How We Analyzed Video Gambling in Illinois

Here’s how we conducted an in-depth look at the rapid expansion of video gambling in the state and its financial and social costs.

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The Bad Bet: How Illinois Bet on Video Gambling and Lost

For our series, “The Bad Bet: How Illinois Bet on Video Gambling and Lost,” ProPublica Illinois examined video gambling across the state, the impact slot and poker machines have had on the state’s finances and the social costs associated with video gambling.

The first story in the series, published Jan. 16, looks at the finances behind the expansion of video gambling. For this story, we conducted a demographic analysis of where machines are distributed. The analysis found the number of machines increases as the average income level of the community decreases.

As we publish additional stories, we will update the methodology as necessary.

Introduction

To conduct our analyses, we compiled monthly revenue and licensing data from September 2012 through November 2018 from the Illinois Gaming Board for each place where gambling machines were located. We also pulled data from the U.S. Census Bureau’s American Community Survey from 2012 through 2017 to understand the demographics of the areas where video gambling machines are located.

The Video Gaming Act became law in July 2009 and the first machines went live in September 2012. As of November 2018, 9,089 establishments have been granted gambling licenses. Many of those establishments have closed, had their licenses revoked or let them lapse. Today, 6,792 licensed locations, including bars, restaurants and truck stops, have 30,735 video gambling machines in operation in more than 1,000 municipalities. That’s roughly equivalent to 25 casinos; the state’s 10 casinos can each have a maximum of 1,200 positions, including video gambling machines.

Data reflects September 2012 through November 2018. See below for a full explanation of the data.

Glossary

Establishments are locations where video gambling is permitted. Each establishment can have a maximum of five video gambling terminals, or VGTs.

Terminal operators own the video gambling machines in each establishment. The terminal operator maintains the VGTs in each establishment.

Net terminal income is the difference between the cash wagered on the gaming machines and the winnings paid to a player. Of that income, the state gets 25 percent, the municipality where the machine is located gets 5 percent and the terminal operator and establishment each get 35 percent.
Establishment Analysis

The main data set we used was a compilation of monthly revenue reports for establishments. We downloaded monthly reports from the Illinois Gaming Board website from September 2012 to November 2018. The reports include the number of machines in each establishment, the license number of the establishment, the amount played, amount won, net terminal income and the share that went to the state and municipality.

The Gaming Board periodically updates its data to reflect accounting adjustments and changes in the number of machines and revenue. The numbers in this methodology, taken from the Gaming Board website, take into account any adjustments made as of Dec. 21, 2018.

There are 356 reports with accounting adjustments that correct earlier misreported data. Adjustments result from errors or changes in location information. In some cases, these accounting adjustments were made in the same or next month. In others, they were made months or even years later. We apply these accounting adjustments to the figures displayed in the accompanying map.

After compiling the files into a database, we joined the monthly reports database to a database of license applicants, which is available on the Gaming Board’s website. This allowed us to determine the addresses of each establishment. We geocoded these locations to plot them on a map. For 200 establishments, the licensed applicants database did not have addresses.

For our analysis, we measured the median and average and calculated how much revenue each machine generated, how much each establishment generated and how much the state and municipalities received.

Demographic Analysis

To understand Illinois’ demographics, we used data from the U.S. Census Bureau’s American Community Survey. We compiled six years of data (2012 through 2017) on population, education level, race, gender, poverty level, income and household size.

We joined this data to the Gaming Board monthly report data to analyze the demographics and detect any correlations.

More often than not, video gambling machines are found in lower-income communities, our analysis of demographic data found. Devices can be found in Berwyn but not Oak Park, Waukegan but not Lake Forest, Harvey but not Palos Park. In fact, as the average income level of a community decreases, the average number of machines increases. The city of Chicago does not allow gambling machines within the city limits and has therefore been excluded from this analysis.

We found a significant negative correlation between the number of video gambling machines and the average household income of a city and a county.

We used a multivariate linear regression to model the relationship between the number of machines and the median household income. We added population as a control and found the same results when we ran the analysis by city or county. We used a logarithmic function of income and a logarithmic function of population to reduce the influence of outliers.

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Have questions or tips? Let us know.

We want to hear your thoughts. Please send an email to sandhya@propublica.org or jason.grotto@propublica.org.