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The Potential Economic Impact of Legalizing iGaming on Casino Revenues in Five States

New York, Illinois, Louisiana, Maryland, and Virginia

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The conclusions and opinions expressed are exclusively those of the authors and not of Analysis Group.
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I. Executive Summary

Internet gaming, also known as "iGaming," allows players to place wagers on online casino games using computers and/or mobile devices.[1] This study provides a comprehensive analysis of the potential economic impact of legalizing iGaming in New York, Illinois, Louisiana, Maryland, and Virginia ("Projection States"). To estimate the potential economic impact, this study measures the observed impact of iGaming in six states where iGaming is already active: New Jersey, Delaware, Pennsylvania, West Virgina, Michigan, and Connecticut ("iGaming States"). In addition, Analysis Group conducted 34 consumer research interviews (the "AG Consumer Research Interviews") and an online survey among 2,389 current and prospective gaming consumers (the "AG State Gambling Survey") to develop a data-driven understanding for how iGaming impacts the market.[2] Recognizing the inherent uncertainty of projecting revenues for new markets, this study provides a framework, an analysis of the observed impact of iGaming in the iGaming States, and a set of projections to best enable policymakers to make informed decisions. The study projects potential revenues in the Projection States using the changes observed in the iGaming States in combination with each iGaming and Projection State's unique characteristics. More specifically, the study evaluates:

1. The degree of overall market expansion, i.e., the increase in total casino revenues (including both new iGaming revenues and any change in Land-based casino revenues ("Land-based revenues")[3]).
2. An impact (if any) of iGaming on Land-based revenues (i.e., potential market expansion or cannibalization of existing Land-based revenues).
3. Explanations for why iGaming is associated with changes in total revenues and Land-based revenues.
4. Economic models to project iGaming revenues for the Projection States based on the observed data in the iGaming States and characteristics of each state.
5. Five-year projections for iGaming revenues in the Projection States.
6. Five-year projections for Land-based revenues in the Projection States.
7. Five-year projections for total revenues.
8. Tax implications in both the iGaming States and the Projection States.

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[1] iGaming is also referred to as "online casinos." Almost all casino games that can be played in person can also be played online. Games and availability vary by state. As evaluated in this study, iGaming does not include sports betting. See, e.g., https://portal.ct.gov/gaming/knowledge-base/articles/what-is-online-casino-gaming (accessed December 16, 2023).

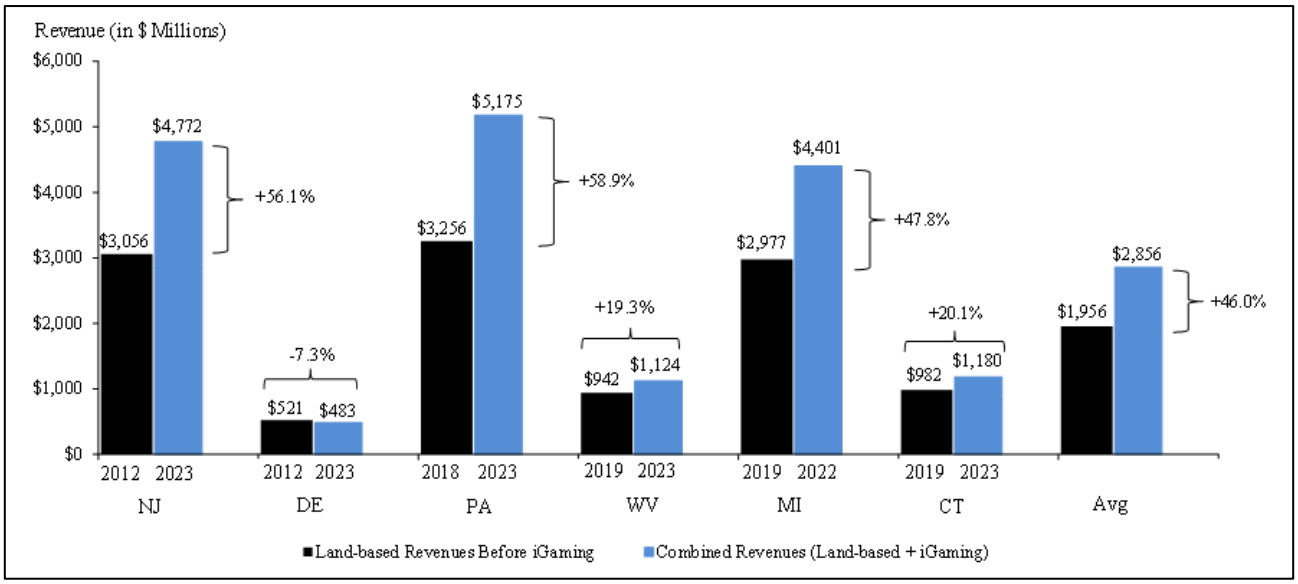
[2] See Sections III.B, III.C, and VI.

[3] Land-based revenues include revenues from commercial casinos, tribal casinos, and video gaming terminals (VGTs). See Section II.A for more details. Revenues reflect the difference between the amount of money that players wager and the amount that they win. Revenues are also known as gross gaming revenues (GGR) or sales. See https://corporatefinanceinstitute.com/resources/valuation/gross-gaming-revenue-ggr/ (accessed December 19, 2023).

