Close Enough for Comfort? The Spatial Structure of Interest and Information in Ballot Measure Elections

Frederick J. Boehmke
Associate Professor
University of Iowa
Department of Political Science
Iowa City, Iowa 52242
frederick-boehmke@uiowa.edu

Regina Branton
Assistant Professor
University of North Texas
Department of Political Science
Denton, TX
branton@unt.edu

Gavin Dillingham, Ph.D.
Manager, Energy and Sustainability
Houston Independent School District
gavindillingham@gmail.com

Richard Witmer
Associate Professor
Creighton University
Department of Political Science
Omaha, NE 68178
Witmer@Creighton.edu

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Abstract

This study considers the importance of spatial context in state ballot initiative elections. We argue that spatial context provides important information voters use to decide how to vote on initiatives with geographically-based policy implications. Herein, we analyze tract-level voting on three California Indian Gaming initiatives. The findings indicate that voters located near Indian nations without gaming were less likely to support expansion of gaming, whereas those with exposure to tribes with gaming were more likely to vote in favor of its expansion. Further, exposure to gaming conditions the relationship between exposure to tribes without gaming and voting on gaming initiatives. Theoretically, the results suggest that spatial location serves as a proxy for the information that voters rely on when voting on geographically linked ballot initiatives.

KEYWORDS: Spatial Context, Voting Behavior, Ballot Initiatives, Native American Politics, Indian Gaming,

Introduction[1]

The increasing popularity of direct democracy as a policy-making tool has heightened scholarly interest in voting behavior in ballot initiative elections (Bowler and Donovan 1998, 1994; Bowler, Donovan and Tolbert 1998; Branton 2003; Branton et al. 2007; Cronin 1989). One of the important concerns that has emerged in this literature is whether voters are informed enough to cast intelligent votes on potentially complex policy proposals. There is widespread evidence that voters are not replete with encyclopedic information about the content of specific ballot initiatives (e.g., Bowler and Donovan 1998, Lupia 1994a).

Yet all is not lost. Voters typically rely on a number of generally available cues to inform their voting decision. These cues include elite endorsements (Karp 1998; Lupia 1992, 1994a), economic indicators (Alvarez and Butterfield 2000; Bowler and Donovan 1998), potential economic benefits and costs (Gerber and Phillips 2003), racial/ethnic context (Hero 1998; Tolbert and Hero 1998), the cost of proposing an initiative (Lupia 1994b), and information about legislature's response to the electoral strength of a measure's proponents (Boehmke and Patty 2007).

Among these different sources of information, we wish to focus on the role of spatial context as it relates to voters' evaluation of specific measures. Previous studies have incorporated spatial context as a measure of how much an individual would benefit from the proposed policy (Bowler and Donovan 1994; Dyck and Hagley 2010; Gerber and Phillips 2003). When initiatives have geographically-based policy implications, particularly geographically dispersed costs and benefits, voters residing in areas that will receive greater benefits or bear lower costs are more likely to support the measure. Examples of policies with geographically-specific components include environmental proposals such as California's Proposition 128 in 1990, which would have funded environmental projects around the state; and economic proposals, such as New York's Transportation Bond Act of 2000, which would have issued state bonds to improve the transportation infrastructure primarily in New York City and surrounding suburbs.

While previous studies show that when distance influences the likely or perceived costs and benefits, vote choice responds in the expected way, we wish to add an additional process through which spatial context may influence vote choice. Specifically, we argue that voters' geographic location can also influence the information available to them regarding the possible costs and benefits. So in addition to serving as a proxy for economic perceptions of the measure's potential benefits, geographic location can also serve as a proxy for informational environments. This informational role for spatial location can occur when individuals in different locations have different experiences with the policy in questions.

In this study, we evaluate this argument by examining the expansion of Indian gaming in California. Because tribal gaming operations were restricted to reservation and trust lands, there is a clear geographic component to the costs and benefits to voters in surrounding areas. Further, given strong arguments on both sides that expanded gaming could impose net benefits or costs on local communities, there was reason to expect proximity to tribal lands may serve as a strong proxy for these considerations. Yet given the intensity of the debate and the uncertainty over whether Indian gaming would prove to be a net benefit for local communities, there remains a strong role for geographic-based information. Rich variation on this dimension is abundant in this case due to the history of Indian gaming in California: while Propositions 5 in 1998 and 1A in 2000 would have greatly expanded gaming across California's 107 Indian nations, numerous gaming operations were already in operation as of 1998. As such, voters' exposure to tribes and Indian gaming varied significantly, creating great variation both within and across contexts.

In order to understand whether spatial context influences voters' choices on ballot initiatives, we examine exposure to Indian nations and existing tribal gaming at the census-tract level. Generally speaking, the findings indicate that voters located near Indian nations without gaming were less supportive of expansion; whereas, those with exposure to existing tribal gaming were more supportive of expansion. Further, exposure to gaming conditions the relationship between exposure to tribes without gaming and voting on gaming initiatives. The results suggest that

spatial location relates to the availability of information that voters rely on when deciding support or oppose geographically based ballot initiatives.

The Role of Information and Environmental Context in Initiative Elections

Initiative elections differ substantially from candidate elections due primarily to a lack of traditional voting cues such as party identification, which provide convenient rules of thumb to reduce information costs to voters (Campbell et al. 1960, Jacobson 2004). Absent these cues in initiative elections, voters seek other sources of information to make informed voting decisions. While state governments provide pamphlets outlining the provisions of initiatives, the effort required to understand a voter guide is often prohibitive for most voters. Instead, voters often identify or receive advertisements from supporters (or opponents) of the initiative and base their vote on this cue. Lupia (1994a), for example, finds that voters with low levels of information on five California insurance reform propositions performed nearly as well as well-informed voters when they were aware of the insurance industry or a consumer group's positions on these measures. Other research suggests political elite and candidate endorsements also serve as a convenient cue (Bowler and Donovan 1998; Karp 1998; Alvarez and Butterfield 2000). More specifically, elite endorsements provide voters with enough information to vote in a manner that is consistent with their personal preferences (Banducci 1998; Donovan and Snipp 1994; Karp 1998).

Another variant of research suggests that ethnic context influences voting on immigration related ballot initiatives (Branton 2004; Hero 1998; Hero and Tolbert 1996). For example, county-level analysis of voting on English-only initiatives and California's 1994 illegal immigrant initiative suggest homogeneous counties and counties with a large Latino population exhibit more support for the initiatives than more heterogeneous counties (Hero 1998; Tolbert and Hero 1996).

Yet another vein of research explores the importance of socio-economic context in initiative elections. Bowler and Donovan (1994, 1998) find that declining state income growth and higher levels of unemployment depress support for economic ballot propositions. Alvarez and Butterfield

(2000) find that voters who believe the economy is performing poorly are more likely to support proposition 187, which aimed to limit government benefits for illegal immigrants in California.

