

Are Out-of-State Players the Target Market? A Geospatial Analysis of the Gambling Export Strategy in the United States

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Abstract

Anecdotal evidence suggests that gambling venues are often placed in locations to attract players from outside the jurisdiction, as part of a gambling export strategy. This strategy may be appealing, as it can simultaneously increase local economic impacts while decreasing the proportional share of social costs to the host jurisdiction. This study examines the relative use of the gambling export strategy in the United States by developing a geospatial model of potential U.S. consumer demand to understand whether casinos are systematically located to attract out-of-state players. Based on 1,481 gambling venues found in the country, our naïve model indicates that 31.7% of potential demand in the United States is closer to an out-of-state casino than an in-state casino. Our discount model that accounts for distance indicates that this translates to 20.7% of potential demand in the United States. The results show significant difference at the state level, with out-of-state potential demand estimates ranging from 0% to 71.2%. These findings suggest that there may be further development in the U.S. gambling market as jurisdictions seek to recapture their own residents who are gambling out-of-state.

Keywords

casino demand; gaming; gambling; tourism; geospatial model

Casino location decisions are often controversial. Stakeholders during site approval processes may have differing views on the value of a development, which often include a diverse mix of costs and benefits. Detractors may cite social concerns, including increases in crime, environmental impacts, and problem gambling, while supporters may cite benefits to economic welfare through jobs, tax revenue, and additions to tourism infrastructure (Eadington, 1996, 1998; Wu & Chen, 2015).

As a function of the mixture of costs and benefits, scholars propose that jurisdictions expanding casino gambling will have a preference for site locations that can target trans-border consumers (Assaf et al., 2013; Calcagno et al., 2010; Haucap et al., 2022). The reason for this is twofold: (1) An export-oriented strategy can increase the potential economic output from the venue, particularly for venues in low-income communities, and (2) an export strategy may reduce negative social impacts, as many gamblers incurring harm would not reside in the host jurisdiction. In effect, what we refer to as the “gambling export strategy” is a form of regulatory arbitrage, whereby residents from a target jurisdiction can be serviced without a license to operate in that jurisdiction. In his seminal treatise on the economics of

casino gambling, Eadington (1999, p. 186) articulates several examples of gambling export markets dating back to the mid-19th century:

Historically, casinos have often been introduced to capture economic benefits from “exportin,” casino gaming to customers from regions where the activity is prohibited. Jurisdictions that legalized casinos were often resource poor, or under economic duress. One or both of these factors apply to Monaco (1863), Nevada (1931), Macao (in the early 20th century), the Caribbean (1960s), and Atlantic City (1976), and help explain why many of the newly authorized American jurisdictions were keen on having casinos. East St. Louis, Illinois, Gary, Indiana, Tunica County, Mississippi, Shreveport, Louisiana, New Orleans, and Detroit have experienced varying degrees of economic distress in recent years. It was believed that casinos—as long as they could bring about injections of spending from

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outside the area—would create jobs, stimulate local investment, and enhance local government revenues.

This study assesses whether there is a systematic placement of gambling venues in areas targeting transborder gamblers or whether those locations are idiosyncratic cases that do not reflect the typical development of retail gambling. Since the jurisdiction hosting the venue has limited obligations to the well-being of nonresidents, pervasive use of the gambling export strategy is likely to lead to an overprovision of gambling availability to the targeted jurisdiction and an under-provision of support services. It additionally may lead to an eventual oversupply of gambling venues, as targeted communities seek to recapture their residents' demand.

In this study, the gambling export strategy is assessed through a spatial modeling of the entire U.S. market at the zip code level. The share of potential demand accruing to each gambling property in the United States is estimated based on site proximity to local populations. The share of potential demand that is likely to be derived from out-of-state residents is also estimated. Those figures are then aggregated at the state level to assess policy differences across the country, in terms of targeting in-state or out-of-state patrons.

Related Literature

Empirical evidence suggests that residents' willingness to support tourism developments is well described by social exchange theory (Gursoy et al., 2019). As a result, site selection processes for gambling venues seem likely to be influenced by local perceptions of the relative costs and benefits that may accrue from the projects. In this context, social exchange theory posits that stakeholders reaching a consensus will tend to do so through an agreement that creates value for all parties (Cropanzano & Mitchell, 2005), subject to their relative power to influence the outcome (Musinguzi, 2019; Nunkoo, 2016).

Studies validating social exchange theory's application to casino developments were conducted with residents from South Korea (Lee & Back, 2003; Lee et al., 2010, 2003), Singapore (Tan et al., 2017), Macau (Wan, 2012), and the United States (Chhabra, 2008; Lee et al., 2010; Perdue et al., 1999; Stitt et al., 2005). They generally find that the most important factor in predicting perceived benefits of casinos was a perception of positive economic outcomes from the development. Research by Humphreys (2010) on media coverage of casino projects concludes that consumers are more likely to be positively influenced by perceptions of entertainment, excitement, and wealth associated with the development.

In addition to the specific mix of costs and benefits, the distance of residents from the venue is also likely to

mediate relative valence of impacts (Chhabra, 2012; Jurowski & Gursoy, 2004). It therefore seems plausible that as venues become more distant from in-jurisdiction population centers, support will increase for two reasons. First, the remaining residents near the venue will be more likely to directly benefit from the economic activity (e.g., local jobs) (Wenz, 2014). Second, residents farther away will be more neutral to the development.

