

A Distal Theory of Policy Design: How State Regulatory Environments Condition the Impact of Indian Gaming

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Abstract

Scholars have explored the importance of learning within policy and governance regimes that helps explain change over time. Triple-loop learning argues that this occurs at three distinct stages beginning with minor procedural changes to existing protocol, followed by more substantive changes to underlying assumptions and values among actors, and ending with complete transformation and rethinking of the regime. The following investigation explores how such shifts condition the intended impact of policy regimes through the lens of what we refer to as a “distal theory” of policy design. We test this theory by examining how restrictions in state gaming compacts condition the intended impact of the 1988 Indian Gaming Regulatory Act (IGRA) on sovereign Native American nations. The IGRA provides the legal framework for Indian gaming with the stated intention of promoting Tribal self-determination and self-sufficiency. However, under the IGRA Tribal governments must sign gaming compacts with states that can include several provisions ranging from revenue sharing to specific market restrictions. As a result, the regulatory environment surrounding Indian gaming differs from state-to-state with some compacts imposing relatively few restrictions while others restrict Tribal operations considerably. In this paper, we explore how different sub-national regulatory environments surrounding the treatment of revenue sharing and market restrictions differentially influence the impact of gaming on Tribal income levels and employment from 1990 to 2010.

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Introduction

For decades, scholars have examined how the design of public policy translates to specific outcomes for target populations (Pierce et al. 2014; Schneider and Sidney 2009). Public policies are cause and effect statements that communicate meaning, purpose, and intent behind government action (Smith and Larimer 2009). One of the fundamental questions guiding students of policy design is understanding whose values are represented in the symbolism and “blueprint” of policy. This symbolism is the result of a series of compromises made throughout the policymaking process and can be used to secure political approval in addition to distributing costs or benefits to target populations (Schneider and Ingram 1997). But what happens to the intended impacts of national policy when the preferences of sub-national actors diverge?

In the following paper, we propose a “distal” theory of policy design arguing that intended benefits to target populations diminish as sub-national regulatory environments differ in content from the original intentions of national initiatives. In a federalist system, such as in the United States, the interests of national and sub-national actors may not always align. Federal and sub-national actors may disagree on whose interest should be served and how target populations should be treated to achieve particular outcomes. While national policy may be designed to benefit a specific entity such as sovereign Native nations, changes at the sub-national level may result in policy that works against such interests. When this happens, there is disagreement and conflict between national and sub-national actors within the same policy arena that may distort the original intent of federal law.

We test this theory by examining how restrictions in state gaming compacts condition the intended impact of the 1988 Indian Gaming Regulatory Act (IGRA) on sovereign Native

American nations. The IGRA provides the legal framework for gaming in Indian Country with the intention of promoting Tribal self-determination and self-sufficiency. Since Congress passed the IGRA in 1988, more than 200 Native nations spanning 28 states have adopted “Las Vegas style” gaming (Meister 2016; Schaap 2010). Under the IGRA, Tribes must sign individual compact agreements with states to operate Class III gaming facilities subject to federal approval. Included in these compact agreements are provisions regulating the Indian gaming market overall, the type of gaming operations that a tribe is permitted to operate in the state, regulatory oversight, and state imposed regulatory fees and revenue distribution (Light and Rand 2005; Taggart and Wilks 2005). As a result, the regulatory environment surrounding Indian gaming differs from state-to-state with some compacts imposing relatively few restrictions while others restrict Tribal operations considerably.

When compared to other economic development strategies a state can employ, many of the provisions common to Tribal gaming compacts arguably add an unprecedented level of regulatory intervention that can deviate from the original intention of the IGRA. Many Native nations have chosen to compact with states on a government-to-government basis to operate gaming facilities in the belief that gaming revenues would help Tribes foster the self-sufficiency of their members directly through employment opportunities in the entertainment sector associated with Tribal casinos (see Akee, Taylor, and Spilde 2014; Schaap 2010; Wilkins and Stark 2011). However, if markets are restricted and regulatory requirements add an additional financial burden to gaming operations, then there may be diminished economic returns for gaming Tribes that work against self-determination as intended by the IGRA. Using data from the U.S. Census and Bureau of Indian Affairs (BIA), we explore how different sub-national regulatory environments related to fee sharing with sub-national governments, restrictions on the

number of gaming facilities a tribe can operate, and slot machine restrictions differentially impact the expected outcomes of gaming from 1990 to 2010.

The paper is divided into four sections beginning with an overview of the political and legal environment surrounding the Indian gaming industry. We then present the theoretical framework surrounding a distal theory of policy design. The final sections of the paper present the data and methods used to test these arguments followed by a summary of the findings and discussion of the larger implications of our research for policy design theory and Indian gaming.

Class III Indian Gaming Background

In 1987, the Cabazon Band of Mission Indians won a landmark Supreme Court case against the state of California to operate a “Las Vegas style” casino on Tribal land (Light and Rand 2005). Within a year, Congress passed the Indian Gaming Regulatory Act (IGRA) that provides the legal and regulatory framework for the adoption of Class III gaming in Indian Country. In addition to providing an economic means to improving reservation conditions, the law was a compromise between Tribal and state interests by requiring the signing of a gaming compact between the two governments. By 2010, 456 Indian gaming facilities were offered in 28 states. By comparison, there were 438 commercial casinos in 15 states and 45 racinos in 12 states (American Gaming Association 2011, 7). In the roughly 20 years since gaming was first authorized by the federal government (in 1988 through the passage of P.L. 100-497, 25 U.S.C. 2701 – the Indian Gaming Regulatory Act), Class III Indian gaming became an equal competitor with the commercial gaming market (Akee, Spilde, and Taylor 2015; Meister 2014, 2016).

Most people in the United States know that Indian gaming facilities are very similar to (and often rival) the casinos found in Las Vegas and have provided much needed economic opportunities for Native American communities. In fact, the Chickasaw Nation’s WinStar World

Casino and Resort in Thackerville, Oklahoma is the largest casino in the United States with 600,000 square feet of gaming floor and 7,400 electronic games, beating Foxwoods Casino which offers 340,000 square feet of gaming space. In terms of size, WinStar's nearest competitor, The Venetian in Macau, China, has only 546,000 square feet and 420,000 machines (Horridge 2016).

What is notable about the WinStar casino is its location. Situated near the Texas border in rural Oklahoma, it is 120 miles from Oklahoma City and 80 miles from Dallas. The 2010 census reported 445 persons living in Thackerville, OK and 9,423 persons living in Love County. The current 5-year estimate of median household income in Thackerville is \$33,125 (American Community Survey 2011-2015 5-Year Estimate). In 1990, median household income was \$22,750, a 20-year increase of 46%. For Love County, unemployment in 1990 was 5.6%. By 2015, unemployment was 3.0%, a reduction of 86%. Prior research has documented similar gains across the nation (Conner et al. forthcoming), but have ignored the broader regulatory environment that might condition such improvements. In this paper, we estimate how the gains in per capita income and unemployment rates may have been muted by provisions in gaming compacts.