Most relevant for our study, researchers have occasionally examined the importance of spatial context in initiative elections. Bowler and Donovan (1998) analyze two Oregon initiatives–one that would have banned upstream fishing and the other that would have banned downstream fishing–and find that counties located in the two regions exhibited greater levels of support for the proposal that would benefit them and lower levels for the one that would harm them. Gerber and Phillips (2003) examine vote choice on local development measures and argue while benefits, such as tax revenue and job creation, are evenly dispersed, the costs, such as construction and traffic, are disproportionately visited on those more proximate to the development. In-line with their argument, the results indicate voters residing farther away from a proposed project were more likely to support growth than voters more proximate. Branton et al. (2007) examine voting on nativist initiatives and find support increases as distance to the Mexican border increases. Finally, Dyck and Hagley (2010) study voting on California's 2006 Proposition 83, which extended residency requirements for sex offenders. Since the measure set forth specific buffer areas of 2000 feet around parks and schools in which sex offenders could not reside, passage of the measure had very different consequences for individuals living within or outside of those buffers.

These studies all use spatial location as a proxy for self-interest. Voters near to a specific geographic feature (e.g., a school, river, or development project) face different costs and benefits than more distant voters should a similarly geographically structured policy pass. That voters generally behave consistent with their self-interest on such measures provides further evidence that they appear to make reasonable decisions on ballot measures about which they are likely not fully informed. Further, these studies also show that such information exhibits a spatial component. To this we add that spatial proximity not only affects the likely costs and benefits of a measure to an individual, but that it can also affect the information that an incompletely informed voter has about the likely consequences. In this sense, we argue that spatial location can serve as a proxy for information in addition to its relationship with self-interest.

Research indicates that candidates for public office receive the highest level of support in their home region, a relationship referred to as the "friends and neighbors" effect (e.g. Key 1949). Further, Bowler et al. (1993) argue the level of information voters have about a candidate varies based on how proximal a voter resides from where a candidate resides, such that voters residing closer to a candidate's home region have higher levels of information than voters further removed. We argue that this logic can apply in initiative elections with geographically-based implications. This relationship between geography and information occurs when voters in some areas are differentially exposed to information relevant to the policy proposal. This could occur in a number of ways, for example through heterogeneity in the current policy environment that leads some voters to have experience with the proposed policy while leaving others with no experience. Alternatively, voters in some areas might have a different perspective on the problem that the policy seeks to address, whether based on proximity to the relevant industry (e.g., a nuclear power plant), natural resource (e.g., mines or rivers), or location of the problem (e.g., a waste plant or an international border). Voters so situated would have months or years of experience on which to draw when evaluating the potential consequences of adopting it.

This geographically heterogeneous information structure could influence vote choice in at least a couple of ways. First, it would allow voters to more accurately decide how to vote on the proposal by reducing uncertainty about its costs and benefits. In this context, more information could either increase or decrease the chance that a voter would support a measure. Second, greater information could also help reduce risk averse behavior on the part of voters, which is generally associated with a decrease in the chance that voters will support a measure (Bowler and Donovan 1998). In these circumstances, we would expect that not only would proximity to the locus of policy change influence vote choice, but that the effect of proximity would vary with exposure to relevant information about the consequences of the proposed change.

While not appropriate for all ballot measures, such spatial heterogeneity may be present for many measures.[2] One area in which it plays an obviously important role is in state gaming policy, both as it pertains to commercial casino gaming and casino-style Indian gaming (i.e., Class III

gaming). In many states, casino-style gaming requires specific approval for the location of gaming operations and any new casino ventures. In the context of Indian gaming, tribal nations and the states in which the nations are located, must reach an agreement over where to build a gaming establishment. Because the right to build these establishments flows from tribal sovereignty, their location is generally restricted to reservations and other trust land. Thus the location of the proposed casino is tied specifically to a geographic location, which creates consequences for communities located spatially proximate to Indian nations.

To study the effect of exposure to potential and existing gaming on vote choice, we focus on a series of California Indian gaming initiatives that appeared on the 1998 and 2000 ballots. These cases were selected for a number of reasons. First, California has 107 federally recognized tribes that could conceivably invest in gaming establishments. Second, a handful of tribes in California reached agreements for gaming in the early and mid-1990s. Third, despite these original agreements a large group of tribes wanted more expansive agreements, leading to a series of ballot measures to expand gaming. The first ballot measure, Proposition 5, featured the most expensive initiative campaign to date, with over $100 million spent by tribes and Nevada casino interests (Ellis 2002). Thus voters heard extensive arguments regarding the costs and benefits of casino-style gaming on reservations. Combined with the heterogeneity in geographic exposure to tribal nations with gaming as well as those that sought gaming, this creates an excellent opportunity to test for both the interest and informational effects of distance on vote choice.

Indian Gaming in California

Indian gaming in California began in 1980 when the Cabazon Band of Mission Indians opened a "card room." California's Indian gaming expanded in 1983 when the Cabazon and the Morongo Band of Mission Indians opened "high stakes" bingo halls. In response, the state of California argued that the Indian gaming operations were inconsistent with state regulations and attempted to enforce state regulations on the tribal gaming operations. The Cabazon and Morongo bands

sued the state of California claiming that they operated under tribal ordinances that were approved by the Bureau of Indian Affairs. The state of California counter-sued claiming that Public Law 280 provided the state with criminal jurisdiction over tribal governments. In 1987, the Supreme Court ruled in California v. Cabazon Band that tribal nations could run gaming operations without state regulation in states where gaming was legal (Getches et al. 2005).

In response to the Cabazon decision, Congress passed the Indian Gaming Regulatory Act (IGRA) in 1988, which set forth a framework to establish and regulate Indian gaming. Following the passage of IGRA, California's Governor and a small number of tribes signed compacts–referred to as the Pala compacts–allowing limited forms of gaming. However, a vast majority of California's Indian nations were unsatisfied with the limits placed on the tribes by the Pala compacts. In response, they proceeded to seek expanded gaming via the initiative process.

In November 1998, Proposition 5 passed with 62.4% of the vote, requiring the governor to approve gaming compacts that expanded tribal gaming beyond the Pala compact limits. However, the California Supreme Court ruled that the initiative was unconstitutional. In response, Governor Grey Davis negotiated new compacts with over 50 tribal nations, greatly expanding existing gaming operations. The legal standing of these compacts was contingent on the modification of the state's constitution. Advocates of expanded gaming were successful in changing the state's constitution with Proposition 1A, which passed with 64.5% of the vote in March 2000.[3]

The March 2000 ballot also included Proposition 29, a referendum on the ratification of the Pala compacts. Implementation of Proposition 29 would only occur if it passed and Proposition 1A failed. The majority of tribal nations—more than 90 of the 107—supported the more expansive Proposition 1A, yet many, perhaps most, opposed Proposition 29 (Boehmke and Witmer 2011; Henry 2000; Yannello 2000) since it put strict limits on the type and amount of gaming that tribes could offer. Tribal advocates of Proposition 1A argued that its failure, coupled with the passage of Proposition 29, would be damaging to tribal interests, would cost taxpayers lost revenue from tribal gaming facilities, and would undermine tribal self-sufficiency (Wallace 2000).[4] Although Proposition 29 passed with 53% of the vote, it was superseded by the passage of Proposition 1A.