Management preferences may not be consistent with other stakeholders in all circumstances. If firms are attempting to maximize their total addressable market, they would prefer high population density locations (Ishizaka et al., 2013; Johnson & Bowen, 1994; Pérez et al., 2022) that are distant from other gambling venues (Barrow et al., 2016; Walker & Nesbit, 2014). They therefore may be agnostic to in-state or out-of-state demand, as long as there is a large population center nearby. However, in pursuit of an approved site, they may seek to align themselves with the needs of other stakeholders, particularly government policymakers (Mottice, 2018).

Other stakeholder interests are less well studied, but available evidence suggests that public health advocates may prefer locations away from population centers. Risks of problematic gambling appear to be related to gambling frequency (LaPlante & Shaffer, 2007; Potenza et al., 2019), and gambling frequency was demonstrated to be related to access convenience (O'Gilvie, 2022; Papineau et al., 2020; Philander, 2019; Philander et al., 2022; St-Pierre et al., 2014). Also, higher risks to socioeconomically disadvantaged populations tend to occur in urban areas, which may further motivate local public health stakeholders to encourage remote locations (Conway, 2015; Pérez et al., 2022).

Today, the United States is relatively well-developed casino market, with electronic gaming machine and/or card-based gambling in 42 out of 50 states (American Gaming Association, 2022). Each state tends to have an idiosyncratic regulatory structure defining the venue features, which are categorized by the American Gaming Association (2022) as commercial casinos/racetrack-casinos, tribal casinos, card rooms, and electronic gaming devices in noncasino locations. Together, these components constitute the U.S. retail gaming market.

The structure of the Indian Gaming Regulatory Act is relevant to understanding tribal casino locations (for a full review of the Act and its impacts, see Akee et al., 2015). The Act requires tribal governments to negotiate compacts with state government regarding several terms, often including conditions on allowable games, revenue sharing, and commercial competition (Akee et al., 2015). These compacts vary meaningfully from state to state. The most relevant impact of the Act is the requirement that venues must generally be located on tribal trust land, although there is a process for tribal governments to receive approval for subsequently acquired land (Akee et al., 2015), which has

enabled some tribes to locate casinos outside of tribal trust areas.

The regulated U.S. gambling market also includes lotteries, racetracks without electronic gaming devices, sports betting, and online gaming. Each vary in design and availability by state. Compared to other markets, the impact of nonretail gaming on retail gaming in the United States is likely to be relatively minor. Kearney (2005) examined the relationship between state lottery spending and other forms of gambling using micro-level household data and found that lottery spending tends not to be related to retail gaming. Instead, it is more related to general household consumption. The distribution of lotteries across the country is also relatively uniform, with only three states in the contiguous United States without a state lottery. This suggests that comparative impacts across states are likely to be null in most cases.

Online and sports betting is relatively underdeveloped in the United States. Single-event sports betting was effectively restricted to Nevada prior to 2018 (Roberts & Gemignani, 2019) and only three states had online casino games prior to 2020 (American Gaming Association, 2022). Although 22 new states legalized mobile sports betting since 2018 (American Gaming Association, 2022), due to the relatively recent emergence of these markets, most casino development in the United States predates the expansion of sports betting and online gaming.

This study does not propose specific hypotheses as it is a descriptive study of the entire market. However, based on the general alignment of stakeholder interests toward the gambling export strategy when there are population centers in nearby jurisdictions, a meaningful share of demand for U.S. gambling venues is expected to be out-of-state residents, despite adoption of gambling in most U.S. states.

Methodology

Data

A list of every U.S. gambling venue was obtained from the World Casino Directory (Morrison, 2019). The directory of venues includes listings for commercial casinos, tribal casinos, card rooms, and licensed slot parlors. Each venue in the directory and its address was queried into the Here.com REST API (Guide—HERE Geocoding & Search API, n.d.) to cross-validate the entry in their dataset of registered businesses and retrieve the geolocation coordinates of the property (Weber & Péclat, 2017). Venues that did not return a listing were manually reviewed for accuracy using Google Search. The list was then cross-referenced against the American Gaming Association (2022) list of states with casinos or cardrooms and if any jurisdictions were missing, the states were manually reviewed for venues, inputted into the casino list, and then re-queried into the Here.com REST

API. In total, 1,480 venues were included in the database. The complete list is provided in the Supplementary Materials.

Household population and income data by zip code tabulation area were obtained from the U.S. Census Bureau, 2016–2020 American Community Survey 5-Year Estimates (U.S. Census Bureau, 2022). Values for Puerto Rico and the U.S. Virgin Islands were removed. There were 33,579 zip codes in the final data set, including 836 with no residents. The mean adult population size of inhabited zip codes was 7,333. Geographic shapefiles of zip code tabulation areas were obtained from data.gov (General Services Administration, 2021). Nonpublic datasets and code to replicate the results are provided in the study Supplementary Materials.

Data Analysis

The Euclidian distance in miles was computed from every zip code tabulation area (zip code) centroid to every gambling venue, using the geosphere package in R (Hijmans, 2011). We use Euclidian distance due to computational constraints in retrieving travel distances or commute times at a national level. For example, the Google Maps Geocoding API provides credit for 5,000 queries of travel commute times each month and with 33,579 populated zip codes and 1,476 gaming venues, it would take 1,032 years or \$2.48 million paying per query, to estimate the complete set of possible pairs. Since commute times and Euclidian distance were found to have a correlation of 0.981 in Philander et al. (2022), we expect relatively little impact on our findings from this method.

Relative gross income available from each zip code is estimated as the sum of all household income in the zip code (U.S. Census Bureau, 2022). This aggregate value reflects the product of income per capita—a proxy for discretionary spending ability—and population size—a proxy for the addressable market of consumers. The total value therefore serves as a relative index of *potential demand* available in each region. Zip codes with higher relative household income should have higher relative potential demand.