This study's results are as follows:

1. iGaming expands the overall gaming market and increases the growth rates of overall gaming revenues. Across the six iGaming States, total combined revenue from Land-based casinos and iGaming in the most recent year of data exceeded the total level of pre-iGaming revenue from Land-based casinos alone by 46%, an overall market expansion effect.[4] The six iGaming States generally had stagnant or declining gaming revenues prior to legalizing iGaming, so the net effect of iGaming shows that total gaming revenues ***far exceeded*** the projected revenue that would have occurred based on the pre-iGaming growth rates of Land-based revenues alone. Across the six iGaming States, total combined revenue from Land-based casinos and iGaming has exceeded projected revenue in the most recent year of data from Land-based casinos without iGaming by 75.1%.[5]

Figure 1: Overall Market Expansion After States Implemented iGaming (in $ Millions)[6]



The "Total Treatment Effect," defined as the change in compound annual growth rates (CAGRs)[7] of total revenues before and after iGaming was introduced, ranges from 2.5% (Delaware) to 12.3% (New

[4] See Figure 1.

[5] Exhibit 1B.

[6] Exhibit 1.

[7] The CAGR is the constant annual rate of return that would be required for a variable to grow from its beginning value to its ending value if it were to grow at the same rate each year. See, e.g., https://www.investopedia.com/terms/c/cagr.asp (accessed February 27, 2024). This study uses the CAGR of total revenues between the start and end of each period instead of the average year-to-year annual growth rates for two main reasons. First, the streamlined CAGR formulation

Jersey), with a revenue weighted average of 9.4%.[8] This indicates that after implementing iGaming, *the iGaming States experienced CAGRs of total gaming revenues that were on average 9.4 percentage points (the Total Treatment Effect) higher than they were before iGaming*. The results reported for the Total Treatment Effect are from an interrupted time series (ITS) model.[9]

Figure 2: Changes in the CAGR of Total Revenues After iGaming Introduction[10]

Index	Description	NJ	DE	PA	WV	MI	CT	Avg
[1]	Growth Rate of Land-based Revenues (before iGaming)	(8.1%)	(3.2%)	0.6%	1.6%	0.3%	(3.2%)	**(2.2%)**
[2]	Growth Rate of Total Revenues (after iGaming)	4.1%	(0.7%)	9.7%	6.1%	10.3%	4.7%	**7.2%**
[3] = [2] – [1]	**Change in Total Growth Rate (after iGaming) = Total Treatment Effect**	**12.3%**	**2.5%**	**9.1%**	**4.5%**	**10.0%**	**7.8%**	**9.4%**

There are multiple explanations for why iGaming is associated with overall market expansion of the gaming market. These explanations, which are supported by the AG Consumer Research Interviews, the AG State Gambling Survey, and external research, include the following:[11]

a. iGaming creates a new opportunity to increase gaming consumers' frequency of gaming.
b. iGaming can capture as taxable revenue some of the existing market for offshore or illegal gaming, which is estimated to be very large in the U.S.
c. iGaming can expand the gaming market because consumers are interested in engaging with established brands who are often already offering them other types of legalized betting opportunities, such as sports betting.

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only requires initial and final revenue values for a given period, which reduces the noise in the results by removing volatility generated by year-to-year fluctuations. This is especially relevant in the context of the COVID-19 pandemic. Second, the CAGR formulation explicitly considers the number of years when computing the growth rates, which makes this approach useful to project revenues for the Projection States over five years.

[8] See Figure 2, row [3]. The weights used for each state are Land-based revenues in the year immediately preceding when iGaming became active in each iGaming State. The simple average of 7.7% is also reported in Exhibit 28-33A. Results are also reported without Delaware, because unlike other states, Delaware's gambling industry is operated by one provider, rather than being a more competitive market, which is a reason for Delaware's very small iGaming revenues. Without Delaware, the weighted average is 9.7%, and the simple average is 8.7%.

A second model for New Jersey is considered with 2015 as the baseline year. This model results in even higher relative increases in both the CAGR of Land-based revenues (9.9%) and CAGR of total revenues (15.9%). Exhibit 28C, row [12].

[9] See Section IV.A.

[10] Exhibit 2, rows [6]-[7]. The "Avg" in this figure is the weighted average, weighted by the initial value of Land-based revenue in the year prior to iGaming.

[11] See Section VI.A.

d. iGaming presents a new opportunity for people who currently enjoy playing non-iGaming casino-like games online.
e. iGaming creates a new opportunity to increase the frequency and revenues for in-state gaming among consumers who otherwise travel out of state for Land-based casinos.

Further, there is substantial room for the iGaming market to continue to grow, considering iGaming is only available in six states and the percentage of adults who have participated in iGaming is still relatively small across both the iGaming States and the Projection States. Among all respondents who were asked about their gambling activity in the AG State Gambling Survey, 18.9% of respondents in the iGaming states and 14.6% of respondents in the Projection States indicated that they had participated in iGaming in the past 12 months.[12] Results for each state are shown in Figure 3 below.

Figure 3: Respondents Indicating Having Participated in iGaming in the Past 12 Months[13]

Index	State	Number of Respondents Asked About Gambling	Number of Respondents That Participated in iGaming in Past 12 Months	Percentage That Participated in iGaming
		Projection States		
[1]	New York	747	106	14.2%
[2]	Illinois	595	60	10.1%
[3]	Louisiana	548	77	14.1%
[4]	Maryland	550	79	14.4%
[5]	Virginia	650	95	14.6%
[6]	**All Projection States**	**3,090**	**417**	**13.5%**
		iGaming States		
[7]	New Jersey	665	131	19.7%
[8]	Delaware	388	37	9.5%
[9]	Pennsylvania	694	134	19.3%
[10]	West Virginia	673	162	24.1%
[11]	Michigan	604	125	20.7%
[12]	Connecticut	679	111	16.3%
[13]	**All iGaming States**	**3,703**	**700**	**18.9%**

[12] AG State Gambling Survey, Question S6 and Question S8.