From an informational standpoint, these propositions were not terribly complex. Voters were given the option to approve limited (Prop 29) or expanded (Props 5 and 1A) Indian gaming. Yet, this does not mean that the decision process was simple. Voters likely had to balance two different sentiments: their perception of the costs and benefits of gaming and their feelings towards Indian nations in California. The former allows them to draw on the perceived impact the introduction of gaming will have on their own community; whereas, the latter presented the electorate with an opportunity to support tribal sovereignty and economic self-sufficiency, issues that tribes featured heavily in the campaign. In the next section, we discuss how proximity to Indian nations may have shaped the relative weight given to those two sentiments.

The Consequences of Gaming and Proximity to Indian Nations

Although Indian gaming and the politics surrounding it have only recently begun to receive attention in political science (Corntassel and Witmer 2008; Witmer and Boehmke 2007), extant research offers insight regarding how voters might react to expanded Indian gaming operations. In general, Indian gaming is an example of a policy that is perceived to have narrowly focused benefits and more widely dispersed costs. Voters therefore must weigh the benefits to the tribe against the potential costs and benefits to the local community. We expect these considerations were salient to most voters since they were frequently primed by proponents and opponents during the campaigns. A coalition of tribes framed support for the propositions as support for tribal sovereignty and self-sufficiency; whereas, opponents played up the social consequences of gaming.

What are these costs and benefits of Indian gaming and how do they vary with proximity to tribes? In terms of the benefits, gaming offers potentially large revenues that have resulted in dramatic social and economic improvements for many of California's tribal nations. For instance, in 2007 the total revenue generated by Indian gaming in California was nearly $8 billion (Meister 2008). The revenues have been used to improve tribal governmental services such as police protection, healthcare, and education (Basham and White 2002; Cornell 2008; National Gambling

Impact Study Commission 1999). Further, tribes with gaming have witnessed improvements in poverty rates, unemployment rates, and health outcomes (Evans and Topeleski 2002; Gazel 1998; Taylor and Kalt 2005). In a comprehensive examination of the socioeconomic effects of California Indian gaming, Marks and Spilde Contreras (2007) find that for tribal nations with gaming the average income increased by 55% between 1990 and 2000 (the period in which gaming was introduced), while the average income for non-gaming tribes increased by only 15%. For many of California's tribal nations gaming has served as a vehicle for gaining economic self-sufficiency.

While economic benefits of gaming for tribal nations are evident, the consequences for the communities proximal to tribes with gaming tend to be perceived as primarily negative (see Anders 1998). However, the research regarding the impact of gaming for surrounding communities offers mixed results. Evans and Topoleski (2002) and Grinols and Mustard (2004) find communities proximal to tribal nations with gaming experienced increased rates of crime. Basham and White (2002) find no relationship between the introduction of Indian gaming and crime rates in surrounding communities. Yet, Taylor et al. (2000) and Baxandall and Sacerdote (2005) find crime rates declined in communities proximal to Indian gaming, especially in more rural areas.

There is more evidence that suggests Indian gaming can have positive implications for surrounding communities. Cornell (2008) notes the economic effects of Indian gaming on non-Native communities have been positive, especially in economically depressed areas. For example, Taylor et al. (2000) find the introduction of Indian gaming in rural areas is associated with decreased unemployment rates, increased incomes, and decreased social welfare expenditures in the surrounding non-tribal communities. Marks and Spilde Contreras' (2007) examination of Indian gaming in California finds that growth in median family income in areas proximal to gaming tribes was significantly larger than compared to areas further removed from gaming tribes. Further, Basham and White (2002) and Cornell (2008) note the revenues generated from gaming trickle down to the surrounding communities in the form of taxation and voluntary compensation. Tribal nations are not required to pay state income tax on gaming revenues; however, considerable revenues are generated through income taxes paid by non-Indian workers and Indians living off

reservation (Basham and White 2002; Cornell 2008). Additionally, many tribal casinos contribute payments in lieu of taxes to non-Indian governments to compensate for services such as fire and police protection (Basham and White 2002; Cornell 2008).

Although the effects of Indian gaming may vary across tribal nations, extant research demonstrates that Indian gaming offers economic benefits on and off of reservations. This body of work highlights the economic benefits for tribal nations and provides evidence there are also positive financial effects in areas proximal to tribes with gaming. Furthermore, the existing research offers limited evidence of negative implications for areas proximal to Indian gaming.

As such, the electorate likely faced a difficult decision when voting on these Indian gaming initiatives. There are clear benefits to tribal members, but perceived costs and benefits for local communities are less evident. In addition, the relative weight that voters place on the costs and benefits will vary with their sympathies for the status of Indian nations and the perceived local costs and benefits of Indian gaming. How might these weights vary with geographic location and exposure to Indian nations and Indian gaming?

First, we propose that in areas proximal to tribal nations without gaming there may be an instinctual "not in my back yard" (NIMBY) resistance (Kraft and Clary 1991; Mazmanian and Morell 1990) to the Indian gaming initiatives based on the perceived costs to their local communities. Voters may be swayed by claims of Indian gaming opponents that gaming will have a negative impact on communities proximal to Indian reservations. Such claims were emphasized by the opposition to these propositions, as evidenced by the argument against Proposition 5 in the official Voter Guide, which stressed possible environmental, infrastructure, and criminal costs that would result from expanded gaming.[5] Therefore, we argue proximity to non-gaming tribal nations leads to decreased support for Indian gaming ballot initiatives.

Second, we argue that voters in areas proximal to tribes with gaming likely have specific experiences that produce different information about the consequences of gaming and therefore a different reaction to its expansion. In areas proximal to tribal nations with gaming, the electorate is more likely to recognize the benefits for tribes with gaming. Further, the electorate is more

likely to recognize the economic benefits and the limited costs for their community as a result of Indian gaming. Thus, we expect that due to information gained through personal experiences, voters in areas proximal to tribal nations with gaming are more supportive of Indian gaming initiatives than voters in areas further removed from Indians nations with gaming.

Third, we argue that the relationship between exposure to non-gaming Indian nations and support for Indian gaming initiatives is conditioned on the electorate's exposure to information generated by experience with tribal nations that already have gaming. Explicitly stated, we expect that the hypothesized negative effect of proximity to non-gaming tribes on support for Indian gaming initiatives will decrease (i.e., become less negative and potentially even positive) among voters who are also proximal to tribes with gaming. In areas near tribe(s) without gaming, but not near to tribes with existing gaming, the electorate likely has little knowledge of the benefits of gaming and more knowledge of the proposed costs of gaming; therefore, the electorate is likely to oppose the initiatives. However, we argue that in areas proximal to both tribes with and without gaming, voters will be more aware of the benefits and limited costs of gaming for their local community, thus more likely to support Indian gaming initiatives. In areas with more exposure to gaming, the electorate will be more aware of the benefits for their own community; therefore, more likely to support gaming opportunities for non-gaming tribes. As such, our expectation is that exposure to gaming may mitigate the effects of proximity to non-gaming tribes.