Potential demand from each zip code is allocated to the nearest gambling venue as a mechanism for determining which venue is most likely to capture that potential demand. Therefore, potential demand for a given venue is defined as the sum of potential demand from zip codes where it is the nearest venue based on its Euclidian distance.

Formally,

$$PD_i = \sum_{k=1}^n PD_k \forall_k \in \min_{i \in m} \left(\arccos \left(\sin \varnothing_i \sin \varnothing_k + \cos \varnothing_i \cos \varnothing_k \cos (\Delta \lambda_{i-k}) \right) \right)$$

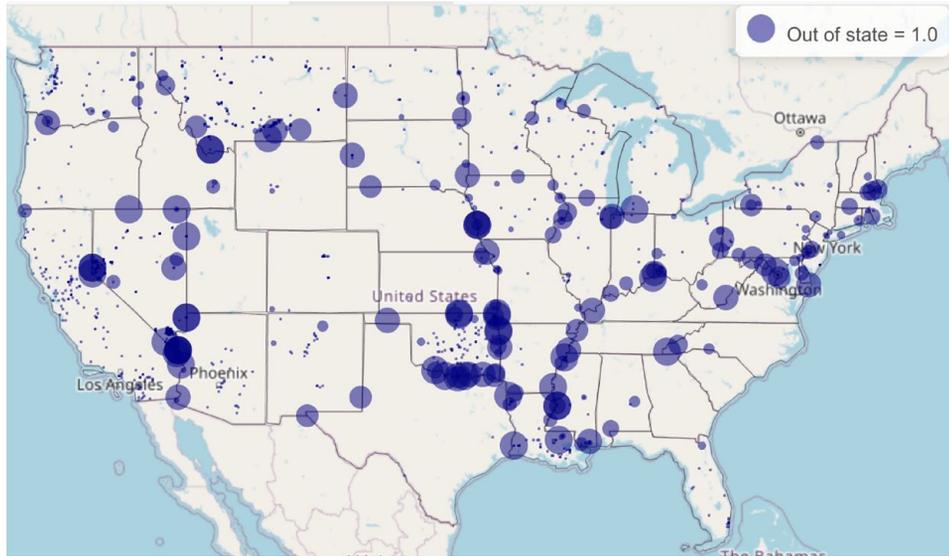


Figure 1.
U.S. Gambling Venue Locations.

Note. Circle plots denote each location with radius size based on the share of out-of-state potential demand (model 2). Clusters of venues with large out-of-state potential demand appear along the New York Tri-state area, the Mississippi River, the Texas border, and the Nevada/California border.

Where, PD_i is the potential demand for venue i , PD_k is the potential demand from zip code k , m is the set of all venues, n is the set of all zip codes, \varnothing is a latitude coordinate, and λ is a longitude coordinate. Since venues are identified by their geolocation coordinates and not their zip code, there are no ties for the shortest distance to a venue from any given zip code centroid.

Two different methods are used to allocate potential demand on a relative basis:

1. A naïve model, which does not adjust potential demand from each zip code as a function of distance and is intended to represent the total available U.S. consumer demand;
2. A discount model, which reduces potential demand based on distance from the zip code to the gambling venue and is intended to represent a reduction in potential demand for far away venues. Discounting potential demand based on proximity and allocating potential demand based on the nearest property is consistent with modeling techniques used in actual casino site selection processes (e.g., Barrow & Borges, 2014; Cummings et al., 2017; Davis, 2006; Morley et al., 2014).

Potential demand is discounted using estimates produced from the data and visit frequency model in Philander et al. (2022). The visit frequency model estimates the frequency

of venue visitation as a function of a resident’s travel time from the nearest gambling property. The model is adapted to produce an index value of potential demand, based on the projected number of venue visits as a function of distance. The original study by Philander et al. (2022) was estimated using travel time as the access variable. This study re-estimates that model but substitutes distance instead travel time (see Supplementary Materials). Travel times would not be computationally scalable to the size of our U.S. national study. The distance values are transformed using the natural logarithm to represent the effect of distance impacting demand at a decreasing rate. Figure 1 illustrates the gambling venue locations with visualizations of the estimated share of proximity discounted potential demand from out-of-state (model 2).

For venue i , potential demand (PD_i) is distinguished based on whether it originates from an in-state zip code or an out-of-state zip code. The share of in-state potential demand for state S is given by the sum of potential demand from in-state zip codes over the sum of potential demand

$$\text{from all zip codes: } \alpha_S = \frac{\sum PD_i \forall i \in S^i \cap S^k}{\sum PD_i \forall i \in S^i}, \text{ where } S^i \text{ is}$$

the set of venues i in state S , and where S^k is the set of zip codes k in state S . The share of out-of-state demand is given by $1 - \alpha_S$.

We compute the arithmetic mean of out-of-state potential demand across states: $1 - \alpha_S = 1 - \frac{\sum \alpha_S}{N_S}$, where N_S is

the count of all states with casinos, and we compute a weighted mean to assess out-of-state potential demand for

the United States as a whole: $1 - \bar{\mu} = 1 - \frac{\sum_{i=1}^m PD_i \cdot \alpha_i}{\sum_{i=1}^m PD_i}$,

where α_i is the share of in-state potential demand for venue

$$i: \frac{PD_i \forall k \in S^k}{PD_i}.$$

The market is modeled in aggregate, but also in subsets for venues with hotels and venues that are tribal-owned (Morrison, 2019). A more detailed description of venue features may improve forecasts of actual revenue but would not be useful for our purposes of understanding location decisions by stakeholders as the venue design decisions are endogenous to location. Venue features are a function of local market demand conditions and a more amenity rich venue would only yield a sufficient return if there was an available target population with sufficiently low competitive pressures. In such circumstances, our naïve model should capture these patrons, as it makes no assumptions about constraints on catchment area size. It appears to be reasonable that our approach will capture market dynamics as many casino feasibility studies tend to solely model the business opportunity based on measures of regional income and population size (e.g., Convergence Strategy Group, 2021; Union Gaming Analytics, 2019; WhiteSand Gaming, 2014).