To operate a Class III gaming facility, each tribe and the state must sign a compact (Anders 1998; Light and Rand 2005). The requirement of an individual Tribal-state compact opened the door for the patchwork of regulatory environments and state gaming compact provisions that limit Tribal Class III gaming operations (Smith and Taggart 2010). For example, roughly ½ of the compacts in the U.S. limit the number of facilities a tribe can operate. Similarly, just over ½ of the compacts active in 2010 had restrictions on the number of slot machines allowed in the state (and/or for each tribe). Compacts that include facility and/or machine

restrictions are likely to negatively impact per capita income gains and/or lead to lower gains in the unemployment rates in the geographic area since they restrict the number of ways revenues can be generated.

Perhaps the most controversial of compact provisions concerns revenue sharing requirements. Some compacts only require Tribes to reimburse the state for the cost of regulation that is the least intrusive revenue sharing arrangement.¹ A more controversial revenue sharing arrangement that is subject to considerable scrutiny in the literature concerns payments based on a percent of “net win” typically in exchange for the exclusive rights to gaming in the state (Light and Rand 2005). Net win is the revenue received from gaming operations after all payouts and other expenses have been incurred. In seven states, the tribe pays a flat rate (or percent) of net win revenues. In ten states, the percent of net win is based on a progressive scale that increases based on a Native nation’s revenues or scope of gambling activities (usually based on the number of slot machines). We expect gaming Tribes that simply reimburse the state for the costs of regulation to be less effected by such revenue sharing requirements than those paying a percent of their net win.

Compacts may also contain provisions that control the percent of the state’s gaming market a single Native nation can have. Across the nation, on average, a tribe operates only 8% of all Indian gaming facilities in that state. In 64% of all states with Class III gaming in 2010, the compacts guarantee exclusivity – meaning that no commercial casinos could be operated in that state (although Florida, New Mexico and Oklahoma compacts allowed racinos) usually in

¹ However, as the regulatory role of the state increases, it can be expected that the tribe experiences higher administrative costs which would, in turn, limit potential gains since regulatory fees paid to the state reduce the amount of net revenue a tribe receives from Indian gaming facilities.

exchange for higher revenue sharing premiums. On average, Indian gaming facilities nationwide represented 88% of the state's gaming market. Market restrictions directly impact the revenue potential of different Tribes. Exclusivity provisions that increase the market share of a tribe can improve per capita income and reduce unemployment rates in the areas where the tribe operates.

While not the focus of the present investigation, gaming compacts also include provisions prescribing the role of the state in background investigations and fingerprints for employees, transparency in financial operations and financial reporting, and the access that state regulators have to gaming operations in real time. A review of the Class III compacts active in 2010 revealed that in 24% of states there are no provisions related to the regulatory role of the state. Compacts in 56% of the states include nominal requirements for gaming transparency and reporting. The remaining compacts prescribed an active role for state regulators.

Another important consideration when examining the impact of Class III gaming is the presence of Tribal per capita payment plans (Taggart and Conner 2011). According to the IGRA, net revenues are to be used by Native nations in rather specific ways that benefit Tribal members – for example, investments in social programs. Tribes may also choose to make direct payments to Tribal members, subject to federal approval, once they have demonstrated that basic community needs have been met (Conner and Taggart 2013). Such Tribal government policies are commonly referred to as per capita payments or Revenue Allocation Plans (RAP) and come in the form of direct cash payments to eligible Tribal citizens. Direct cash payments have been found to significantly impact economic gains from gaming revenues (Conner and Taggart 2013) and are considered federal taxable income. Studies have demonstrated empirically that they have the effect of increasing per capita income. Based on these observations in the literature, we anticipate Class III gaming Tribes that have adopted per capita payment plans will have higher

income levels and lower unemployment rates than those that do not make direct cash payments to members. We also consider possible interactive effects between Tribal per capita payment plans and sub-national regulatory environments to see whether Tribes making direct cash payments are also being negatively impacted by sub-national regulatory restrictions.

A Distal Theory of Policy Design

Indian gaming policy provides an ideal setting in which to test how various sub-national (i.e. state and local) regulatory environments condition the intended impact of national policy initiatives. We refer to this as a “distal” theory of policy design. Put simply, we argue that the intended impacts on target populations diminish as the distance between national and sub-national interests grow. Figure 1 provides a visual representation of the relationship between expected impacts of national policy on target populations and distance with sub-national interests. Put into the context of Indian gaming, we expect economic outcomes for Native American nations to be diminished when state compacts increase revenue sharing provisions and regulatory restrictions on gaming operations that go beyond the original parameters of the IGRA.

[Figure 1 about here]

A distal theory of policy design introduces three potential environments depending on the distance between national and sub-national interests and their favorability toward a particular target population. The first environment shown in Figure 2 occurs when federal and sub-national policy priorities are closely aligned yielding impacts as originally intended. The second environment occurs when sub-national regulatory environments work against the original interests of national actors resulting in a diminished or negative effect for those groups. This is the environment that we empirically test in the present investigation of sub-national regulatory restrictions of Indian gaming. However, a third environment is also possible that deserves

mention as a more dynamic aspect of the theory. It might also be the case that sub-national priorities go beyond what is required by federal law in ways that are more favorable to a particular group or issue. In this third environment (see Figure 2), we would expect the benefits to be greater than originally intended. An example of such a situation can be found in environmental regulation where sub-national jurisdictions set higher water quality standards than is required by federal law thus producing more desirable effects.

[Figure 2 about here]

Much of the discussion concerning state compact provisions fits nicely with existing literature on policy design and regulation to help shed light on expected impacts. While the minute details of policy vary, common characteristics include a target population of interest, the specified values produced from the political process, rules or regulations guiding behavior, and the general reason or rationale for the policy action (Mondou and Montpetit 2010; Pierce et al. 2014; Schneider and Ingram 1997; Schneider and Signey 2009; Smith and Larimer 2009). Furthermore, regulatory environments often involve the coordinated effort of actors from various institutional backgrounds that constantly evolve and adapt to shifting conditions in the political and legal environment. A major contribution to understanding adaptation of networks and governance regimes is work on learning among actors and stakeholders pursuing particular interests. Triple-loop learning argues that this occurs at three distinct stages. The first stage of learning occurs in the early phase of implementation and involves making minor procedural changes to existing protocol (Pahl-Wostl 2009). The second stage referred to as “double-loop” learning in a governance regime involves more substantive changes to underlying assumptions and values among actors. Such changes might evolve from legal challenges, amendments to agreements, or other more substantial changes to existing institutions and rules governing

behavior. Triple-loop learning involves a complete transformation and rethinking of the regime. According to Pahl-Wostl (2009, 359), “In single-loop learning actors question if they do things right. In double-loop learning they start to reflect if they do the right things.”