Finally, we would like to readdress the uniqueness of Proposition 29. As noted, this referendum would only take effect if it passed and Proposition 1A failed. Further, passage of Proposition 29 would have limited tribal gaming only to the terms set forth by the Pala compacts, which was effectively the status quo ante Proposition 5. Not surprisingly, Proposition 29 was opposed by a large coalition of tribal nations. In the text of their argument in the Voter Guide against it, supporters of Proposition 1A argued that Proposition 29 was unnecessary given the better compacts outlined by Proposition 1A and that its passage would cost the state millions in revenue and economic activity.[6] Thus Propositions 1A and 29 were set in opposition to each other. This context changes our prediction regarding exposure and voting for Proposition 29 somewhat. If voters

proximate to gaming tribes were more aware of the widespread tribal opposition to Proposition 29, then increasing exposure to gaming could lead to a decrease in support for it, as opposed to an increase in support for Proposition 1A. Further, passage of Proposition 29 and the failure of Proposition 1A would eliminate many of the benefits of tribal gaming that voters near to these establishments may have perceived. Thus, we do not expect that increased exposure to gaming will lead to increased support for Proposition 29 or that gaming exposure will moderate exposure to non-gaming tribes. In fact, if voters understand tribal positions and wish to avoid losing the benefits of gaming, increased exposure may decrease support for Proposition 29.

Measures of Proximity to Tribes and Tribal Gaming

In order to determine if proximity to Indian nations is associated with electoral outcomes on Indian gaming initiatives, we utilize GIS (Geographic Information Systems) to account for the spatial location of federally recognized Indian nations vis-à-vis every census tract in California.[7] Figure 1 graphically illustrates the spatial location of every tribal nation and every census tract in California. The map on the left in Figure 1 denotes the location of each tribal nation, while the map on the right denotes the boundaries of each census tract. To construct our measures of proximity, we identified the longitudinal and latitudinal center of each census tract and the longitudinal and latitudinal center of each Indian nation. Next, we calculated the distance (in miles) from the center of each census tract to the center of each Indian nation. This information is then used to construct our measures of exposure to gaming and non-gaming tribes.

Figure 1 Here

There are a number of ways to measure tract-level exposure to Indian nations with and without gaming. A good measure should account for the proximity of tribes and place greater weight on tribes that are nearby without ignoring tribes that are not quite as near, but still relatively close. As such, our measure of *Gaming Exposure* for each tract, *i*, in year *t* is constructed by summing the exponential of $-d$ multiplied by the distance, x, to each gaming tribe, j:[8]

$$GamingExposure_{it} = \sum_{j=1}^{n} \exp(-d \times x_{ij})$$

where $d = .05$.[9] This nonlinear measure is constructed in this manner to place greater weight on those tribes that are proximate, while placing effectively no weight on far off tribes. *Non-Gaming Exposure* is constructed in the same manner but measures exposure to tribes without a gaming compact. The values of these two variables change from 1998 to 2000 with the passage of Proposition 5. Despite the fact that it was ultimately ruled unconstitutional between the 1998 and 2000 elections, tribes had begun to act after its initial approval ratified over fifty compacts, so we measure exposure accounting for the real-world consequences of Proposition 5.[10]

Figure 2 Here

To illustrate how the gaming and non-gaming exposure measures account for proximity to tribal nations, we offer a graphical illustration for exposure to gaming in Figure 2. The line in this graph represents the contribution of a gaming tribe at each distance of the exposure measure. The final value of the gaming exposure measure is based on the sum of the contributions of the distances from a tract to each tribe. This illustrates how tribes with a gaming compact that are proximal to a given tract contribute heavily to the exposure measure, while tribes spatially removed from a tract do not contribute to the exposure measure. In sum, as the distance from a tract to a tribe increases the contribution to the overall measure decreases.

Proximity to Gaming and Non-Gaming Tribes and Voter Choices

In this section, we utilize our measures of exposure to study the effect of proximity to gaming and non-gaming tribes on tract-level voting behavior on Indian gaming initiatives. Our expectation is areas proximal to non-gaming tribes will exhibit less support for Indian gaming initiatives, while areas proximal to tribes with gaming will be more supportive of these measures. Further, we propose that exposure to gaming may mitigate the effects of proximity to non-gaming tribes.

To account for this proposed moderating relationship, the model includes an interaction between Gaming Exposure and Non-gaming Exposure (*Exposure Interaction*). We conduct regression analysis relating exposure to gaming and non-gaming tribes as well as their interaction to each proposition's level of support.[11] In the absence of sufficient individual-level data that contains detailed geographic identification, we use the tract-level vote for each Proposition.[12]

In addition to our exposure variables, we also include controls to account for other relevant factors that may influence support for Indian gaming initiatives. These include a number of economic, demographic, and political variables. To measure economic incentives of gaming for voters we include median income and expect that poorer areas will be more supportive of the possible additional revenues generated by gaming. To measure possible costs, we also include per capita crime rates, which, due to data limitations, is measured at the county level. We also include basic tract-level demographics as measured by median age, percent urban, the percent college educated, the percent Native American, and the percent Anglo. To measure political ideology, we also include the Republican Presidential Vote, using the fractions of the vote for Dole in 1996 for Proposition 5 and the vote for Bush in 2000 for Propositions 1A and 29.

Table 1 Here

The results are presented in Table 1. First, note that our control variables generally perform as expected and do so consistently across all three propositions in terms of sign, if not always in terms of magnitude. Second, as expected, the coefficients for our exposure measures are quite similar for Propositions 5 and 1A but different for Proposition 29. The explained variance also reflects this difference with the R^2 values dropping from .62 and .59 for the former two to 0.15 for the latter. Given the different positions tribes took regarding Proposition 29 and the almost nonexistent campaign for it, these differences are not surprising. As hypothesized for Propositions 5 and 1A, tracts with greater levels of exposure to tribes without gaming exhibit lower levels of support; those with greater exposure to tribes with gaming exhibit greater levels of support; finally, the effect of the former depends on the latter, with a significant and positive coefficient on the interaction term. Of course, in addition to supporting our third hypothesis, the presence

of this interaction means that the overall effects of each of these two variables depends on the value of the other. Thus, the assessment of the effect of exposure on vote share must account for the combined effects (Kam and Franzese 2007), so we generated the predicted marginal effects of non-gaming and gaming exposure. We report these results graphically in Figure 3.

Figure 3 Here

The top row in Figure 3 shows the marginal effect and 95% confidence interval for exposure to non-gaming tribes given exposure to gaming tribes while the bottom row shows the marginal effect of exposure to gaming tribes. Two patterns appear in this figure. First, differences emerge between Propositions 5 and 1A compared to 29, so we focus first on the former two measures. The effect of non-gaming exposure starts out negative and then increases, eventually becoming positive. As expected, exposure to non-gaming tribes leads to greater opposition to expanded gaming in the absence of exposure to gaming tribes, but this opposition softens as the exposure to gaming tribes increases, eventually becoming positive. The gray dashed line describes the distribution of the modifying variable with a kernel density plot and indicates that while the vast majority of tracts had values of gaming exposure near zero in 1998, the distribution shifted upward by 2000 due to additional gaming compacts that resulted from the passage of Proposition 5. This distribution also shows that some tracts have such heavy exposure to gaming that increases in non-gaming exposure engender a significant increase in support for gaming. The two plots below show a positive and significant effect of exposure to gaming tribes for all levels of exposure for non-gaming tribes. This provides strong support for our second hypothesis that exposure to gaming tribes provides information that helps voters evaluate the likely consequences of expanded gaming and that information leads to increased support for its expansion.