Results

Across all states, the arithmetic mean share of out-of-state revenue per venue is 0.145 ($SD = .294$) using the naïve model and 0.132 ($SD = .280$) using the discount model. After weighing the means by total demand to determine the U.S.-wide effect, the estimated share of out-of-state revenue increased substantially using both the naïve method ($M = .317$) and the discount method ($M = .207$).

Figure 2 shows the share of potential demand estimated from out-of-state consumers for all jurisdictions in the dataset. On a state-by-state basis, there is little difference between the naïve and discount methods, but there is substantial variation from one state to another. The absence of a difference between the two methods suggests that competitive effects may be more likely to be the binding constraint on potential demand catchment areas, rather than a lack of access entirely by residents. A visual analysis of the subset of venues with hotels suggests that these properties tend to have a larger share of potential demand from out-of-state. Similarly, the subset of venues with tribal ownership tend to have greater shares of out-of-state potential demand.

The results show wide dispersion in the share of out of state revenue by state, ranging from 0% to 71.2%. Maps of West Virginia and California in Figure 3 illustrate these

differences. West Virginia casinos are generally located along its border near neighboring state population centers while California casinos are generally located near its high-density urban regions away from interstate borders.¹

Discussion

This study contributes to the literature through a rigorous analysis of the gambling export strategy in the U.S. casino market. Evidence from the analysis suggests that the share of consumers being targeted by neighboring state casinos is meaningful. Nearly one-third of potential demand (31.7%) is closer to an out-of-state casino than an in-state casino, which when discounted based on proximity translates to over a fifth (20.7%) of estimated U.S. potential demand. That is, we estimate that roughly one out of five dollars spent on venue-based gambling in the United States ends up in an out-of-state casino. These findings suggest meaningful use of the gambling export strategy in the United States, but not an exclusive or dominant use in venue placement strategy.

On a state-by-state basis, there is more nuance in the results. There is substantial variation among jurisdictions in the share of potential demand that is coming from out-of-state, ranging from a low of 0.0% in Texas to a high of 71.2% in West Virginia. It remains an open question what is causing these differences. There may be a general preference for the gambling export strategy but geographic constraints for large states with few highly populated neighbors may narrow the scope of viable locations. For example, Florida has greater access to large population centers in-state compared to out-of-state and this may explain its small share of out-of-state potential demand. In general, it appears as though states with larger land masses (e.g., California, Texas, Montana, Arizona, New Mexico, and Wyoming) mostly draw from in-state.² Empirically, the gambling export strategy seems to be used more often by small or medium sized jurisdictions, which is likely to be a function of interstate travel time.

In the subset of venues with hotels, we observed a relatively greater share of potential demand from out-of-state. This finding is consistent with hotels being used to make the venue more attractive for travelers from farther distances, as a property with lodging can more easily be a multiday trip. The subset of venues with tribal ownership also had relatively greater shares of out-of-state potential demand. This may partially reflect constraints of having to locate the venue on tribal trust land.

One implication of the findings is that there may be further development in the U.S. gambling market as jurisdictions seek to recapture their own residents that are gambling out-of-state. For instance, as part of the discussion in the newest state to introduce casino gaming, the Chairman of the Massachusetts Gaming Commission specifically