[13] Exhibit 3.

2. iGaming is associated with increased Land-based revenues in most states and a market expansion of Land-based revenues. Rather than cannibalizing existing Land-based revenues, iGaming is more often associated with increased Land-based revenues. The "Land-based Treatment Effect," defined as the change in the CAGR of Land-based revenues after the introduction of iGaming, ranges from -1.6% (Michigan) to 7.5% (New Jersey), with a revenue weighted average of +1.9% (Land-based Treatment Effect).[14] In four out of six states (New Jersey, Delaware, Pennsylvania, and West Virginia), iGaming is associated with a relative increase in the CAGR of Land-based revenues. In the remaining two states (Michigan and Connecticut), external factors such as competition from new casinos and VGTs in the neighboring states (rather than iGaming), and the closure of a Michigan tribal casino, may explain the modest relative decreases in the CAGRs of Land-based revenues.[15] The primary results reported for the Land-based Treatment Effect are from an ITS model, similar to the model used to estimate the Total Treatment Effect.[16] The result from the ITS model that iGaming is associated with relative increases in the CAGRs of Land-based revenues is also supported by a model motivated by the difference-in-differences (DiD) technique (Section V.B) and a model based on the economic concept of elasticity (Section V.C).

Figure 4: Changes in the CAGR of Land-based Revenues After iGaming Introduction, Using the ITS Approach[17]

Index	Description	NJ	DE	PA	WV	MI	CT	Avg
[1]	Growth Rate of Land-based Revenues (before iGaming)	(8.1%)	(3.2%)	0.6%	1.6%	0.3%	(3.2%)	**(2.2%)**
[2]	Growth Rate of Land-based Revenues (after iGaming)	(0.6%)	(1.0%)	1.6%	2.4%	(1.3%)	(3.7%)	**(0.2%)**
[3] = [2] – [1]	**Change in Land-based Growth Rate (after iGaming) = Land-based Treatment Effect**	**7.5%**	**2.2%**	**1.0%**	**0.8%**	**(1.6%)**	**(0.5%)**	**1.9%**

[14] See Figure 4, row [3]. The simple average across all six states is 1.6%. Without Delaware, the weighted average is 1.9%, and the simple average is 1.4%. Exhibit 28-33B.

[15] See Sections II.B.5 and II.B.6.

[16] See Section V.A.

[17] Exhibit 4, rows [6]-[8]. The "Avg" column is weighted by the Land-based revenues in the immediately preceding year before iGaming legalization in each of the iGaming States.

There are multiple explanations for why Land-based revenues increase in the presence of iGaming rather being cannibalized by iGaming. These explanations, which are supported by the AG Consumer Research Interviews, the AG State Gambling Survey, and external research, include the following:[18]

a. iGaming can introduce people to the entertainment value of gaming, which can in turn increase demand for Land-based casinos.
b. iGaming can expand economic activity in the gaming market, including Land-based casinos, as consumers increase or maintain their activity at Land-based casinos while taking up iGaming.
c. Land-based casinos offer on-site experiences, amenities, and additional activities that provide unique value to visitors and that are not available through iGaming.
d. iGaming and Land-based casinos cater to different audiences.
e. iGaming and Land-based casinos can be viewed as two different products.

3. Economic models are developed to project iGaming revenues for the Projection States based on the observed data in the iGaming States, and a model based on sports betting revenues is utilized in the final projections. iGaming revenues for each Projection State are projected based on a model of the correlation between sports betting revenues per adult and iGaming revenues per adult.[19] The model is calibrated using data from the iGaming States, where actual iGaming revenue data and sports betting revenue data are both available. There are multiple reasons for using sports betting revenues to project iGaming revenues, including the following: (1) there are notable similarities between the markets for sports betting and iGaming; (2) sports betting revenues are highly correlated with iGaming revenues in the iGaming States; and (3) the Projection States have available data on sports betting revenues per adult that are within the range of the values from the iGaming States.[20]

   The similarities between the markets for sports betting and iGaming include the following:

   a. Both involve betting or wagering money.
   b. Both are new markets that developed and grew rapidly in the past few years.
   c. Both activities occur primarily online.[21]

[18] See Section VI.B.

[19] See Section X.B. In addition to the model based on sports betting revenues, an alternate model is considered that uses lagged Land-based revenues to project iGaming revenues. However, for multiple reasons discussed in Section X, the model based on sports betting revenues is a more reliable predictor of iGaming revenues.

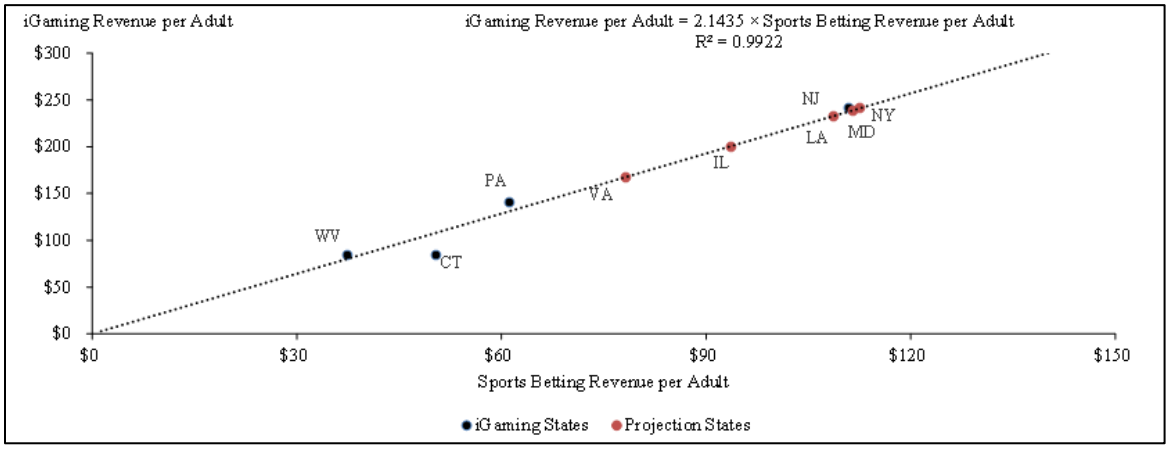
[20] This third point means that the projected values for the Projection States will be within the range of the actual values from the iGaming States. In other words, the projection values are interpolated, not extrapolated, which reduces the uncertainty involved in projecting iGaming revenues in the Projection States.