As expected, Proposition 29 produces distinct results. The insignificant interaction and relatively flat line in both of the rightmost graphs indicate no conditional relationship between one form of exposure and the other. This suggests either that voters did not use information about the consequences of gaming or that the circumstances of the campaign resulted in that information being used differently. Since exposure to gaming produces the expected relationship

for Proposition 1A on the same ballot, our hunch is the results for 29 indicate the latter. Further supporting this hunch, exposure to gaming tribes leads to a decrease in support for this one ballot measure, as opposed to the positive effect for the other two proposals. Voters in tracts nearby to gaming tribes voted against Proposition 29, consistent with the message of opposition to it from the majority of gaming tribes (Henry 2000), and also consistent with the possibility of losing possible perceived benefits from gaming should Proposition 29 pass and Proposition 1A fail.

To demonstrate the substantive magnitude of the effect and its conditional nature, we also offer estimates of the expected support for each proposition and changes in support resulting from changes in the number and location of tribes with and without gaming. We start by predicting the expected vote share for each Proposition with gaming and non-gaming exposure at three pairs of values: gaming at its 90th percentile and non-gaming at its 10th percentile; the reverse of these two values; and both values at their medians. Since the effect of one depends on the value of the other, these will all produce different marginal effects and changes in the expected tract-level vote. We hold the other variables at their mean values. We then calculate three counterfactuals by adding one gaming tribe at five miles, adding one non-gaming tribe at five miles, and finally by switching one non-gaming tribe at five miles to a gaming tribe. To show the effect of distance, we then repeat the calculations for an Indian nation at 25 miles. For each of these, we report the change in the expected tract vote for each proposition along with its associated standard error.

Table 2 Here

We report the results of these calculations in Table 2 and begin by discussing the results for Proposition 5. First, comparing predicted values across the expected vote row shows that as gaming exposure decreases and non-gaming exposure increases, the predicted vote share drops from 68% to 61%. Thus the overall positive effect of gaming exposure exceeds the negative effect of non-gaming exposure. From this baseline, we can also see that adding one tribe with gaming five miles from a tract increases vote share by 4.4 percentage points but only by 1.6 percentage points when the tribe is 25 miles away. While a 4.4 percentage point increase from one tribe acquiring gaming may seem large, keep in mind that across the more than 7000 tracts

in California, only 184 have at least one tribe within five miles; nearly 2000 have at least one tribe within 25 miles. This effect increases across the row as exposure to gaming tribes goes down and exposure to non-gaming tribes goes up, reaching as much as 6.5 percentage points.

An opposite effect occurs in the scenario in which we add one tribe without gaming: the effect starts out negative, small, and insignificant and becomes more negative and significant, about a 1 percentage point drop in support when the additional tribe is within five miles, as the overall exposure to gaming decreases, consistent with the marginal effects reported in Figure 3. Combined, this is consistent with our conditional hypothesis as the effect of adding a non-gaming tribe is negative in areas with little exposure to gaming, but increases to near zero in a similar area with greater exposure to gaming. When combined in our third scenario, which switches a non-gaming tribe to gaming, the larger effect of gaming dominates, particularly in areas with little gaming exposure. When gaming exposure is small, switching a tribe has a slightly larger effect than adding one gaming tribe, but when it is large, switching a tribe has a slightly smaller effect than adding one gaming tribe.

A similar pattern emerges in the results for Proposition 1A, though the estimated first differences for adding one gaming tribe or switching one tribe from non-gaming to gaming are about half the size. For example, adding one gaming tribe at five miles increases vote share for Proposition 1A by 2.5 percentage points when most tribes have gaming and 4 percentage points when most tribes do not have gaming. These effects exceed standard levels of statistical significance while those for adding a non-gaming tribe do not. As we expected, the results for Proposition 29 look quite different: adding one gaming tribe always significantly decreases its support while adding one non-gaming tribe increases support. Overall, the former effect dominates, as switching one tribe at five miles also decreases support by about 2 percentage points and switching one at 25 miles does so by less than 1 percentage points.

In general, what do the results for this set of Indian gaming initiatives mean substantively? First, in areas with minimal exposure to gaming tribes, voters with heightened exposure to non-gaming tribes are less likely to vote in favor of Propositions 5 and 1A. This finding is consistent

with a preference against nearby gaming operations. Second, as exposure to gaming tribes increases, support for Indian gaming increases and the negative effect of exposure to non-gaming tribes fades away. This finding suggests that familiarity with gaming in general may reduce voters' concerns about its possible consequences for their community. Further, this heightened exposure to gaming may provide information on the positive benefits of gaming not only to the tribes, but also the surrounding communities. Third, the conditioning effect of exposure to gaming becomes even larger as exposure to non-gaming tribes increases, suggesting that voters may wish to see benefits for the proximal non-gaming tribes and/or their own community accruing more broadly.

Conclusion

Our findings suggest that spatial proximity can be an influential factor in geographically based ballot initiative elections. Voter's decisions on three Indian gaming propositions in California are found to be influenced by exposure to both gaming and non-gaming tribes. Overall, our results suggest that voters with little exposure to gaming are less likely to vote for expansion of Indian gaming, but as exposure to gaming tribes increases, support for expanded gaming increases.

Our results are noteworthy for the literature on voter decision-making on ballot initiatives since they confirm and extend our understanding of how geography influences vote choice. In addition to serving as a proxy for self-interest as previous studies have found (e.g., Gerber and Phillips 2003), geographic location also appears to structure the information environment in a way that shapes the way voters cast their ballots. So while voters are generally thought to be poorly informed about the content of many initiatives, our results confirm that they respond in a systematic way to information that is relevant for their decision, whether provided by elite endorsements, economic circumstances, or spatial heterogeneity. While we cannot say whether the use of this information increased voters' ability to reach the "correct" (i.e., fully informed) decision, it is clear that their decisions varied with respect to the magnitude of the potential consequences of gaming for their communities and proximal tribal nations.

Notes

[1]Data and supporting materials necessary to reproduce the numerical results are available at: http://myweb.uiowa.edu/fboehmke/Data/bbdw2012jop.zip An online appendix with supplementary material related to this article is available at www.cambridge.org/cjo/indiangaming.

[2]We are not suggesting that all policy areas are appropriate, only that there are a large number of potential issues. As such, we believe this approach can be utilized extensively to measure local concern for policy changes.

[3]This initiative amended California's Constitution to authorize the Governor and tribes to negotiate compacts, subject to ratification by the legislature, for the operation of slot machines, lottery games, and banking card games on tribal lands.

[4]See http://primary2000.sos.ca.gov/VoterGuide/ for details.

[5]For the text of the argument, see http://vote98.sos.ca.gov/VoterGuide/Propositions/5noarg.htm.