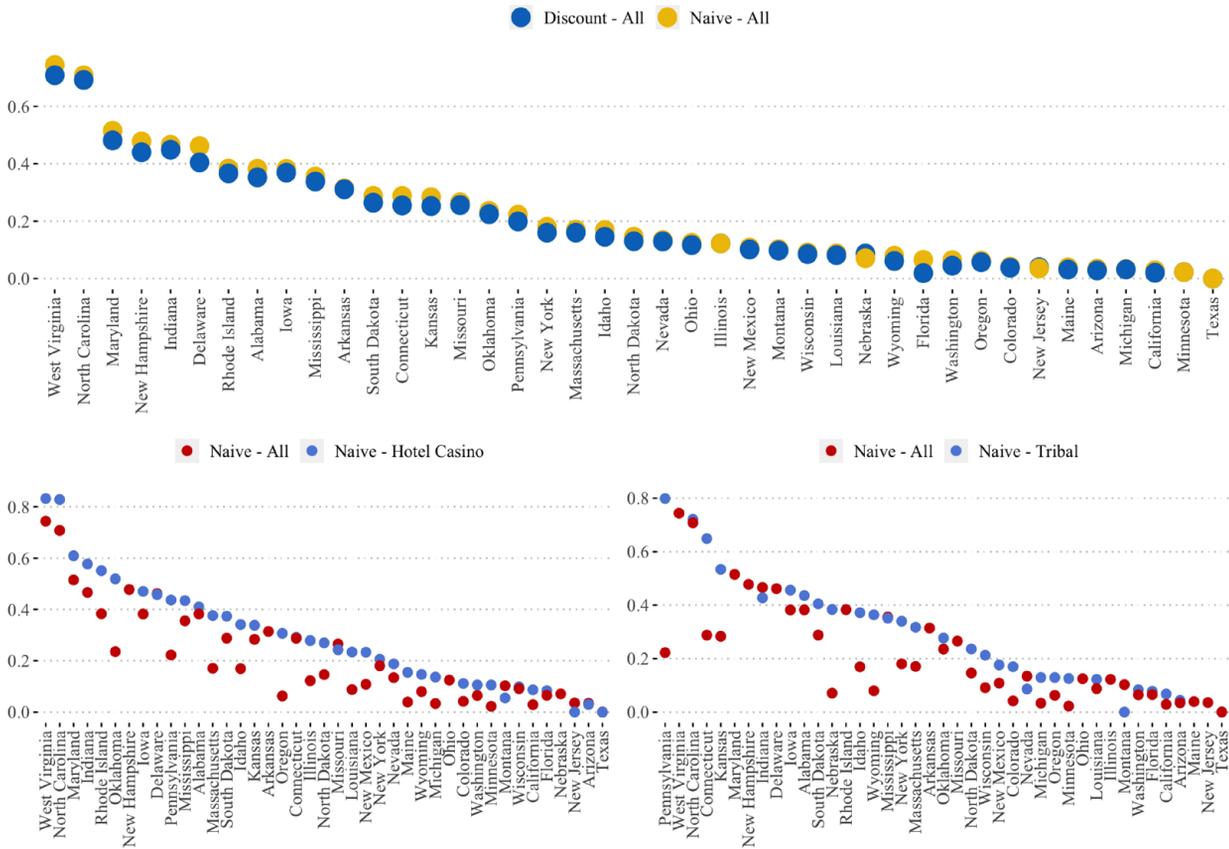


Figure 2. [Top] Share of Potential Demand from Out-of-State Consumers Using the Naïve and Proximity-Based Discounting Models. Both Models Show Similar Results with Large Variation among States in the Estimated Share. [Bottom-Left] Shares of Potential Demand Using the Naïve Model, for all Properties and Properties with a Hotel. [Bottom-Right] Shares of Potential Demand using the Naïve Model, for All Properties and Tribal-Owned Properties.

Note. California venues are generally found near its urban population areas in the Bay Area, Sacramento, Greater Los Angeles, San Diego County, and other municipalities along the Interstate 5 Highway, and out-of-state consumers account for only 2.0% of the potential demand. West Virginia venues are generally located along its borders, near population centers of neighboring states such as Washington DC, Pittsburg, PN, and Akron, OH, and out-of-state consumers account for 71.2% of the potential demand. Total income density = total income / land area in square meters.

articulated the importance of recapturing resident spending (“Research Update: Plainridge Park Casino Economic Impacts Released for First Year of Operation,” 2017):

The principal motivation for the Legislature in crafting the Gaming Law was to recapture the approximately one billion spent annually by Massachusetts residents at out-of-state casinos. This report demonstrates emphatically that we are in the process of accomplishing that important objective.

Some evidence suggests that new properties near existing targets of interstate demand are not accretive to the overall market (Condliffe, 2012). Should that continue, it seems likely that supply may become oversaturated as transborder venues become redundant to in-state venues located closer

to core population areas. Repetti and Jung’s (2014) findings suggest that this occurred in Atlantic City when Pennsylvania opened Philadelphia-area casinos.

Policymakers and operators targeting out-of-jurisdiction players should therefore be forward looking in understanding the game theory of their development strategy and consider what the response of their neighbors is likely to be over the useful life of the development. Futures studies could also consider how similar dynamics may emerge in high value gambler segments where air travel is the primary mode of travel, such as with junket operators.

There are several limitations of this study that could be considered in future work. Most notably, this study did not consider subjective measures of site quality that may modify the realizable geographic market. Many distinctions are

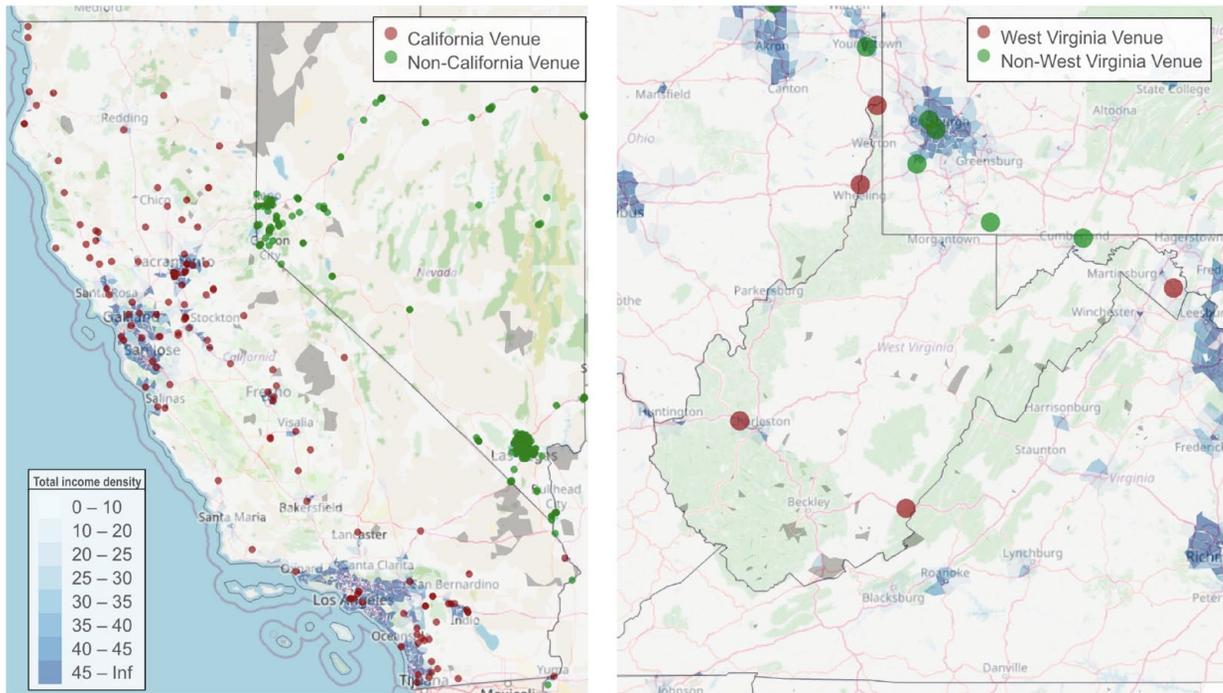


Figure 3. Plots of Gambling Venues in California (left) and West Virginia (right) with Nearby States.