The following investigation explores how such shifts condition the intended impact of the IGRA through the lens of what we refer to as a “distal theory” of policy design. Multi-level governance regimes, such as that created by Congress in the regulation of Indian gaming, where authority to establish more detailed regulatory rules is largely decentralized to state and tribal actors lends itself to increased adaptation and change. While national policy may be designed to benefit a particular group, state regulatory environments may work against such intentions. In this instance, we have disagreement and conflict between national and sub-national interests within the same issue area that may have important implications for certain populations.

From a policy design perspective, there is an interesting dynamic that exists when comparing the original intentions of the IGRA to the content of state regulatory compacts that can work at cross-purposes. The purpose of the IGRA, according to Congress in 1988, is to promote the economic and social wellbeing of American Indians in the United States. Providing a framework for the adoption of gaming was largely seen as a way to provide the economic means to achieving Tribal self-determination.² State regulatory compacts, on the other hand, are designed to protect, and largely promote, the interests of the state. While state compacts are reviewed by the Secretary of the Interior and can be denied for violating key provisions of the IGRA, Light and Rand (2005) document several instances where states have not negotiated in

² It should be noted that the passage of the IGRA was also seen as further limiting the ability of Tribal governments to make decisions as sovereign nations by Congress in their exercise of plenary power in Native American affairs (Wilkins and Stark 2011).

“good-faith” as required in the original framework. The “good-faith” clause was included in the IGRA in order to protect Tribes against states that would seek to delay the adoption of gaming compacts in order to negotiate more favorable terms. This clause was struck down in the 1996 Supreme Court case *Seminole Tribe of Florida v. Florida*, which effectively “removed the teeth” of the IGRA that shielded Tribes from unfair negotiations. As a result, it is argued that states have gained considerable power in negotiating compact agreements that may depart from the original design and intention of the IGRA in promoting Tribal self-sufficiency by extracting greater revenues and/or restricting Indian gaming markets.

Furthermore, the compacting process opens the door for states to revisit and change the narrative adopted at the national level to one that better fits their own values and interests within the regulatory regime. Viewed through the lens of triple-loop learning, single-loop learning can be seen in the initial compact agreements adopted between states and Native nations in the early 1990s that were largely technical in nature and focused on implementation and oversight of gaming operations that closely mirrored the intentions of the IGRA. As early adopters later revisited original compacts and more states legalized Class III gaming, compacts became much more detailed and focused on extracting greater concessions from tribal governments in the way of expanding revenue sharing agreements and market restrictions. This is especially true following the *Seminole Tribe v. Florida* decision which Light and Rand (1995) identify as a turning point in emboldening states to more aggressively pursue state interests in the negotiating process that is reflective of second-loop learning. How this latter stage of learning has impacted the intended impacts of the IGRA is the focus of the present study. Also reflective of second-loop learning are decisions made by Native nations on how best to utilize revenue generated from Class III gaming facilities such as the adoption of revenue allocation plans. Triple-loop

learning has not yet occurred in the IGRA regulatory regime as the law has been surprisingly resilient to change at the national level.

In this investigation, we examine the impacts of different regulatory environments based on Tribal-state compact provisions. We examine how revenue sharing arrangements based on a percent of “net win” condition the impact of gaming for Class III nations. We also consider the conditioning effects of both facility restrictions outlined in state compacts and sub-national restrictions on the number of machines a tribe can operate. We argue that as the distance between national policy and sub-national interests grows, there will be negative effects on Native communities in the way of income levels and employment opportunities. The individual and combined effects of these regulatory restrictions and Tribal choices concerning the adoption of revenue allocation plans is the focus of our analysis and the contribution of this research to the broader literature.

Data and Methods

We use data provided by Akee and Taylor (2014) to test the impact of gaming and sub-national regulatory policy on reservation conditions in 2010. The Akee and Taylor dataset includes U.S. Census data on 373 federally recognized Tribes, off-reservation trust lands, and joint-use areas in the contiguous United States. This is the most comprehensive information available on reservation communities in Indian Country spanning three periods of time including 1990, 2000, and the 2006-2010 American Community Survey five-year estimate that we refer to as “2010” for purposes of simplification. The dataset includes information across a wide range of demographic and socioeconomic factors including population size, per capita income, poverty, unemployment, and educational attainment. Most of the measures are reported for All Races (AR) and Indians Only (IO). We consider both in the analysis.

Several cases in the Akee and Taylor (2014) dataset have substantial missing data and have been removed from the analysis. This includes 12 cases with missing data on almost all variables that have been dropped from further consideration. We have also omitted the Navajo Nation from further consideration in the analysis given the extreme conditions that exist within this community as noted in other studies (Conner and Taggart 2009). Thus, we retain a total of 360 cases for the present investigation. In a few instances, the Census defined Tribal jurisdiction did not match neatly with Tribal data from other sources such as the BIA's list of gaming compacts. We carefully documented each of these cases and the decision rule applied when matching compact data with that reported in the Census data.

Dependent Variables: Per Capital Income and Unemployment

To capture impacts on reservation conditions, we consider four measures related to income and unemployment based on the ACS 2006-2010 five-year estimate. Table 1 provides descriptive statistics for each of the measures of economic condition considered in the analysis. The first two measures are related to per capita income for both Indians Only (IO) and All Races (AR) reported in 2009 dollars. Per capita income is calculated by dividing the total aggregate income (2010 ACS 5-year estimate) by the sample population (2010 ACS 5-year estimate) within a jurisdiction. As reported in Table 1, Tribes have an average IO per capita income of approximately \$16,600 while the AR per capita income level is slightly higher (but still well below U.S. national averages) at roughly \$19,000 with substantial variation across cases as reflected by the standard deviation. Cases reported to have zero aggregate dollars in the Akee and Taylor (2014) data were treated as missing in the analysis.

[Table 1 about here]

The next two measures are related to the unemployment rate for both IO and AR within

Tribal jurisdictions as reported in the Akee and Taylor (2014) data. Unemployment rate is calculated by dividing the number of individuals who are unemployed (2010 ACS 5-year estimate) by the total number of individuals in the labor force (2010 ACS 5-year estimate). According to the descriptive statistics, the unemployment rate is considerably high for both IO and AR measures with approximately 18% unemployment in the case of the former and 15% in the case of the latter. This is considerably higher than U.S. national averages in 2010 with substantial variation across Tribes and statistically designated areas. It should be noted that there is a high number of missing values for both IO and AR measures of unemployment. Tribal jurisdictions reported to have “0” individuals in the labor force based on the 2010 ACS 5-year estimate are treated as missing in the analysis. Based on previous gaming studies (Conner and Taggart 2013; Taylor and Kalt 2005), we hypothesize that Class III gaming will have a positive impact on both per capita income and unemployment within Tribal jurisdictions. However, we expect these impacts to be conditioned by regulatory restrictions outlined in Tribal-state gaming compacts.