[6]For the full argument, see http://primary2000.sos.ca.gov/VoterGuide/Propositions/29.htm

[7]The census tract is similar to a city block as it is limited to an area with set boundaries, yet it allows for a large enough population that voters cannot be identified. Census tracts also include larger rural areas.

[8]Alternative measures considered include the distances to the nearest gaming and non-gaming tribes and the number of tribes within radii of 50 or 100 miles. While these variables have different interpretations, running the analyses with these alternate measures generally leads to similar conclusions. We chose our exposure measure over these since it better reflects distance to all gaming or non-gaming tribes while imposing fewer assumptions on how close a tribe has to be to influence voter behavior.

[9]Testing reveals broadly similar results are obtained for other values of d. The entire set of values of d considered is: 0.05, 0.1, 0.25, 0.5, 0.75, 1, and 2. We found that values larger than 1 lead to increasing amounts of skewness in the measures and produced a greater number of outliers for tracts with tribes very nearby.

[10]Our results are substantively the same if we retain the same values in 2000 as in 1998. Those for Proposition 29 do become less pronounced, but given its quirks this does not affect our overall conclusions.

[11]All models are estimated in Stata 11 using OLS, with standard errors clustered on FIPS. We also weight each tract by its total population from the 2000 Census report. Each tract contained an average of 4805 residents in 2000 and California had about 7000 census tracts at the time. Since tracts are relatively similar in size, this does not affect the results very much.

[12]Using data from a series of 1998 California Field Poll, we replicated the models using individual-level data. The findings from this auxiliary analysis are consistent with the tract-level results presented herein. These results are included in the on-line appendix.

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Table 1: OLS Estimates of Tract-Level Vote Share for Indian Gaming Propositions

	Proposition 5	Proposition 1A	Proposition 29
Gaming Exposure	$5.60**$ (0.55)	$2.59**$ (0.38)	$-1.55**$ (0.25)
Non-Gaming Exposure	$-1.16**$ (0.16)	$-2.30**$ (0.81)	0.04 (0.52)
Exposure Interaction	$1.06**$ (0.13)	$1.50**$ (0.42)	0.34 (0.24)
Republican Presidential Vote	$-0.31**$ (0.01)	$-0.20**$ (0.01)	0.00 (0.01)
Percent Urban	$0.03**$ (0.01)	0.01 (0.01)	$0.02**$ (0.00)
Median Age	$0.12**$ (0.02)	-0.02 (0.02)	$-0.12**$ (0.02)
Percent College	$0.02**$ (0.01)	$-0.06**$ (0.01)	$-0.03**$ (0.01)
Income	$-0.05**$ (0.01)	$-0.08**$ (0.01)	$-0.03**$ (0.01)
Percent White	$-0.09**$ (0.01)	$-0.08**$ (0.01)	$-0.03**$ (0.00)
Percent Native American	-0.05 (0.14)	-0.09 (0.14)	$-0.30**$ (0.10)
Per Capita County Crime Rate	$-0.53**$ (0.04)	$-0.36**$ (0.06)	$-0.33**$ (0.05)
constant	$80.86**$ (1.02)	$87.45**$ (1.27)	$64.04**$ (0.89)
Observations	6903	6971	6948
R^2	0.62	0.59	0.15

Notes. Robust standard errors in brackets (clustered on FIPS code). $**p < .01$; $*p < .05$.

Table 2: Effect of Changes in Exposure on Vote Share for Indian Gaming Propositions

		Gaming at 90th; Non-Gaming at 10th			**Gaming at 50th; Non-Gaming at 50th**			**Gaming at 10th; Non-Gaming at 90th**		
		+1G	+1NG	Switch	+1G	+1NG	Switch	+1G	+1NG	Switch
Prop. 5	E[Vote]	68.45	68.45	68.45	63.91	63.91	63.91	60.85	60.85	60.85
	Δ 5m	4.42	-0.19	3.97	4.61	-0.82	4.79	6.47	-0.89	6.72
		(0.52)	(0.15)	(0.74)	(0.5)	(0.14)	(0.66)	(0.38)	(0.15)	(0.52)
	Δ 25m	1.62	-0.07	1.60	1.69	-0.30	1.90	2.38	-0.33	2.61
		(0.16)	(0.05)	(0.21)	(0.15)	(0.04)	(0.18)	(0.11)	(0.04)	(0.15)
Prop. 1A	E[Vote]	69.73	69.73	69.73	66.88	66.88	66.88	64.20	64.20	64.20
	Δ 5m	2.49	-0.43	1.55	2.61	-1.93	3.16	4.04	-2.16	4.82
		(0.36)	(0.43)	(0.8)	(0.36)	(0.69)	(0.74)	(0.5)	(0.75)	(0.94)
	Δ 25m	0.75	-0.13	0.76	0.79	-0.58	1.24	1.22	-0.65	1.74
		(0.11)	(0.13)	(0.22)	(0.11)	(0.21)	(0.25)	(0.15)	(0.23)	(0.34)
Prop. 29	E[Vote]	53.16	53.16	53.16	54.73	54.73	54.73	55.03	55.03	55.03
	Δ 5m	-1.45	0.44	-2.19	-1.42	0.10	-1.84	-1.11	0.05	-1.47
		(0.23)	(0.27)	(0.43)	(0.23)	(0.45)	(0.46)	(0.32)	(0.49)	(0.61)
	Δ 25m	-0.44	0.13	-0.60	-0.43	0.03	-0.49	-0.33	0.02	-0.38
		(0.07)	(0.08)	(0.13)	(0.07)	(0.14)	(0.16)	(0.1)	(0.15)	(0.22)

Notes. First differences generated using Clarify for Stata. Column groups indicate values at which the gaming and non-gaming variables were set, then the effect of adding one tribe with gaming (+1G), adding one tribe without gaming (+1NG), and switching an existing non-gaming tribe to gaming (Switch). First differences are repeated for hypothetical tribes at 5 and 25 miles. The values presented are the percentage of the vote and standard errors are reported in parentheses. All other variables set at their mean values in the estimation sample.