Note. California venues are generally found near its urban population areas in the Bay Area, Sacramento, Greater Los Angeles, San Diego County, and other municipalities along the Interstate 5 Highway, and out-of-state consumers account for only 2.0% of the potential demand. West Virginia venues are generally located along its borders, near population centers of neighboring states such as Washington DC, Pittsburg, PN, and Akron, OH, and out-of-state consumers account for 71.2% of the potential demand. Total income density = total income / land area in square meters.

idiosyncratic, specific to a state or region, but improvement in determining what differentiates properties will lead to better estimates of potential demand. Since our naïve model makes no assumptions about constraints on catchment area size, this limitation does not affect our conclusion.

Future work could account for different types of venue features (e.g., integrated resorts vs. local cardrooms) or competitive forces (e.g., casino brands) and provide more precise estimates of realized demand as a function of competitive effects between venues. Since design decisions are likely to be endogenous to the location decision, this may require a different methodological approach. Future work may also need to consider the competitive dynamics of online gaming. Although it is an open question how retail and online casino gaming compete for customers (Marionneau & Nikkinen, 2017; Philander et al., 2015), states may elect to use online casino games to recapture demand rather than retail properties. This dynamic is likely to be more important in the future than in our retrospective study, as our data predates the widespread expansion of online gaming and mobile sports betting in the United States.

To better understand location preferences relative to opportunities, future studies could simulate how much out-of-state demand would be gained and how much in-state demand would be lost if existing properties were relocated nearer to borders. Qualitative studies could review reports or media coverage during the periods of site selection debate to understand how location preferences may have evolved throughout the early development processes.

Last, it seems likely that the proximity demand model underestimates the true out-of-state demand, as fly-in tourists to some destinations like Las Vegas are unlikely to be adequately captured. A mixed methods study that includes behavioral data of gamblers would improve the validity of these findings. Although we do not estimate actual demand or spending, our proxy using census population and income data closely mirrors actual feasibility studies, and therefore may be a better measure of stakeholder intention than post-development revenue.

Author Contributions

Kahlil S. Philander—All content.

Declaration of Conflicting Interests

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Data Availability Statement

Code to replicate the analysis is available in the supplementary materials.

Supplemental Material

Supplemental material for this article is available online.

Notes

1. Visualizations of all states can be retrieved from the related web app located at: <https://o1ufqz-kphilander.shinyapps.io/casino/>
2. We thank an anonymous reviewer for this insight.

References

- Akee, R. K. Q., Spilde, K. A., & Taylor, J. B. (2015). The Indian Gaming Regulatory Act and its effects on American Indian economic development. *Journal of Economic Perspectives*, 29(3), 185–208. <https://doi.org/10.1257/jep.29.3.185>
- American Gaming Association. (2022). *State of the states 2022: The AGA analysis of the commercial casino industry* (pp. 1–125). <https://www.americangaming.org/resources/state-of-the-states-2022/>
- Assaf, A. G., Cvelbar, L. K., & Pahor, M. (2013). Performance drivers in the casino industry: Evidence from Slovenia. *International Journal of Hospitality Management*, 32, 149–154. <https://doi.org/10.1016/j.ijhm.2012.05.006>
- Barrow, C. W., & Borges, D. R. (2014). Gravity models and casino gaming: A review, critique, and modification. *UNLV Gaming Research & Review Journal*, 18, 51–84.
- Barrow, C. W., Borges, D. R., & Meister, A. P. (2016). An empirical framework for assessing market saturation in the U.S. casino industry. *Gaming Law Review and Economics*, 20(5), 397–411. <https://doi.org/10.1089/glre.2016.2057>
- Calcagno, P. T., Walker, D. M., & Jackson, J. D. (2010). Determinants of the probability and timing of commercial casino legalization in the United States. *Public Choice*, 142(1–2), 69–90. <https://doi.org/10.1007/s11127-009-9475-2>
- Chhabra, D. (2008). Social exchange theory in resort and non-resort casino settings. *Anatolia*, 19(1), 155–160. <https://doi.org/10.1080/13032917.2008.9687060>
- Chhabra, D. (2012). Exploring social exchange theory dynamics in Native American casino settings. *UNLV Gaming Research & Review Journal*, 11(2), 31–48. <https://digitalscholarship.unlv.edu/grrj/vol11/iss2/3>
- Condliffe, S. (2012). Pennsylvania casinos' cannibalization of regional gambling revenues. *UNLV Gaming Research & Review Journal*, 16(1), 45–58. <https://digitalscholarship.unlv.edu/grrj/vol16/iss1/3>
- Convergence Strategy Group. (2021). *City of Richmond Casino RFQ/P—Market analysis*. City Council Informal Meeting. <https://www.rva.gov/sites/default/files/2021-03/Casino%20RFQ%20RFP%20Presentation%20-%20Market%20Analysis.pdf>
- Conway, M. (2015). Vulnerability modeling of casinos in the United States: A case study of Philadelphia. *Applied Geography*, 63, 21–32. <https://doi.org/10.1016/j.apgeog.2015.05.015>
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874–900. <https://doi.org/10.1177/0149206305279602>
- Cummings, W. E., Walker, D. M., & Cotti, C. D. (2017). The effect of casino proximity on lottery sales: Evidence from Maryland. *Contemporary Economic Policy*, 35(4), 684–699. <https://doi.org/10.1111/coep.12225>
- Davis, P. (2006). Spatial competition in retail markets: Movie theaters. *The RAND Journal of Economics*, 37(4), 964–982. <https://doi.org/10.1111/j.1756-2171.2006.tb00066.x>
- Eadington, W. R. (1996). The legalization of casinos: Policy objectives, regulatory alternatives, and cost/benefit considerations. *Journal of Travel Research*, 34(3), 3–8. <https://doi.org/10.1177/004728759603400301>
- Eadington, W. R. (1998). Contributions of casino-style gambling to local economies. *The ANNALS of the American Academy of Political and Social Science*, 556(1), 53–65. <https://doi.org/10.1177/0002716298556001005>
- Eadington, W. R. (1999). The economics of casino gambling. *Journal of Economic Perspectives*, 13(3), 173–192.
- General Services Administration. (2021). *TIGER/line shapefile, current, nation, U.S., 2020 5-digit ZIP code tabulation areas*. <https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html>
- Guide—HERE Geocoding & Search API. (n.d.). *HERE developer*. https://developer.here.com/documentation/geocoding-search-api/dev_guide/index.html