[21] For example, some estimates suggest 94% of sports betting activity is online. See https://www.insiderintelligence.com/press-releases/sports-betting-surpasses-100-billion-in-the-us/ (accessed January 30, 2024).

d. There is substantial overlap in consumers who engage in sports betting and iGaming. Among all survey respondents in the AG State Gambling Survey, 761 respondents engaged in both sports betting and iGaming in the past 12 months, 1,188 engaged in sports betting, and 1,118 engaged in iGaming. Therefore, 761 (or 68.1%) of the 1,118 respondents who have engaged in iGaming in the past 12 months also have engaged in sports betting. Further, 761 (or 64.1%) of the 1,188 respondents who have engaged in sports betting in the past 12 months also have engaged in iGaming.[22]
e. On the supply side, there is a substantial overlap between the top iGaming and sports betting suppliers, including DraftKings, FanDuel, BetMGM, Caesars, BetRivers, Penn, and Fanatics.

Two separate regressions, one each for 2022 and 2023, are utilized to model the relationship between sports betting revenues per adult and iGaming revenues per adult in the iGaming States. See Figures 5 and 6. The 2022 model indicates every $1 in sports betting revenue per adult is associated with $2.14 in iGaming revenue per adult, and the 2023 model indicates every $1 in sports betting revenue per adult is associated with $2.16 in iGaming revenue per adult. See Section X for additional specifications and alternate results.

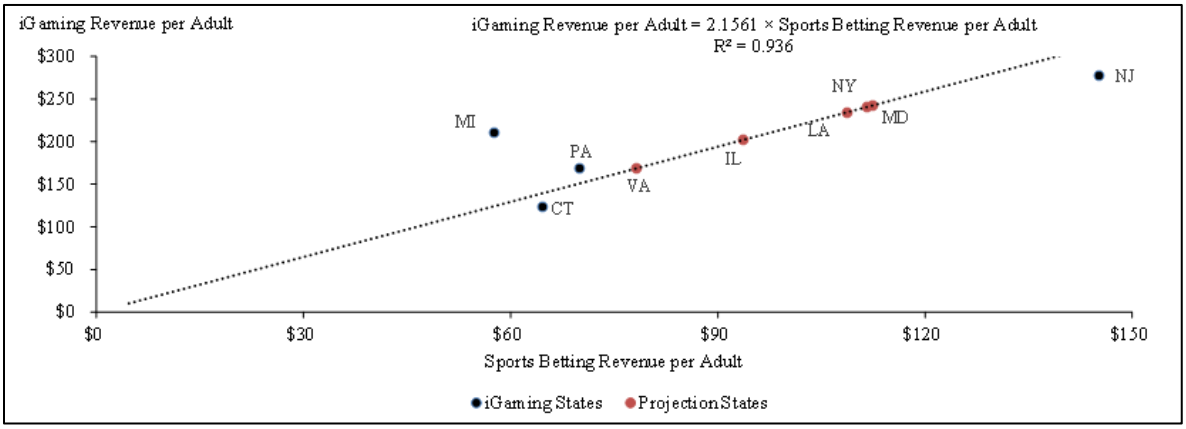
Figure 5: Correlation Between Sports Betting and iGaming Revenues per Adult in 2022[23]



[22] AG State Gambling Survey. Considers all respondents who started the survey. "Respondents who have engaged in sports betting in the past 12 months" includes all respondents who selected any of the following options in QS8: "Betting or wagering on sports (excluding horse racing) at a casino's sportsbook"; "Betting or wagering on sports (excluding horse racing) using a licensed online sportsbook (e.g., DraftKings, BetMGM, FanDuel)"; "Betting or wagering on sports (excluding horse racing) using an unlicensed ('offshore') sportsbook."

[23] Exhibit 5. In Figures 5 and 6, the regression models are based on data from four iGaming States (dots shown in blue). The red dots are the projected values for the Projected States based on the regression line.

Figure 6: Correlation Between Sports Betting and iGaming Revenues per Adult in 2023[24]



As shown in Figures 5 and 6, there is a high correlation between sports betting revenue per adult and iGaming revenue per adult within the iGaming States. The R-squared values indicate that about 99% of the variation in the iGaming revenues per adult is accounted for by the variation in sports betting revenues per adult in the 2022 model and that about 94% of this variation is accounted for in the 2023 model.[25]

4. Five-year projections for iGaming revenues are developed for each of the Projection States. Recognizing the inherent uncertainty of projecting revenues for new markets, this study provides a framework and a set of projections to best enable policymakers to make informed decisions. For each of the five Projection States, iGaming revenues are projected each year from 2025 (Year 1) through 2029 (Year 5), as follows:[26]
    a. First, iGaming revenues per adult in Year 3 (2027)[27] are estimated by using the observed 2023 sports betting revenues per adult for each Projection State and applying the

[24] Exhibit 6.