Independent Variables: Class III Gaming and Per Capita Payment Plans

A total of 240 Tribes have adopted Class III “Las Vegas style” gaming as of 2010 based on data provided by the National Indian Gaming Commission (NIGC), state websites, and the BIA list of gaming compacts. There are three classes of gaming per the Indian Gaming Regulatory Act (IGRA). This includes traditional games (Class I), low stakes games of chance such as bingo and pull-tabs (Class II), and high stakes games such as electronic slot machines and table games (Class III) that require state compacts subject to federal approval. To establish a baseline for comparison, we assess the impact of Class III gaming activities on reservation conditions in 2010. Tribes were coded “1” if they adopted “Las Vegas style” gaming as of

January 1, 2010. Tribes without Class III gaming are coded as “0.” Based on the literature, we expect Tribes with Class III gaming to have higher incomes and lower levels of unemployment in 2010 than Tribes without Class III gaming (Conner & Taggart 2013; Schaap, 2010).

We also consider the effect of per capita payment plans on changes in reservation conditions. A total of 114 nations with Class III gaming make per capita payments to Tribal members according to a report provided by the BIA as of 2009. A dichotomous variable was created to capture the impact of such plans with “pay” Tribes coded “1” and all other Tribes coded as “0.” A second dummy variable is included in the analysis representing Class III “no pay” Tribes with gaming nations without per capita payment plans coded “1” and all other Tribes coded “0.” Tribes without Class III gaming serve as the reference group. We expect Tribes with per capita payment plans to experience higher income levels and lower unemployment than Class III Tribes that do not make direct payments to Tribal members as observed in earlier gaming studies (Conner and Taggart 2013).

State Compact Variables: Revenue Sharing Restrictions

We also take into consideration certain features related to gaming revenue sharing that are included in the Tribal-state gaming compacts. Using the BIA collection of gaming compacts signed between Native nations and state governments, we created two dichotomous variables to represent the impact of revenue sharing provisions: (1) Class III gaming Tribes required to pay a percent of net win as of 2010; and (2) Class III gaming Tribes required to reimburse the state as of 2010. In the case of the latter, Tribes are simply required to reimburse the state to cover the basic costs associated with the regulation of gaming.³ The reference group in the analysis are

³ We also considered the percent of net win that a tribe with Class III gaming is expected to pay the state.

However, there are a number of percentage based arrangements between gaming Tribes and states that make it

Tribes without Class III gaming. As shown in Table 2, approximately 20% of Tribes have Class III gaming and are only required to reimburse the state for the cost of regulation. Another 46% of Tribes have Class III gaming and are required to pay a percent of their net win to the state. Revenue sharing based on a percentage of net win is expected to have a weaker relationship to gaming outcomes than are gaming nations with reimbursement based provisions.⁴ We expect the effects of reimbursement only provisions to be particularly strong among Tribes making per capita payments.

[Table 2 about here]

State Compact Variables: Facility and Machine Restrictions

Another set of compact provisions expected to condition the impact of Class III gaming concerns restrictions on both the number of facilities a tribe can open and the number of gaming devices on the casino floor. To capture facility restrictions, we coded all Class III Tribes restricted to a certain number of casinos as part of their gaming compact with the state (as of 2010) as “1” and all other cases as “0.” A second dummy variable is coded “1” if a Class III tribe is not restricted to a certain number of casinos (as of 2010) and “0” for all other cases. Tribes without Class III gaming operations serve as the reference group in the analysis. As shown in

challenging to create a standard measure. For instance, some states have a set percent of net win requirement while other compacts have a more progressive system in place wherein the percentage paid increases based on increases in profit, increases in the number of slot machines on the gaming floor, or simply based on the passage of time. We recognize the limitations of a dichotomous measure of state revenue sharing agreements and discuss the matter further in the conclusion.

⁴ Some Tribes with a compact may not have an active gaming operation or the NIGC list of gaming compacts does not reflect the most current agreement on record. We explored state gaming websites to attain the most current information available.

Table 2, approximately 34% of Tribes have Class III gaming operations that face facility restrictions. Another 32% of Tribes in Indian Country have Class III gaming and face no such restrictions. We expect gaming to have less of an effect for those communities that are limited to a certain number of facilities. We also expect these effects to differ depending on the presence of Tribal per capita payment plans.

The second set of primary independent variables in the analysis capture compact restrictions on the number of slot machines a tribe can operate. Class III gaming Tribes were coded “1” if the compact contained specific restrictions on the number of slot machines as of 2010 and “0” for all other cases. A second dichotomous variable is coded “1” if the tribe has Class III gaming and is not restricted to a certain number of machines within their facilities as of 2010 (all other cases are coded as “0”). Tribes without Class III gaming serve as the reference group once again in the models. Table 2 demonstrates that roughly 34% of Tribes have Class III gaming and machine restrictions, while 32% of Tribes have Class III gaming and no machine restrictions. Interestingly, while the percent of cases reported in Table 2 are similar between facility and machine restrictions, a closer inspection of the distribution of cases reveal 17 Tribes with machine restrictions and no restrictions on the number of facilities they can operate. There are 15 cases with facility restrictions, but no machine restriction. We expect that Class III Tribes without machine restrictions will experience higher per capita income levels and lower unemployment than Class III nations with such restrictions. We expect these effects to be particularly strong among Tribes making per capita payments.

Control Variables

We control for several additional factors that might influence reservation conditions independent of Indian gaming. First, we control for population size (logged) for both Indians

only (IO) and all races (AR), as appropriate to the dependent variable, in the model. Given the high degree of skewness, we log population for both IO and AR using the base-10 logarithm. We also control for the relative level of heterogeneity of residents living on Tribal lands based on the percent of non-Indian residents. Tribal lands with higher percentages of non-Indians are expected to have higher overall income levels and lower unemployment than more homogenous communities.

Based on the dramatic growth in gaming revenues across the nation, we also control for economic conditions in 1990 that serves as a pre-gaming reference point in the models. The inclusion of the 1990 condition based on the dependent variable under consideration allows us to isolate the impact of gaming adoption between 1990 and 2010. It also creates a more conservative estimate of the impact of gaming. However, similar to concerns raised by Akee and Taylor (2014), we stress caution in comparing the ACS 2006-2010 5-year estimate to 1990 and 2000 Census measures given the change in reporting procedures in the most recent decade.

Analysis

We explored several estimation strategies considering extreme values in the data that violate key assumptions of linear regression. In light of these concerns, we assess the impact of gaming and sub-national regulatory policy on reservation conditions in 2010 using robust standard errors. Robust standard errors are a common estimation strategy in the presence of heteroskedasticity.

The analysis proceeds in a series of several steps. First, we establish a baseline for comparison by modeling the impact of Class III gaming on reservation conditions in Indian Country. We also consider differences between Class III “pay” Tribes and Class III “no pay” Tribes. We then consider the conditioning effect of state revenue sharing provisions on both

income and unemployment. Next, we explore the effect of both facility and slot machine restrictions on economic conditions on Tribal land. For state revenue sharing, facility restrictions, and casino restrictions, we also consider interactive effects with Tribal per capita payment plans in the models.