- Gursoy, D., Ouyang, Z., Nunkoo, R., & Wei, W. (2019). Residents' impact perceptions of and attitudes towards tourism development: A meta-analysis. *Journal of Hospitality Marketing & Management*, 28(3), 306–333. <https://doi.org/10.1080/19368623.2018.1516589>
- Haucap, J., Nedic, R., & Şimşek, T. (2022). *An empirical analysis of German casino locations (DICE)*. Heinrich-Heine-University Düsseldorf, Düsseldorf Institute for Competition Economics.
- Hijmans, R. J. (2011). *Introduction to the "geosphere" package* (1.2-19). <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.205.120&rep=rep1&type=pdf>
- Humphreys, A. (2010). Semiotic structure and the legitimation of consumption practices: The case of casino gambling. *Journal of Consumer Research*, 37(3), 490–510. <https://doi.org/10.1086/652464>
- Ishizaka, A., Nemery, P., & Lidouh, K. (2013). Location selection for the construction of a casino in the Greater London region: A triple multi-criteria approach. *Tourism Management*, 34, 211–220. <https://doi.org/10.1016/j.tourman.2012.05.003>
- Johnson, L., & Bowen, J. (1994). Riverboat site selection. *UNLV Gaming Research & Review Journal*, 1(2), 79–94. <https://digitalscholarship.unlv.edu/grrj/vol1/iss2/8>
- Jurowski, C., & Gursoy, D. (2004). Distance effects on residents' attitudes toward tourism. *Annals of Tourism Research*, 31(2), 296–312. <https://doi.org/10.1016/j.annals.2003.12.005>
- Kearney, M. S. (2005). State lotteries and consumer behavior. *Journal of Public Economics*, 89(11), 2269–2299. <https://doi.org/10.1016/j.jpubeco.2004.07.004>
- LaPlante, D. A., & Shaffer, H. J. (2007). Understanding the influence of gambling opportunities: Expanding exposure models to include adaptation. *American Journal of Orthopsychiatry*, 77(4), 616–623. <https://doi.org/10.1037/0002-9432.77.4.616>
- Lee, C. K., & Back, K. J. (2003). Pre- and post-casino impact of residents' perception. *Annals of Tourism Research*, 30(4), 868–885. [https://doi.org/10.1016/S0160-7383\(03\)00060-4](https://doi.org/10.1016/S0160-7383(03)00060-4)
- Lee, C. K., Kang, S. K., Long, P., & Reisinger, Y. (2010). Residents' perceptions of casino impacts: A comparative study. *Tourism Management*, 31, 189–201. <https://doi.org/10.1016/j.tourman.2009.02.011>
- Lee, C. K., Kim, S. S., & Kang, S. (2003). Perceptions of casino impacts—A Korean longitudinal study. *Tourism Management*, 24, 45–55. [https://doi.org/10.1016/S0261-5177\(02\)00048-1](https://doi.org/10.1016/S0261-5177(02)00048-1)
- Marionneau, V., & Nikkinen, J. (2017). Market cannibalization within and between gambling industries: A systematic review. *Journal of Gambling Issues*, 37, 1–35. <https://doi.org/10.4309/jgi.2018.37.1>
- Morley, C., Rosselló, J., & Santana-Gallego, M. (2014). Gravity models for tourism demand: Theory and use. *Annals of Tourism Research*, 48, 1–10. <https://doi.org/10.1016/j.annals.2014.05.008>
- Morrison, K. (2019). *World casino directory*. <https://www.world-casinodeirectory.com/>
- Mottice, C. M. (2018). The political economy of casino licensing. In S. Haeffele (Ed.), *Knowledge and incentives in policy: Using public choice and market process theory to analyze public policy issues* (pp. 187–206). Rowman & Littlefield.
- Musinguzi, D. (2019). A review of the application of social exchange theory in tourism research. In D. Gursoy & R. Nunkoo (Eds.), *The Routledge handbook of tourism impacts* (pp. 498–506). Routledge.
- Nunkoo, R. (2016). Toward a more comprehensive use of social exchange theory to study residents' attitudes to tourism. *Procedia Economics and Finance*, 39, 588–596. [https://doi.org/10.1016/S2212-5671\(16\)30303-3](https://doi.org/10.1016/S2212-5671(16)30303-3)
- O'Gilvie, P. J. (2022). The impact of casino proximity on northeast urban communities: A literature review. *Humanities and Social Sciences Communications*, 9(1), Article 1. <https://doi.org/10.1057/s41599-022-01055-1>
- Papineau, E., Robitaille, É., Samba, C. P., Lemétayer, F., Kestens, Y., & Raynault, M.-F. (2020). Spatial distribution of gambling exposure and vulnerability: An ecological tool to support health inequality reduction. *Public Health*, 184, 46–55. <https://doi.org/10.1016/j.puhe.2020.03.023>
- Perdue, R. R., Long, P. T., & Kang, Y. S. (1999). Boomtown tourism and resident quality of life: The marketing of gaming to host community residents. *Journal of Business Research*, 44(3), 165–177. [https://doi.org/10.1016/S0148-2963\(97\)00198-7](https://doi.org/10.1016/S0148-2963(97)00198-7)
- Pérez, L., Rodríguez, A., & Shmarev, A. (2022). Gambling outlets location in urban areas: A case study of Madrid. *Journal of Gambling Studies*, 38, 1229–1242. <https://doi.org/10.1007/s10899-021-10094-3>
- Philander, K. S. (2019). Regional impacts of casino availability on gambling problems: Evidence from the Canadian community health survey. *Tourism Management*, 71, 173–178. <https://doi.org/10.1016/j.tourman.2018.10.017>
- Philander, K. S., Abarbanel, B. L. L., & Repetti, T. (2015). Consumer spending in the gaming industry: Evidence of complementary demand in casino and online venues. *International Gambling Studies*, 15(2), 256–272. <https://doi.org/10.1080/14459795.2015.1042002>
- Philander, K. S., Tabri, N., Wood, R., & Wohl, M. (2022). Casino proximity, visit frequency, and gambling problems. *International Gambling Studies*, 22(3), 459–479. <https://doi.org/10.1080/14459795.2022.2035423>
- Potenza, M. N., Balodis, I. M., Derevensky, J., Grant, J. E., Petry, N. M., Verdejo-Garcia, A., & Yip, S. W. (2019). Gambling disorder. *Nature Reviews Disease Primers*, 5(1), Article 1. <https://doi.org/10.1038/s41572-019-0099-7>
- Repetti, T., & Jung, S. (2014). What happened to Atlantic City's GAMING VOLUME? *UNLV Gaming Research & Review Journal*, 18(2), 23–38.
- Research Update: Plainridge Park Casino economic impacts released for first year of operation, Analysis concludes \$100M in out-of-state spending recaptured. (2017). Massachusetts Gaming Commission. <https://massgaming.com/blog-post/research-update-plainridge-park-casino-economic-impacts-released-first-year-operation-analysis-concludes-100m-state-spending-recaptured/>
- Roberts, J., & Gemignani, G. (2019). Who wore it better: Federal v. State Government regulation of sports betting. *UNLV Gaming Law Journal*, 9, Article 7.
- Stitt, B. G., Nichols, M., & Giacomassi, D. (2005). Perception of casinos as disruptive influences in USA communities. *International Journal of Tourism Research*, 7(4–5), 187–200. <https://doi.org/10.1002/jtr.530>