[25] These regressions are conducted with a zero intercept so that both these coefficients could be interpreted as simply the ratio of iGaming revenues to sports betting revenues. For information on how R-squared is calculated in regressions with a zero intercept, see https://www.riinu.me/2014/08/why-does-linear-model-without-an-intercept-forced-through-the-origin-have-a-higher-r-squared-value-calculated-by-r/ (accessed January 1, 2024). See Section X for additional specifications.

[26] Year 1 is 2025, i.e., the first year iGaming is projected to be active in the Projection States; Year 2 is 2026; and so on.

[27] As described more in Section X, the sports betting models from the iGaming States are applied to Year 3 (2027) in the Projection States rather than Year 1 because (1) the sports betting models are calibrated using data from at least three years after the legalization of iGaming in all of the iGaming States; (2) iGaming revenues per adult have ramped up more rapidly with each new state adopting iGaming; and (3) sports betting is already legal in all of the Projection States, which makes it plausible that iGaming may ramp up faster than the earliest adopters, like New Jersey and Delaware.

multiples from the two sports betting models calibrated on the 2022 and 2023 data from the iGaming States. The average of the two models is used as the final projection for each Projection State. iGaming revenues per adult in the Projection States for Year 3 after legalization are projected to range from $168 for Virginia to $242 for Maryland.[28]

b. The average annual growth rates of iGaming revenue per adult in iGaming States from 2021-2022 (25.4%) and 2022-2023 (16.4%) are used to project iGaming revenues per adult in Years 1 and 2, projecting backward from Year 3 to Year 2 and then from Year 2 to Year 1.[29] This is effectively modeling the 2025-2027 growth paths for the Projection States based on the 2021-2023 growth paths of the iGaming States.[30]
c. The reduction (64.6%) from the growth rate in 2021-2022 (25.4%) to the growth rate in 2022-2023 (16.4%)[31] is applied to the growth rate from Year 2 to Year 3 to project growth rates from Year 3 to Year 4 and Year 4 to Year 5, resulting in projected growth rates of 10.6% from Year 3 to Year 4 and 6.8% from Year 4 to Year 5.[32] This reduction is applied based on the most recent data. Once 2024 data for the current iGaming States are available, this projection could be updated from 10.6% to a potentially different number based on actual 2024 results.
d. The total adult population in each Projection State is projected based on the 10-year historical adult population growth rate.
e. Total iGaming revenues are projected based on the projected adult population in each state multiplied by the projected iGaming revenues per adult. Projected iGaming revenues for each Projection State in each year are presented in Figure 7.

In sum, it is unlikely that in the first one or two years after legalization, the iGaming revenues per adult in the Projection States would be as high as those in 2023 from the iGaming States (Year 3 or later). Due to the faster ramp-ups of the more recent iGaming States to launch, like Michigan and Connecticut, it is reasonable to expect the Projection States would realize such iGaming revenues per adult in Year 3.

[28] See Section X. If anything, these projections are likely conservative. To the extent sports betting and iGaming are complementary (which is supported by the findings from the AG State Gambling Survey), sports betting revenues in the Projection States would be expected to increase after iGaming is implemented. The higher sports betting revenues would result in higher projected estimates for iGaming revenues.

[29] Year 2 iGaming revenues per adult = Year 3 iGaming revenues per adult ÷ (1 + 16.4%); Year 1 iGaming revenues per adult = Year 2 iGaming revenues per adult ÷ (1 + 25.4%). See Section X.

[30] While 2021 and 2022 were not Years 1 and 2 for each of the iGaming States, the market has evolved substantially from 2013 to 2023, so the most recent growth rates from 2021 to 2023 are most reflective of potential future trends. If anything, these projections are conservative because the more recent iGaming States have had faster ramp-ups than the earlier iGaming States. To the extent this trend continues, the ramp-ups in 2025-2027 may be faster than those from 2021-2023.

[31] Exhibit 70. 16.4% ÷ 25.4% = 64.6%.

[32] Exhibit 70. Years 3 to 4: 16.4% × 64.6% = 10.6%. Years 4 to 5: 10.6% × 64.6% = 6.8%.

Figure 7: iGaming Revenue Projections in Projection States (in $ Millions)[33]

Index	State	2025	2026	2027	2028	2029	Total 2025–2029	Annual Average 2025–2029
[1]	New York	$2,529	$3,189	$3,733	$4,151	$4,460	**$18,063**	**$3,613**
[2]	Illinois	$1,309	$1,646	$1,921	$2,130	$2,281	**$9,288**	**$1,858**
[3]	Louisiana	$545	$687	$803	$892	$957	**$3,884**	**$777**
[4]	Maryland	$769	$972	$1,140	$1,270	$1,368	**$5,520**	**$1,104**
[5]	Virginia	$745	$942	$1,106	$1,234	$1,330	**$5,356**	**$1,071**
[6]	**Total**	**$5,898**	**$7,437**	**$8,703**	**$9,677**	**$10,396**	**$42,111**	**$8,422**

5. Five-year projections for Land-based revenues are developed for each of the Projection States. First, Land-based revenues without iGaming are projected using each state's pre-iGaming CAGR of Land-based revenue as the baseline trend (with modifications for Illinois and Virgina).[34] Land-based revenues after iGaming are projected by applying the average Land-based Treatment Effect estimated from the iGaming States, i.e., increasing each state's CAGR by 1.9 percentage points.[35] The resulting CAGRs of Land-based revenues are in Figure 7.