Findings

Table 3 summarizes the impact of Class III gaming and state revenue sharing requirements on income levels in 2010. The first model focuses on income differences between Class III and non-Class III gaming Tribes controlling for population, percent non-Indian, and income in 1990. As hypothesized, Class III gaming Tribes have significantly higher per capita income levels than all other nations for the IO measure by approximately \$4,900. This difference is also in the expected direction for the All Races (AR) measure, but is significant at the more liberal .10 level. Class III “pay” Tribes also have significantly higher levels of per capita income for both IO and AR in 2010 compared to all other Tribes. In fact, income levels among per capita payment Tribes are higher than non-gaming Tribes by more than \$6,800 for IO and \$9,700 for AR controlling for population characteristics and the 1990 condition. Population size (logged) and the percent of non-Indians on Tribal land also has a significant impact on income levels.

[Table 3 about here]

Compact provisions reflecting sub-national regulatory environments also have a significant impact on income levels. As summarized in Table 3, persons living in Class III gaming nations that reimburse the state for the costs of regulation have significantly higher per capita incomes compared to those living in non-Class III gaming nations by \$5,240. Surprisingly, the coefficient for Class III nations that pay a percent of their net win to the state is just slightly smaller than Class III Tribes with less invasive regulatory agreements with a difference in

income of \$5,009 compared to non-Class III gaming nations. Both variables are significant at the .05 level. For the All Races measure, only Class III Tribes required to reimburse the state have significantly higher income at the more liberal .10 level, while there is no significant difference in per capita income when the tribe must pay a percentage of their net win to the state.

The final model summarized in Table 3 examines the interaction between per capita payment plans and revenue sharing. The greatest difference in income between Class III and non-Class III Tribes is when the gaming nation makes per capita payments to Tribal members and operates under a simple reimbursement policy with the state. According to Table 3, the coefficient for Class III “pay” and reimbursement only Tribes is larger than Class III “pay” and percent net win by more than \$3,000. The results suggest that Tribes making per capita payments under compact provisions not requiring a percentage of net win results in an optimal environment for improving income levels among Tribal members. All coefficients for the Class III “no pay” variables (both IO and AR) fail to achieve significance at the .05 level.

Table 4 summarizes the impact of facility and slot machine restrictions on reservation conditions in Indian Country. The results demonstrate that per capita income (IO) is higher among Class III gaming nations that do not have facility restrictions as part of their compact agreements compared to those that do. Furthermore, per capita income is significant for the All Races measure at a more liberal .10 level for Tribes without facility restrictions. A similar trend can be seen regarding machine restrictions where non-restricted Tribes have a significantly higher income (IO) than non-Class III gaming Tribes by \$5,862 compared to a significant difference of \$4,501 for Class III gaming Tribes that face machine restrictions. Both coefficients are significant at conventional levels, while only the coefficient for non-restricted Class III Tribes is significant at a more liberal .10 level for the AR measure of income.

[Table 4 about here]

The final set of models in Table 4 summarize the interactive effect of Tribal per capita payment plans and sub-national compact restrictions on income (IO and AR). As observed in the earlier analysis, Tribes with both per capita payment policies and less restrictive regulatory environments demonstrate the highest IO income levels relative to non-Class III gaming Tribes. Class III “pay” Tribes without facility restrictions have a significantly higher income (IO) by more than \$9,000 compared to non-Class III gaming Tribes. Class III “pay” Tribes without machine restrictions also have significantly higher income levels (IO) by more than \$10,000 controlling for population and other characteristics. This is compared to differences of \$5,278 and \$4,923 on IO income for Class III “pay” nations with facility and machine restrictions, respectively. No interactions for Class III “no pay” achieve significance at the .05 level, with several smaller differences significant at a more liberal .10 level. For per capita income (AR), only the coefficients for Class III “pay” nations without facility and machine restrictions achieves significance at conventional levels providing further evidence that this regulatory environment may produce ideal conditions for raising income levels. Population size (logged) and percent non-Indian are also significant in most of the models.

Tables 5 summarizes the effect of Class III gaming and revenue sharing requirements on unemployment in 2010 controlling for population characteristics and the 1990 condition. While in the expected direction, the Class III gaming variable, in aggregate form, is not significantly related to unemployment for Indians Only. The coefficient is in the opposite hypothesized direction and fails to achieve statistical significance when examining impacts on unemployment for All Races, with other characteristics such as population size (logged), percent non-Indian, and the 1990 condition significant in at least one of the two models. Differences between Class

III gaming Tribes become clearer when distinguishing between “pay” and “no pay” nations. As summarized in Table 5, Class III Tribes with payment plans have significantly lower unemployment rates (IO) than non-gaming nations controlling for population characteristics and the pre-gaming condition. The impact of per capita payment plans for Class III nations is not significant for the AR measure.⁵

[Table 5 about here]

The relationship between revenue sharing provisions and unemployment rates (IO and AR) is less clear. Contrary to our original hypothesis, Class III gaming nations with compacts requiring a percent of net win have significantly lower unemployment rates than non-gaming nations while Tribes required to only reimburse the state do not have significantly different levels of unemployment compared to non-gaming nations. A similar relationship exists when considering interactive effects of Class III “pay” nations required to share a percent of net win with this group demonstrating significantly lower unemployment rates by more than 5%. While more intrusive revenue sharing requirements limited gains on income levels in the previous models, this does not seem to be the case when considering unemployment for reasons that are not immediately clear.

Table 6 examines the impact of regulatory restrictions – limiting facilities and machines - on unemployment rates in 2010. Examining the results for facility restrictions, we see that none of the gaming variables achieve statistical significance for both IO and AR unemployment measures. Other indicators such as percent non-Indian and the 1990 condition prove to be better

⁵ As mentioned earlier, several cases are missing data on both IO and AR measures of unemployment. An admonishment of caution should be exercised when interpreting the results relative to the previous models given that there are almost 100 fewer cases in the models predicting unemployment.

predictors of unemployment on Tribal land. When considering machine restrictions, only the coefficient for Class III gaming without slot machines restrictions achieves significance in the hypothesized direction at a more liberal .10 threshold suggesting some caution when interpreting this result. Accounting for the presence of both per capita payment plans and regulatory restrictions appears to be the more pertinent distinction concerning the relationship between Class III gaming and unemployment. According to Table 6, Class III “pay” nations with no facility restrictions have significantly lower unemployment rates at the conventional .05 level than nations without Class III casinos. The same significant impact is observed when considering the impact of machine restrictions. Class III “pay” nations without machine restrictions have significantly lower unemployment rates by more than 5%. This relationship, however, is not significant for the All Races measure. Class III “pay” nations that do have restrictions on facilities and the number of slot machines on the casino floor have lower unemployment rates for IO, but this difference is significant at the more liberal .10 level. While in the expected direction for IO, none of the interactions with Class III “no pay” nations achieve statistical significance in the models. In sum, Tribal communities that have adopted Class III gaming operations with per capita payment distributions experience the greatest gains on income (IO) and unemployment (IO) when they operate within favorable regulatory environments.