- St-Pierre, R. A., Walker, D. M., Derevensky, J., & Gupta, R. (2014). How availability and accessibility of gambling venues influence problem gambling: A review of the literature. *Gaming Law Review and Economics, 18*(2), 150–172. <https://doi.org/10.1089/glr.2014.1824>
- Tan, A.-L., Lee, T. J., & Kim, J. J. (2017). Resident perceptions of casinos in a newly developed casino destination. *International Journal of Tourism Sciences, 17*(1), 15–31. <https://doi.org/10.1080/15980634.2016.1274175>
- Union Gaming Analytics. (2019). *City of Chicago casino financial feasibility analysis*. Illinois Gaming Board. <https://www.igb.illinois.gov/FilesPressReleases/Union%20Gaming%20Feasibility%20Study.pdf>
- U.S. Census Bureau. (2022). *American community survey 2016-2020 5-year data release*. Census.Gov. <https://www.census.gov/newsroom/press-kits/2021/acs-5-year.html>
- Walker, D. M., & Nesbit, T. M. (2014). Casino revenue sensitivity to competing casinos: A spatial analysis of Missouri: Casino revenue sensitivity to competition. *Growth and Change, 45*(1), 21–40. <https://doi.org/10.1111/grow.12035>
- Wan, Y. K. P. (2012). The social, economic and environmental impacts of casino gaming in Macao: The community leader perspective. *Journal of Sustainable Tourism, 20*, 737–755. <https://doi.org/10.1080/09669582.2011.636818>
- Weber, S., & Péclat, M. (2017). A simple command to calculate travel distance and travel time. *The Stata Journal, 17*(4), 962–971. <https://doi.org/10.1177/1536867X1801700411>
- Wenz, M. (2014). Valuing casinos as a local amenity: Valuing casinos as a local amenity. *Growth and Change, 45*(1), 136–158. <https://doi.org/10.1111/grow.12036>
- WhiteSand Gaming. (2014). *Market feasibility study expanded gaming in Maine* [Final Report]. Maine State Legislature. https://lldc.mainelegislature.org/Open/Rpts/kf3992_z99w55_2014.pdf
- Wu, S.-T., & Chen, Y.-S. (2015). The social, economic, and environmental impacts of casino gambling on the residents of Macau and Singapore. *Tourism Management, 48*, 285–298. <https://doi.org/10.1016/j.tourman.2014.11.013>

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