Figure 1: Maps of Tribal Nations and Census Tracts

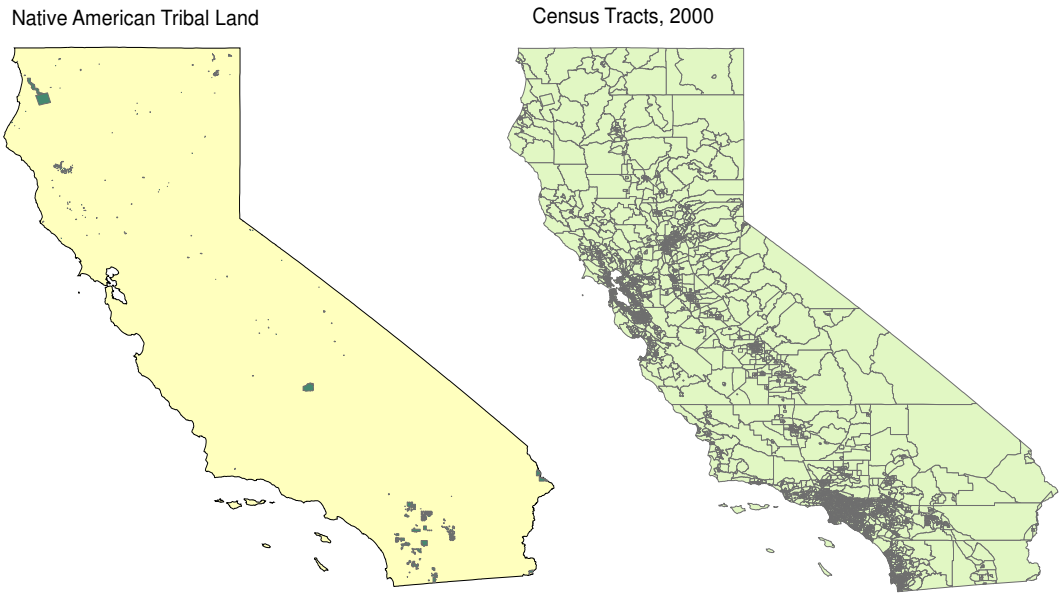
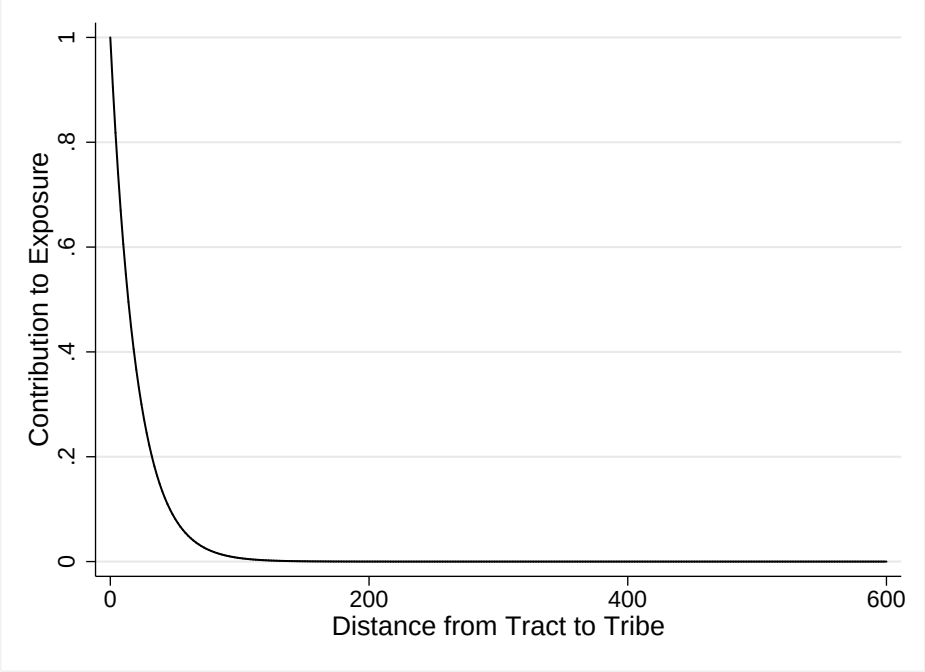
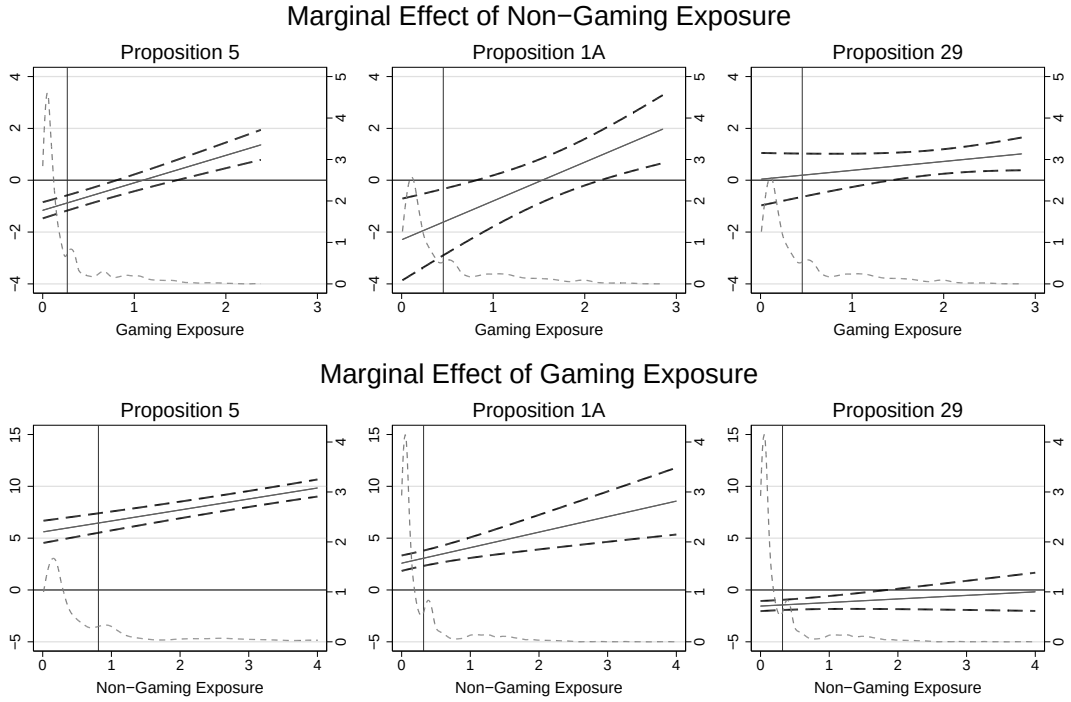


Figure 2: Contribution of Indian Nations to Tract-Level Exposure



Notes. The line represents the contribution of a tribe at each distance of the exposure variable. The final value sums the contributes of the distances from all tribes from a tract. See the text for formula converting the distance measure to the exposure measures.

Figure 3: Marginal Effect of Gaming and Non-Gaming Exposure on Support for Indian Gaming Initiatives



Notes. Plots represent the marginal effect of one variable on the vote share for each proposition for observed values of the modifying variable. Dashed lines represent a 95% confidence interval. The shorter dashed lines represent a kernel density plot of the distribution of the observed, in-sample values of the modifying variable; its scale is represented on the right vertical axis. The mean of the modifying variable is given by the vertical line.

Appendix: Replication using Individual-Level Data

1. To address potential concern regarding possible ecological fallacy problems, this appendix offers a "replication" of our results utilizing individual-level survey data. California Field Poll data are available for one of the measures that we study in our paper, Proposition 5, while there is no data available for Proposition 1A or 29. That said, Proposition 5 was the first and most important of the three measures.

The analysis presented below utilizes Fiield Poll #98-07, which was in the field from October 22 to November 1, 1998. A total of 1219 respondents were asked the following two questions to determine their vote intentions on Proposition 5.

> Q32B. From what you have seen or heard, are you inclined to vote yes or no on proposition 5?