[Table 6 about here]

Discussion and Conclusions

The IGRA passed in 1988 established the regulatory framework for Indian gaming in the United States with the intention of supporting economic development and self-determination within Native American communities (Conner and Taggart 2009; Taylor and Kalt 2005). However, sub-national regulatory environments can reflect a different set of interests and

expectations than national policy designs that may condition impacts on target populations. Our investigation provides a preliminary test of this expectation as it relates to the regulatory environment created by Tribal-state compact requirements. We introduce a distal theory of policy design arguing that intended impacts diminish as the distance between national and sub-national interests grow. While some states have designed regulatory gaming compacts with sovereign Tribal governments with relatively few restrictions on gaming activities, others have pursued more substantial regulation via revenue sharing agreements, restrictions on the number of casinos a tribe can open, and the number of slot machines on the casino floor. Anecdotal evidence and scholarly literature suggests that such restrictions limit the growth of gaming operations and diminish expected impacts under the IGRA (Light and Rand 2005). Our analysis provides empirical evidence that such concerns may be warranted as they relate to income and employment opportunities.

The results of our investigation shed much needed light on the conditioning effect of compact provisions requiring intergovernmental revenue sharing and restrictions on gambling activities. This effect was profound for gaming “pay” nations without revenue sharing agreements based on a percentage of net win that is the most invasive of revenue sharing arrangement between Tribes and states. This would suggest that Class III gaming nations with per capita payment plans and state compacts that only require regulatory cost reimbursement – a provision seen as less invasive compared to revenue sharing based on a percent of net win – are experiencing the greatest gains in per capita income compared to other nations. Interestingly, revenue sharing provisions do not have a consistent impact on unemployment rates; this finding warrants further investigation.

The most consistent finding in this empirical analysis concerns the impact of sub-national

regulatory restrictions on the number of facilities and machines on the casino floor. The results suggest that income gains attributable to gaming have been the most substantial among Class III gaming Tribes with no restrictions on the number of facilities they can operate. While Class III gaming Tribes with facility restrictions still demonstrated significantly higher incomes than non-gaming nations, this difference was smaller compared to unrestricted Class III nations. A similar difference is observed among Class III nations without slot machine restrictions in Indian Gaming Country. This provides some preliminary evidence that the intended outcomes enacted at the national level are being muted by sub-national regulatory environments that are more restrictive and, thus, distant.

When examining interactive effects between types of gaming Tribes and regulatory restrictions, the most favorable environment appears to be reserved for Class III “pay” Tribes that do not face restrictions on facilities or the number of slot machines on the casino floor. Such a regulatory environment reflects a condition where sub-national and national interests are more closely aligned and thus produce positive impacts for Native target populations as originally intended by the IGRA. This would suggest that Class III gaming Tribes (both with and without per capita payment plans) are experiencing diminished returns on gaming activities that is partially attributable to a more restrictive sub-national regulatory environment. Combined with revenue sharing provisions, this effect is less consistent when examining effects on unemployment rates where there is no significant difference between restricted and unrestricted Class III nations. However, some interesting observations can be made when considering the interactive effects between per capita payments and regulatory restrictions. We find that Class III “pay” nations without facility or machine restrictions demonstrate significantly lower unemployment rates than non-gaming nations. This finding provides some evidence that sub-

national restrictions on gambling activities may carry more weight than revenue sharing provisions in shaping employment conditions on Tribal lands.

While this research reveals several interesting consequences related to different sub-national regulatory environments, there are several limitations that warrant additional research. More specifically, this research uses a rather blunt measure of revenue sharing provisions. There are considerable differences across Tribal-state compacts regarding how revenue sharing agreements are designed. Some states use a set percentage of net win, while others use a progressive scale where the percentage increases as Tribes either expand the number of slot machines on the casino floor, or in proportion to increases in net revenue. We might expect that a more progressive scale would extract greater revenue from Tribes than either a flat percentage or reimbursement only arrangement. As is, our measure uses a simple dichotomous variable for percentage based net win that misses this variation. Along similar lines, the analysis is limited to examining the impacts of regulation on publicly available measures of socioeconomic condition as provided by the U.S. Census. A more direct assessment of how sub-national regulatory provisions condition the impact of gaming would be to examine actual casino revenues. However, this information is not publicly available given the sovereign status of Native nations.

Future research should also apply the distal theory of policy design to other regulatory environments and controlling for the length of time regulations have been put in place. Some state Indian gaming compact provisions have been in effect for only a few years as states frequently amend and adopt new agreements. Our analysis is based on whether a compact provision was active in 2010 but does not consider the number of years a Tribe has been under such revenue sharing arrangements or gaming operation restrictions. Along similar lines, future research would also benefit from expanding our understanding of why sub-national governments

adopt different provisions based on the political and economic makeup of the jurisdiction. Despite these limitations, this investigation offers an important understanding of how sub-national regulatory environments condition the expected impact of Indian gaming and how distal theory can help us to understand and estimate the gap between statutory intent and policy implementation.

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Figure 1. Theoretical Relationship between Expected Impacts on Target Populations and the Distance between National and Sub-National Interests