[33] Exhibit 7.

[34] In Illinois, Land-based casinos and VGTs are treated separately, with different growth rates. VGTs have had a linear growth rate for the past 10 years, so a linear growth rate is used to project revenues going forward. While a linear projection model is used for VGTs in Illinois, the CAGRs reported for VGTs are the implied CAGRs between the start and end year.

Because Land-based casinos only started operating in Virginia in 2022, the baseline period growth rate is modeled after Maryland from 2012 to 2022. See additional discussion in Section VIII.E.

[35] See Section VIII.B.

Figure 8: Summary of Land-based Revenue Projections After iGaming Legalization[36]

Index	Description	NY	IL (Casinos)	IL (VGTs)	LA	MD	VA	Avg
[1]	Baseline Period for Growth Rate	2018–2023	2018–2023	2024–2029[37]	2012–2023	2018–2023	2012–2022[38]	n/a
[2]	CAGR of Land-based Revenues in the Pre-Baseline Period	1.1%	2.0%	3.9%[39]	(0.2%)	2.5%	18.4%	4.6%
[3]	Land-based Treatment Effect	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
[4] = [2] + [3]	Projected CAGR of Land-based Revenues (with iGaming, excluding new casinos)	**3.1%[40]**	**3.9%**	**5.8%**	**1.7%**	**4.4%**	**20.4%**	**6.6%**

The application of a consistent Land-based Treatment Effect across all five Projection States is supported by data from the AG State Gambling Survey. For example, with respect to the question asking whether respondents' frequency of visiting Land-based casinos increased, decreased, or stayed the same after they started iGaming, the results in all five Projection States were generally similar to those in the iGaming States, indicating it would be reasonable to expect similar overall changes in the Projection States.[41] See Figure 9. The share reporting an increase was greater than the share reporting a decrease in the iGaming States, and this was also true in each of the five Projection States. Further, the share reporting that the frequency stayed the same was similar across all states, with a low of 43.9% (Maryland) and a high of 54.9% (Virginia), compared to the average across all iGaming States of 49.4%.

[36] Exhibit 8.

[37] Instead of 2018-2023, the period 2024-2029 is applied as the baseline because the earlier trend implies a high growth rate that may not be sustainable. The baseline values are projected as the average of the trend from 2012 through 2023 and a flat trend as of 2023 to balance the potential continued growth scenario and a scenario in which the market for VGTs in existing Illinois locations is near saturation and does not have additional growth potential. See Section VIII.B.

[38] This baseline period growth rate is modeled after Maryland. See additional discussion in Section VIII.E.

[39] 3.9% is the implied CAGR of VGT revenues from the initial projected value in 2024 through the final projected value in 2029.

[40] The sum does not add up due to rounding.

[41] AG State Gambling Survey, Question B15 ("Since you started to bet or wager on online casino games, would you say that your frequency of betting or wagering on casino games at a casino has *increased*, *decreased*, or *stayed the same?*").

Figure 9: Frequency of Land-based Casino Visits After iGaming[42]

Index	States	Increase	Stay the Same	Decrease
[1]	**All iGaming States**	26.5%	49.4%	18.7%
	Projection States			
[2]	New York	31.7%	47.6%	13.4%
[3]	Illinois	23.3%	53.5%	18.6%
[4]	Louisiana	28.3%	46.7%	15.0%
[5]	Maryland	28.8%	43.9%	22.7%
[6]	Virginia	26.8%	54.9%	15.5%
[7]	**All Projection States**	28.3%	49.1%	16.8%

The survey similarly shows that the results in the five Projection States were generally similar to those in the iGaming States with respect to the question asking whether the total amount of money respondents play with while visiting Land-based casinos increased, decreased, or stayed the same after they started iGaming.[43] See Figure 10. The share reporting an increase was greater than the share reporting a decrease in the iGaming States, and this was also true in each of the five Projection States. Further, the share reporting that the total stayed the same was similar across all states, with a low of 45.5% (Maryland) and a high of 55.8% (Illinois), compared to the average across all iGaming States of 52.2%.

[42] Exhibit 9. The question asking whether the total amount of money respondents play with while visiting Land-based casinos increased, decreased, or stayed the same after they started iGaming included a fourth category of "Don't know / Unsure."

While iGaming is not yet available in the Projection States, there are a number of survey respondents in the Projection States who reported that they had placed a bet or wager via an online casino game in the past 12 months. For example, these could be respondents who live in New York and had placed a bet or wager via an online casino game while traveling in New Jersey, Pennsylvania, or Connecticut sometime in the past 12 months.

[43] AG State Gambling Survey, Question B16 ("Since you started to bet or wager on online casino games, would you say that the total amount of money that you play with (i.e., the maximum amount of money you are willing to risk across the entire visit) while betting or wagering on casino games at a casino has *increased*, *decreased*, or *stayed the same*?").

Figure 10: Total Amount Played With in Land-based Casino Visits After iGaming[44]

Index	States	Increase	Stay the Same	Decrease
[1]	**All iGaming States**	26.1%	52.2%	16.9%
	Projection States			
[2]	New York	30.5%	50.0%	13.4%
[3]	Illinois	23.3%	55.8%	16.3%
[4]	Louisiana	26.7%	48.3%	15.0%
[5]	Maryland	28.8%	45.5%	22.7%
[6]	Virginia	31.0%	49.3%	15.5%
[7]	**All Projection States**	28.6%	49.4%	16.5%

Total Land-based revenues (before accounting for projected new casinos in New York and Illinois) are projected for all five Projection States, as shown in Figure 11.