Those that were not sure or were unaware were given an additional prompt:

> Q33. (As you know) proposition 5 specifies terms and conditions of a mandatory compact between state and Indian tribes for gambling on tribal land. It allows slot machines and banked card games at tribal casinos. Fiscal impact: uncertain impact on state and local revenues, depending on the growth in gambling on indian lands in California. If the election were being held today, would you vote yes or no on proposition 5?

We use the results that combine these two sets of responses (the second question nets an addition 112 respondents) since we are interested in vote preference on this question. A full 94% of eligible respondents were aware of Proposition 5 beforehand. This gives us a total of 942 respondents who reported a preference of "Yes" or "No".

We took two approaches to measure exposure to Indian gaming. Because the Field Poll included a respondent's county, we were only able to merge information at the county-level. Our first measure takes the county-wide average of our exposure measure for each tract in the county. This uses the same measurement strategy outlined in the paper, but averages it to obtain our best guess as the value for a randomly selected individual from a given county. The second measure uses a simple count of the number of gaming and non-gaming tribes per county. The latter measure has the advantage of not being an average, but it suffers from a lack of richness and does not account for gaming in other counties. Further, since the Field Poll seeks representativeness by sampling from all of California's 58 counties, these data include respondents from all 58 counties, giving us a good deal of variation in both measures (though this drops a bit to 52 counties once we lose observations due to missing independent variables).

We estimated a logit equation with a battery of relevant control variables as listed in Table 1. There were insufficient responses (about 400 total) to the question about economic performance to include it in the analysis. We used the "Born Again" again variable to tap into religious preferences, which should be important on a gaming measure. We lose 275 respondents due to

Table 1: Logit Model of Individual Vote Choice on Proposition 5

	Average Exposure		Count of Tribes	
Gaming Exposure	-1.368	(0.699)		
Non-gaming Exposure	-0.217	(0.141)		
Exposure Interaction	$0.975**$	(0.226)		
Gaming Tribes			-0.310	(0.181)
Non-gaming Tribes			0.016	(0.025)
Gaming×Non-gaming			$0.045**$	(0.012)
Income	-0.104	(0.076)	-0.102	(0.077)
Education	-0.009	(0.068)	-0.010	(0.068)
Male	-0.095	(0.173)	-0.101	(0.172)
Born Again	0.268	(0.169)	0.274	(0.166)
Age	0.010	(0.007)	0.010	(0.007)
Conservative PID	$-0.504**$	(0.134)	$-0.514**$	(0.132)
Liberal PID	$0.459*$	(0.215)	$0.504*$	(0.208)
Hispanic	0.705	(0.366)	0.714	(0.372)
Black	$1.140**$	(0.432)	$1.144*$	(0.445)
Asian	$0.496*$	(0.219)	$0.537*$	(0.217)
Other Race	$1.438*$	(0.675)	$1.395*$	(0.689)
constant	0.121	(0.399)	-0.081	(0.405)

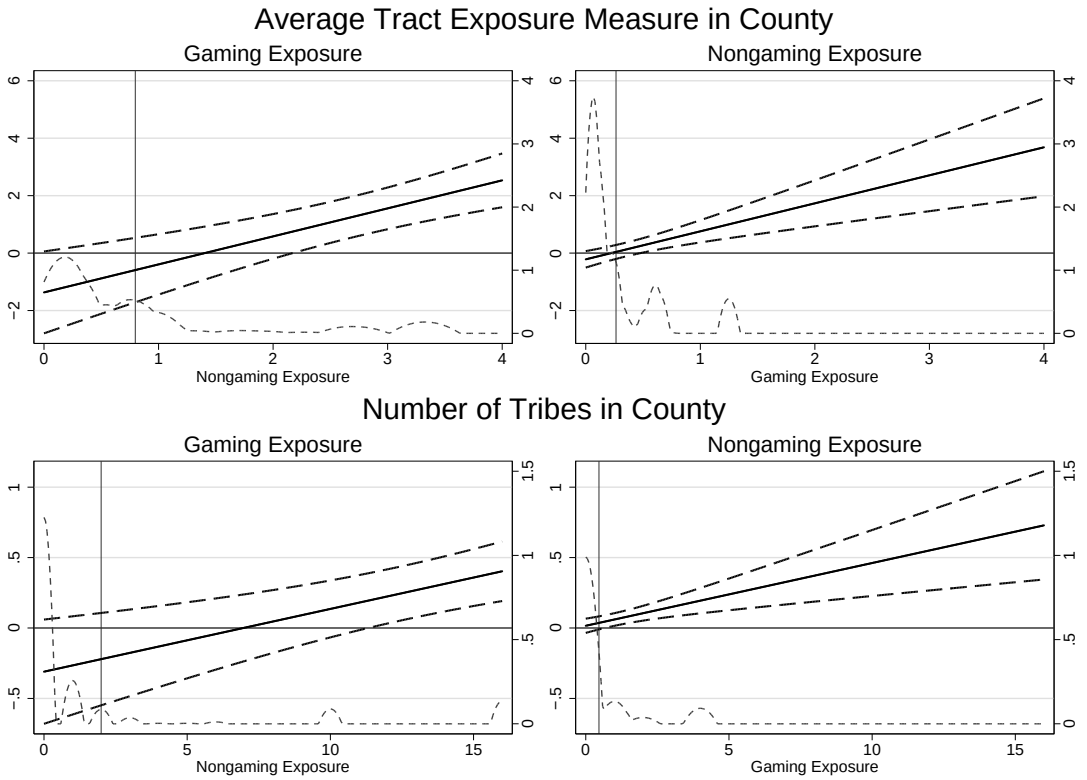
Notes. N=667. Source: Field Poll #98-07, October 22-November 1, 1998. Robust standard errors in brackets (clustered on county). $*p < 0.05$; $**p < 0.01$.

nonresponse for the independent variables, but the results are robust to various combinations of those presented here.

The results show the clear interaction effect and Figure 1 shows the relevant marginal effects. Overall, these are consistent with our hypotheses and the results using the tract-level data. Most importantly, the effect of non-gaming exposure starts out negative or near zero and then increases and becomes positive with the number of gaming tribes or gaming exposure. The marginal effect of gaming exposure shows a similar trend, but starts out a little more negative (also in comparison to the tract-level models, in which it starts out positive). The effect eventually becomes positive and significant as non-gaming exposure nears it maximum.

Overall, given the limitations in the data and the ability to measure our key independent variable, these results as lend support for our aggregate analysis. Both models require rough approximations to develop a measure of exposure to gaming which we are able to measure much more precisely as the tract level. Together, the results presented in the paper and in this appendix are suggestive of the causal relationship we hypothesize. That said, we recognize neither the aggregate nor individual-level data allow us to *directly* observe the causal mechanism–spatial context as a proxy for information–we propose in our work.

Figure 1: Marginal Effects of Gaming and Non-gaming Exposure from Field Poll Analysis



Notes. Plots represent marginal effects of each variable of interest against values of the modifying variable for the two models reported in Table 1. Dashed lines represent 95% confidence interval. short dashed line represents kernel density estimate of the distribution of the modifying variable, with values plotted against the right axis.