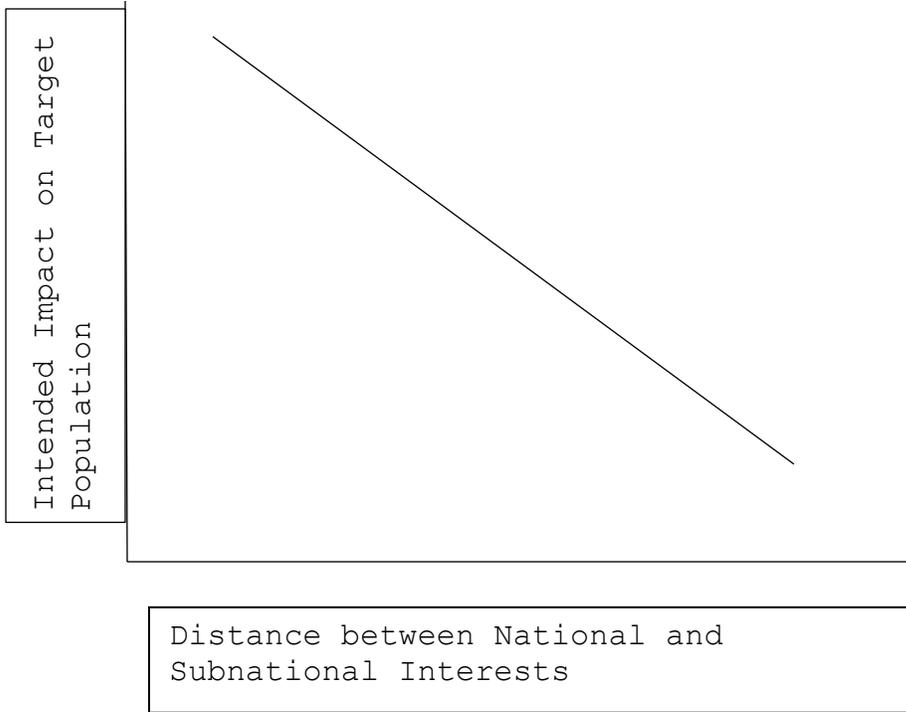


Figure 2. A Dynamic View of Distal Theory

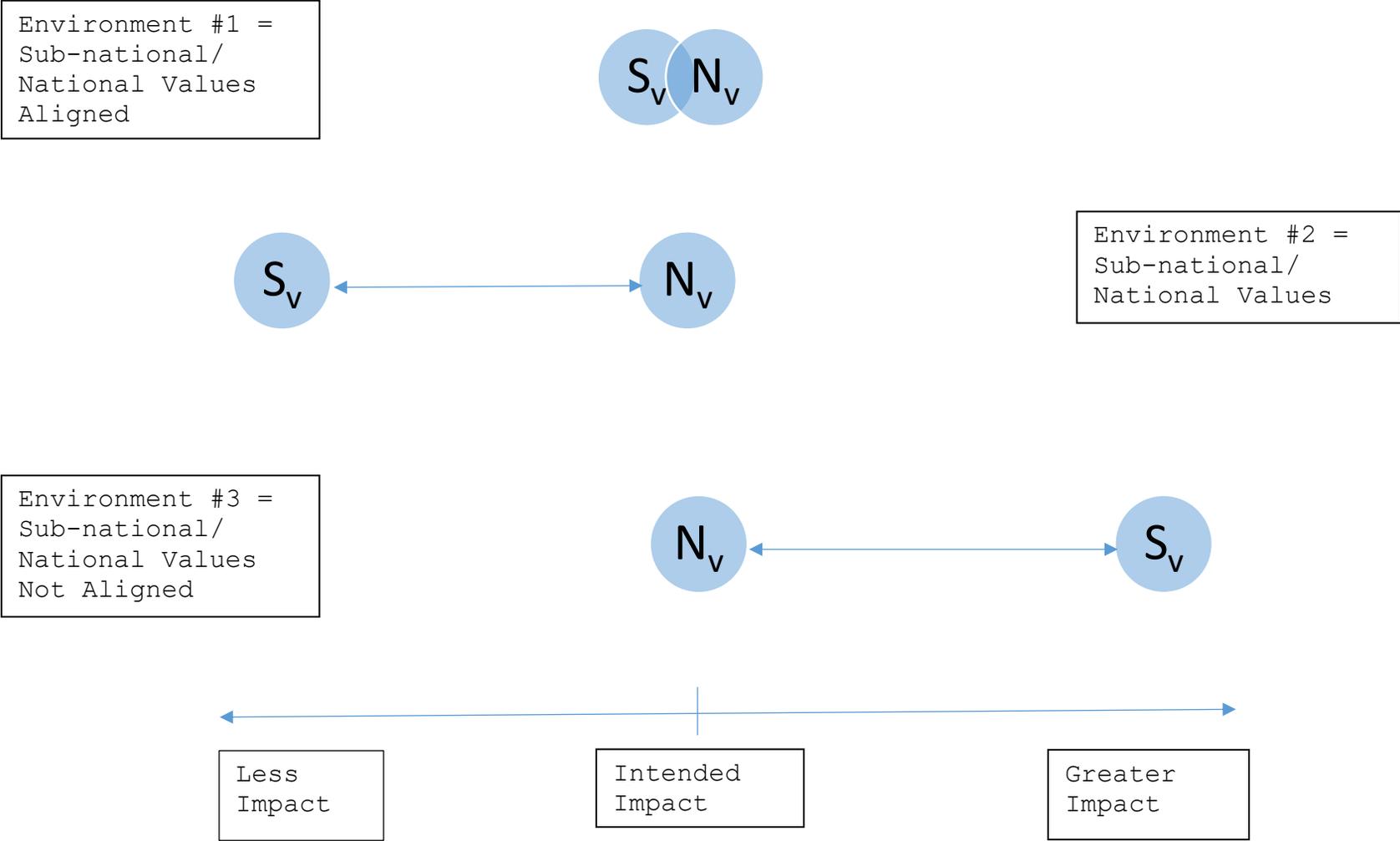


Table 1. Descriptive Statistics for Dependent Variables (using the 2006-2010 ACS Five-Year Average)

Income & Unemployment Variables (Source: Akee and Taylor 2014) ¹	Mean	Std.	Range
\$ Per Capita Income (IO)	16,617	16,135	466-190,143
\$ Per Capita Income (AR)	19,037	28,437	466-469,127
% Unemployment (IO)	17.82	9.51	0-63
% Unemployment (AR)	14.63	9.02	0-58

¹ “AR” means “All Races” and “IO” means “Indians Only”

Table 2. Descriptive Statistics for Independent and Control Variables

Independent and Control Variables	Mean	Std.	Range
<i>Class III Gaming Variables</i>			
Class III Gaming (as of 2010)	0.67	0.47	0 - 1
Class III – “Pay”	0.32	0.47	0 - 1
Class III – “No pay”	0.35	0.48	0 - 1
<i>State Compact Variables - Revenue Sharing Provisions</i>			
Class III - Reimbursement only	0.20	0.40	0 - 1
Class III – Percent of net win	0.46	0.50	0 - 1
<i>State Compact Variables - Facility and Machine Restrictions</i>			
Class III – Facility restrictions	0.34	0.47	0 - 1
Class III – No facility restrictions	0.32	0.47	0 - 1
Class III – Machine restrictions	0.34	0.48	0 - 1
Class III – No machine restrictions	0.32	0.47	0 - 1
<i>Control Variables (Source: Akee and Taylor 2014)¹</i>			
Logged population (IO)	2.67	0.75	0 – 4.95
Logged population (AR)	2.92	0.92	0 – 5.88
Percent non-Indian	38.74	28.68	0 - 100
1990 Reservation conditions ²			

¹ “AR” means “All Races” and “IO” means “Indians Only” as reported by the U.S. Census.

² This reflects 1990 values of the dependent variables reported in Table 1 and are included in each model to isolate income and employment conditions in the pre-gaming era. We do not report the values of each 1990 measure for each DV, but that information is available by request.