Figure 11: Five-Year Land-based Revenue Projections in Projection States Before Accounting for New Casinos in New York and Illinois (in $ Millions)[45]

Index	State	2025	2026	2027	2028	2029	Total 2025–2029	Annual Average 2025–2029
[1]	New York	$3,994	$4,116	$4,241	$4,372	$4,505	**$21,229**	**$4,246**
[2]	Illinois (Casinos)	$1,606	$1,669	$1,735	$1,803	$1,873	**$8,687**	**$1,737**
[3]	Illinois (VGTs)	$2,912	$3,088	$3,269	$3,457	$3,651	**$16,376**	**$3,275**
[4]	Louisiana	$3,550	$3,611	$3,674	$3,738	$3,802	**$18,376**	**$3,675**
[5]	Maryland	$2,115	$2,208	$2,306	$2,408	$2,515	**$11,552**	**$2,310**
[6]	Virginia	$779	$927	$1,115	$1,343	$1,615	**$5,771**	**$1,154**
[7]	**Total**	**$14,947**	**$15,620**	**$16,342**	**$17,120**	**$17,962**	**$81,990**	**$16,398**

[44] Exhibit 10. The question asking whether respondents' frequency of visiting Land-based casinos increased, decreased, or stayed the same after they started iGaming includes a fourth category of "Don't know / Unsure."

[45] Exhibit 11.

Additional Land-based revenues are projected for anticipated new casinos in New York and Illinois. See Sections IX.A and IX.B. Land-based revenues for each year in each Projection State, including anticipated revenues from new casinos, are presented in Figure 12 below.

Figure 12: Five-Year Land-based Revenue Projections in Projection States (in $ Millions)[46]

Index	State	2025	2026	2027	2028	2029	Total 2025–2029	Annual Average 2025–2029
[1]	New York	$3,994	$4,868	$5,113	$6,062	$6,402	**$26,439**	**$5,288**
[2]	Illinois (Casinos)	$1,997	$2,122	$2,188	$2,297	$2,441	**$11,046**	**$2,209**
[3]	Illinois (VGTs)	$2,912	$3,088	$3,269	$3,457	$3,651	**$16,376**	**$3,275**
[4]	Louisiana	$3,550	$3,611	$3,674	$3,738	$3,802	**$18,376**	**$3,675**
[5]	Maryland	$2,115	$2,208	$2,306	$2,408	$2,515	**$11,552**	**$2,310**
[6]	Virginia	$779	$927	$1,115	$1,343	$1,616	**$5,771**	**$1,154**
[7]	**Total**	**$15,338**	**$16,824**	**$17,667**	**$19,304**	**$20,427**	**$89,559**	**$17,912**

Total revenues each year from 2025 to 2029 in the Projection States are the sum of projected iGaming and Land-based revenues. These are presented in Figure 13.

Figure 13: Five-Year Total Revenue Projections in Projection States (Land-based and iGaming, in $ Millions)[47]

Index	State	2025	2026	2027	2028	2029	Total 2025–2029	Annual Average 2025–2029
[1]	New York	$6,523	$8,057	$8,846	$10,213	$10,862	**$44,501**	**$8,900**
[2]	Illinois	$6,218	$6,856	$7,379	$7,884	$8,373	**$36,710**	**$7,342**
[3]	Louisiana	$4,095	$4,299	$4,477	$4,629	$4,759	**$22,260**	**$4,452**
[4]	Maryland	$2,884	$3,180	$3,446	$3,679	$3,882	**$17,071**	**$3,414**
[5]	Virginia	$1,515	$1,869	$2,221	$2,576	$2,945	**$11,127**	**$2,225**
[6]	**Total**	**$21,236**	**$24,261**	**$26,370**	**$28,981**	**$30,822**	**$131,670**	**$26,334**

[46] Exhibit 12.

[47] Exhibit 13.

Comparing the projections of total revenues in the presence of iGaming with the baseline values of total revenues just prior to the introduction of iGaming indicates that iGaming is projected to have an overall market expansion effect on both Land-based revenues and total revenues. First, the projected incremental growth in Land-based revenues associated with iGaming (row [4] of Figure 14) is an additional $916 million per year across all five states, representing a 6.4% incremental increase from the baseline beyond the projected increase (existing CAGR). Second, the projected iGaming revenues (row [8] of Figure 14) correspond to an additional $8.4 billion per year across all five states, representing a 58.8% incremental increase. Overall, including all the effects projected in this report, casino revenues across the five Projection States are projected to grow from $14.3 billion in 2024 to an average of $26.3 billion during the period from 2025 to 2029, an 83.9% increase compared to the 2024 baseline (row [11] of Figure 14).[48]

[48] See Figure 14, row [11].

Figure 14: Comparison of Average Annual Projected Revenues in 2025–2029 to the Baseline in 2024 (in $ Millions)[49]

