2: Reactive	2337	95.2	0/0	0.0	99.9	0.1	100.0
Ha3: Tribe	2413	95.6	None predicted	0.0	100.0	0.0	100.0
Ha4: Casino	2287	95.3	0/0	0.0	100.0	0.0	100.0

occur. In terms of the overall model, all models are relatively equal with 95% prediction accuracy [Column 2]. Considering the ability to avoid errors, we again see similar results across the four models: few false positives [Column 6] and no false negatives [Column 7]. However, the most glaring finding is that no violations are predicted correctly [Column 3].

This low rate of accuracy due to false negatives suggests that the NIGC may use other means to detect tribes that are violating IGRA regulations. Alternate information sources that are not public, such as information sharing between federal and state law enforcement agencies and/or collaborative criminal activity investigations by the FBI and BIA, may provide evidence for the NIGC to pursue violations as may public sources like the news media covering political controversies in tribes and/or legal actions and court cases against the tribes.

CONCLUSION

With the passage of the IGRA in 1993, Native American Tribes could exercise their sovereign rights to operate gaming enterprises. Since that time, the number of casinos and volume of revenues generated from these activities has risen dramatically. With this have come challenges in assuring effective financial management systems. As measured by NIGC actions, there are increases in violations over an 11-year period. These violations occur in the presence of financial management policies, such as those articulated in Tribal-State gaming compacts and periodic reporting requirements to the NIGC.

In this analysis, we modeled the predictive accuracy for gaming violation rates for four types of policies, 1) proactive (*ex ante*) 2) reactive (*ex post facto*), 3) tribal based and 4) casino based. Following conclusions drawn from theories in extant financial management literature, we expected that the use of proactive policies would have a dampening effect on gaming violation rates. We expected reactive policies, on the other hand, to be positively related to NIGC issued violations, since transparency in operations would be necessary to evaluate internal operations and detection financial irregularities. Through content analysis of state and tribal gaming compacts and documents submitted by the tribes to the NIGC reporting compliance with regulatory reporting requirements, we

created a panel data set of 251 tribes for a period of eleven years and tested four models.

In the two models assessing the predictive accuracy of proactive and reactive policies, our hypotheses are not supported overall and few independent variables are statistically significant. The audit variables that does achieve statistical significance suggesting that there is less likely of an NIGC violation with this financial management policy. The model of the influence of management policies directed to the tribe suggests that enhanced transparency of local external actors can influence violation rates. The model of casino level policies seems, statistically, to be the most likely predictor of violations and the most accurate in predictions; however, it only explains between eight and 20% of variance in new violations.

The deductive nature of secondary analysis prohibits one's ability to fully understand what motivates behaviors that lead to violations. Nor can an analysis "by the numbers" provide insight into perceptions of what policies are perceived as being more "powerful" than others for fostering self-regulating behavior by tribes, casinos and employees that reduces violations. Careful inductive inquiry into questions such as these, through case studies that describe policies, business practices, policies, attitudes towards policies and day-to-day behaviors, can enhance our understanding of this phenomenon and foster the systematic development of effective financial controls.

Currently, there are no policies in place to regulate casino employee behavior. Regulators may wish to explore employee-level policies since employees are likely to be the ones most tempted in the face of access to large amounts of money. Some possibilities include reviews of employee discipline systems processes and outcomes to find out if any relationship exists with respect to violations. Or, it may be worthwhile to track personal violations and/or criminal charges filed on employees to determine if there are factors that may predict misconduct, then these into the hiring processes of gaming organization. Another avenue of investigation would be to carefully develop qualitative/phenomenological case studies of tribes that have significant violations to isolate antecedents to violations.

The primary purpose of this analysis is to retrospectively evaluate the accuracy of the financial control systems as currently designed. Our results suggest that accuracy is non-existent, calling into question the efficacy of these efforts. We argue that it would be more effective

to have federal oversight directed to the tribal level for sovereign nation-to-nation accountability purposes. States already have regulatory responsibility for commercial casino oversight. Similar regulatory oversight for tribal casinos may reduce duplication and introduce parity with the rules under which commercial gaming operates. State regulation of casinos may introduce additional financial disincentives for gaming violations beyond revoking the Class III gaming compact, which would likely only occur in the face of continuing non-compliance and via legal, judicial actions. To avoid a loss of revenue, the Tribe could be expected to be more diligent to observe compact provisions as well as state gaming laws to avoid fines and casino closures. The state has a geographic advantage over the NIGC (with only six regional offices) in terms of monitoring the operations of individual casinos and can be expected to excel at business enterprise accountability regulation. Federal involvement should be limited to the tribal level because of sovereignty issues. Federal involvement will also be required when Tribes operate casinos in multiple states.

Yet, at the end of the day, there is no evidence that these policies work. Still, we devote a great deal of energy and resources to the creation and maintenance of these systems. Before we tinker with financial control systems, it may make sense to revisit gaming policy intent. From a normative perspective, the financial control literature adequately describes know what can be done to safeguard organizational resources. Yet the models suggest other factors that lead to violations. One might wonder if tribal cultures influence the degree to which controls are effective, especially in casinos where tribes manage the operations themselves and employ a relatively large number of their members.

Answering this may raise many other questions. From a policy parity perspective, state and local governments impose licensing and geographic zoning restrictions on commercial gaming. In addition, commercial gaming oversight is limited to assuring that background investigations on license applicants are conducted and gaming taxes are paid. Financial controls within casinos are exactly that, within the casino and not subject to any governmental reporting requirements. Why do we not require compacts for commercial gaming enterprises? Why are there no state and local government revenue sharing agreements? How do we detect and "punish" commercial gaming

violations? Are tribal gaming violation rates any different from those of commercial ventures? Why do we have regulatory intervention for a sovereign nation's activity? Is this same level of monitoring and enforcement present in other policy domains? And, finally, it is valid to conclude that tribes cannot adequately control their own financial activities? If this is true, then why are they not subjected to the same level of state and federal oversight in all their commercial ventures? In an era favoring business deregulation, can the invisible hand of a market with both commercial and neighboring tribal competition create a condition of self-enforcing financial policies?

This retrospective analysis of secondary data cannot adequately answer any of these normative and/or public policy questions. Instead, perceptual and attitudinal data must be examined to provide clues with regard to policy intent concerning the uniform treatment of casinos – tribal or commercial. However, contributing empirical evidence about the status quo is important first step to provide momentum for answering these questions given the volume of money that is changing hands and the trend of increasing violations. This paper makes that contribution and invites a normative dialogue on the policy issue as well.

NOTES

1. The NIGC is funded by the assessment of a fee of .063% on gross tribal gaming revenues in excess of $1.5 million per operation. Of the 421 gaming operations overseen in 2011, more than 84% of all operations reported gaming revenue between $3M and $250M+.

2. NIGC 25 CFR Part 542, Section 542.3(f)(3) pertains to Class II and not Class III gaming, suggesting a gap in financial management policies and practices.

3. The NIGC Reading Room (nigc.gov) provides the most up to date links to tribal gaming compacts. At the time of compact analysis, this list was not complete, so the respective state regulatory agency and/or Tribes were contacted.

4. During the period studied, the NIGC has removed other policies requiring background investigations of job applicants, finger printing of employees and evidence of compliance with technical

standards for slot machines, so these variables are not included in the analysis.

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