Table 3. Analysis of the Impact of Class III Gaming, Per Capita Payment Plans, and State Revenue Sharing Provisions on Per Capita Income (IO and AR) in 2010¹

	Class III “Las Vegas” Style Gaming	Per Capita Payment Plans	State Revenue Sharing	Interaction Terms – Revenue Sharing
Gaming				
Class III Gaming	4955.96** / 7172.19^			
Class III Pay		6826.60** / 9769.01*		
Class III No Pay		2889.40^ / 4245.01		
Class III Reimbursement Only			5239.68* / 6887.79^	
Class III Percent of Net Win			5008.51** / 7529.24	
Class III Pay*Reimbursement Only				9219.23* / 8141.54^
Class III Pay*Percent of Net Win				6066.79** / 10531.91
Class III No Pay*Reimbursement Only				2138.22 / 5136.85
Class III No Pay*Percent of Net Win				3421.88^ / 3958.23
Tribal –Specific Controls (Variables are IO or AR as appropriate based on DV)				
Population ²	-3665.77** / -1871.95	-3023.47* / -1286.08	-3764.41** / -1967.79	-2975.83* / -1478.31
Percent Non-Indian	19.58 / 95.65^	20.65 / 92.41^	18.84 / 95.15^	16.33 / 97.07*
1990 DV Value	0.84 / 0.81	0.83 / 0.76	0.84 / 0.80	0.83 / 0.75
Constant	13127.98^ / 1977.07	11636.48 / 1486.39	13348.54^ / 2296.40	11660.02 / 1932.62
# Cases	278 / 295	278 / 295	275 / 292	275 / 292

¹Values are unstandardized slope estimates using robust standard errors, with corresponding t significance, **p ≤ .01, *p ≤ .05, and ^p ≤ .10.

²We use Indian only population and all races based on the dependent variable of interest. Population has also been logged.

Table 4. Analysis of the Impact of Per Capita Payment Plans and Market Restrictions on Per Capita Income (IO and AR) in 2010¹

	Per Capita Payment Plans	Facility Restrictions	Machine Restrictions	Interaction Terms- Facilities	Interaction Terms - Machines
Gaming					
Class III Pay	6826.60** / 9769.01^				
Class III No Pay	2889.40^ / 4245.01				
Class III No Restrictions		5544.93* / 6137.07^	5862.40** / 6211.29^		
Class III Restrictions		4727.84** / 8058.50	4501.16* / 7990.02		
Class III Pay*No Restrictions				9125.84* / 8040.60*	10051.17** / 8943.38*
Class III Pay* Restrictions				5278.44* / 10911.54	4923.82* / 10213.90
Class III No Pay*No Restrictions				2807.19 / 4058.57	3143.60^ / 3930.70
Class III No Pay* Restrictions				3677.07^ / 4271.02	3638.35^ / 4660.58^
Tribal –Specific Controls (Variables are IO or AR as appropriate based on DV)					
Population ²	-3023.47* / -1286.08	-3851.77**/ -1790.75	-3864.34** / -1847.23	-3255.68** / -1214.02	-3466.03** / -1273.80
Percent Non-Indian	20.65 / 92.41^	16.35 / 100.46*	13.71 / 101.84*	17.54 / 94.85^	16.40 / 95.41^
1990 DV Value	0.83 / 0.76	0.84 / 0.79	0.84 / 0.80	0.85^ / 0.75	0.85^ / 0.76
Constant	11636.48 / 1486.39	13621.62^ / 1862.30	13721.08^ / 1939.66	12055.49 / 1460.93	12585.06^ / 1445.13
# Cases	278 / 295	276 / 293	276 / 293	276 / 293	276 / 293

¹Values are unstandardized slope estimates using robust standard errors, with corresponding t significance, **p ≤ .01, *p ≤ .05, and ^p ≤ .10.

²We use Indian only population and all races based on the dependent variable of interest. Population has also been logged.

Table 5. Analysis of the Impact of Class III Gaming, Per Capita Payment Plans, and State Revenue Sharing Provisions on Unemployment (IO and AR) in 2010¹

	Class III “Las Vegas” Style Gaming	Per Capita Payment Plans	State Revenue Sharing	Interaction Terms – Revenue Sharing
Gaming				
Class III Gaming	-3.39 / 0.89			
Class III Pay		-4.99* / 1.19		
Class III No Pay		-2.16 / 0.67		
Class III Reimbursement Only			-0.23 / 1.99	
Class III Percent of Net Win			-4.85* / 0.47	
Class III Pay*Reimbursement Only				-2.27 / 2.46
Class III Pay*Percent of Net Win				-5.83* / 0.98
Class III No Pay*Reimbursement Only				0.93 / 1.72
Class III No Pay*Percent of Net Win				-4.00^ / 0.04
Tribal –Specific Controls (Variables are IO or AR as appropriate based on DV)				
Population ²	-0.44 / -1.97*	-1.03 / -1.93*	-0.84 / -2.03*	-1.32 / -1.96*
Percent Non-Indian	-0.03 / -0.08**	-0.03 / -0.08*	-0.03 / -0.08**	-0.03 / -0.08**
1990 DV Value	0.39** / 0.32**	0.39** / 0.32**	0.36** / 0.29**	0.35** / 0.30**
Constant	15.54** / 19.69**	17.10** / 19.46**	17.13** / 20.19**	18.47** / 19.83**
# Cases	183 / 212	183 / 212	182 / 211	182 / 211

¹Values are unstandardized slope estimates using robust standard errors, with corresponding t significance, **p ≤ .01, *p ≤ .05, and ^p ≤ .10.

²We use Indian only population and all races based on the dependent variable of interest. Population has also been logged.

Table 6. Analysis of the Impact of Class III Gaming, Per Capita Payment Plans, and Market Restrictions on Unemployment (IO and AR) in 2010¹

	Per Capita Payment Plans	Facility Restrictions	Machine Restrictions	Interaction Terms- Facilities	Interaction Terms - Machines
Gaming					
Class III Pay	-4.99* / 1.19				
Class III No Pay	-2.16 / 0.67				
Class III No Restrictions		-3.43 / 0.33	-4.25^ / 0.01		
Class III Restrictions		-3.37 / 1.42	-2.59 / 1.73		
Class III Pay*No Restrictions				-4.88* / 0.68	-5.30* / 0.48
Class III Pay* Restrictions				-5.15^ / 1.52	-4.87^ / 1.55
Class III No Pay*No Restrictions				-2.39 / 0.15	-3.40 / -0.21
Class III No Pay* Restrictions				-1.84 / 1.31	-0.39 / 1.90
Tribal –Specific Controls (Variables are IO or AR as appropriate based on DV)					
Population ²	-1.03 / -1.93*	-0.43/ -1.82	-0.29 / -1.82*	-1.00 / -1.81*	-1.02 / -1.87*
Percent Non-Indian	-0.03 / -0.08*	-0.03 / -0.07*	-0.03 / -0.07*	-0.03 / -0.07**	-0.03 / -0.07*
1990 DV Value	0.39** / 0.32**	0.39** / 0.31**	0.38** / 0.30**	0.39** / 0.32**	0.37** / 0.30**
Constant	17.10** / 19.46**	15.51** / 19.30**	15.18** / 19.45**	17.05** / 19.17**	17.44** / 19.52**
# Cases	183 / 212	183 / 212	183 / 212	183 / 212	183 / 212

¹Values are unstandardized slope estimates using robust standard errors, with corresponding t significance, **p ≤ .01, *p ≤ .05, and ^p ≤ .10.

²We use Indian only population and all races based on the dependent variable of interest. Population has also been logged.