Index	Description	NY	IL	LA	MD	VA	Total	% Increase From Baseline
[1]	Baseline Value of Land-based Revenues (2024)	$3,875	$4,287	$3,490	$2,025	$640	$14,317	0.0%
[2]	Projected Increase (existing CAGR)	$134	$441	($20)	$157	$454	$1,165	*+8.1%*
[3] = [1] + [2]	Projected Land-based Revenues With Existing CAGR (without iGaming)	$4,009	$4,728	$3,469	$2,182	$1,093	$15,482	8.1%
[4]	Projected Increase From Land-based Treatment Effect	$237	$284	$206	$128	$61	$916	+6.4%
[5] = [3] + [4]	Projected Land-based Revenues (with iGaming, before new casinos)	$4,246	$5,013	$3,675	$2,310	$1,154	$16,398	14.5%
[6]	Projected Incremental Land-based Revenues From New Casinos	$1,042	$472	*n/a*	*n/a*	*n/a*	$1,514	*+10.6%*
[7] = [5] + [6]	Projected Land-based Revenues	$5,288	$5,484	$3,675	$2,310	$1,154	$17,912	25.1%
[8]	Projected iGaming Revenues	$3,613	$1,858	$777	$1,104	$1,071	$8,422	*+58.8%*
[9] = [7] + [8]	Projected Total Revenues (with iGaming)	$8,900	$7,342	$4,452	$3,414	$2,225	$26,334	83.9%
[10] = [9] – [1]	Projected Increase From Baseline	$5,025	$3,055	$962	$1,389	$1,586	$12,017	*+83.9%*
[11] = [10] / [1]	***Percent Increase From Baseline***	***129.7%***	***71.3%***	***27.6%***	***68.6%***	***248%***	***83.9%***	***n/a***

6. State tax revenues are projected to substantially increase in the presence of iGaming. Due to the new projected revenues from iGaming, as well as the projected increase in Land-based revenues and the anticipated new casinos in New York and Illinois, iGaming is projected to be associated with a substantial increase in tax revenues in all five states. For purposes of this analysis, the potential impact of higher tax rates on revenues is not modeled explicitly, so iGaming revenues are assumed to be the same regardless of the tax rate. However higher tax rates in reality may lead to lower revenues, for example, if higher tax rates discourage investment by iGaming operators.

   The net change in taxes from Land-based revenues due to the Land-based Treatment Effect is calculated by applying each state's current tax rates to the projected changes in Land-based

[49] Exhibit 14. Values in rows [2] through [10] represent projected annual averages from 2025 to 2029.

commercial revenues. Overall, throughout the five-year period from 2025 to 2029, taxes from Land-based revenues are projected to increase by $1.3 billion due to the Land-based Treatment Effect.[50]

Figure 15: Total Projected Increase in Land-based Tax Revenues Associated With Land-based Treatment Effect in 2025–2029 (in $ Millions)[51]

Index	Description	NY	IL (Casinos)	IL (VGTs)	LA	MD	VA	Total 2025–2029
[1]	Projected Increase in Land-based Commercial Revenues	$884	$483	$939	$901	$641	$304	**$4,148**
[2]	Estimated Effective Land-based Tax Rate as of 2022	43.4%	23.1%	34.0%	23.2%	38.8%	11.8%	*n/a*
[3] = [1] x [2]	Projected Increase in Land-based Tax Revenue	$383	$111	$319	$209	$249	$36	**$1,308**

In addition, the projected tax revenues associated with the anticipated revenues from new Land-based casino licenses in New York and new permanent casinos in Illinois are projected to be $2.2 billion throughout the first five years from the launch dates of each new source of revenue.

Figure 16: Total Projected Increase in Land-based Tax Revenues Associated With New Casinos in New York and Illinois[52]

Index	Description	NY – Casino Expansions (2026–2030)	NY – New Casino (Mid Scenario) (2026–2030)	IL – New Casinos (2025–2029)	Total
[1]	Estimated Effective Land-based Tax Rate as of 2022	10.0%	43.4%	23.1%	*n/a*
[2]	Projected Increase in Land-based Revenues	$4,541	$2,710	$2,359	$9,610
[3] = [1] x [2]	Projected Increase in Land-based Tax Revenues	$454	$1,176	$545	2,175

[50] See Figure 15, row [3].

[51] Exhibit 15.

[52] Exhibit 16.

In addition, iGaming itself is also projected to add significant additional tax revenues at rates to be determined by individual state legislatures, based on a projected $42.1 billion in total iGaming revenues from 2025 to 2029 across the five Projection States.[53]

Figure 17: Total Projected iGaming Revenues from 2025 to 2029 (in $ Millions)[54]

Index	Description	NY 2025–2029	IL 2025–2029	LA 2025–2029	MD 2025–2029	VA 2025–2029	Total
[1]	Total Projected iGaming Revenues	$18,063	$9,288	$3,884	$5,520	$5,356	$42,111

Compared to previous studies, this study presents a more comprehensive analysis of the overall economic impact of iGaming, improving and expanding on previous work in several ways, including the following:

1. This study reinforces the empirical evidence regarding the market-expanding effect of iGaming on the overall gaming market and the complementary nature of iGaming and Land-based casinos (Sections IV and V).
2. The AG State Gambling Survey provides validation to both primary results of the analysis of iGaming States: (1) that iGaming expands the overall market and (2) that Land-based revenues increase in the presence of iGaming (Section VI).
3. This study uses three different approaches to evaluate the Land-based Treatment Effect—the ITS approach, the approach motivated by the DiD technique, and the elasticity model, each of which shows a positive Land-based Treatment Effect as the overall result. In addition to the survey results, the robustness of the estimated Land-based Treatment Effect provides additional confidence when interpreting the results. While parts of this analysis are similar to existing studies, this study builds upon previous results by addressing existing methodological concerns. In particular, the methods proposed in this study account for the fact that the six iGaming States legalized iGaming at different times, and they also account for differences in trends for the iGaming States relative to potential counterfactual control states.
4. This study develops a novel model to project iGaming revenues based on sports betting revenues, which makes economic sense considering the similarities between the two markets and is robust to alternate specifications. This model is tested and validated in multiple ways (Section X). Further, this model is supported by analysis in previous studies of the gaming market, which agree that iGaming and sports betting are highly correlated, complementary products with synergies

[53] See Figure 17.

[54] Exhibit 17.

and similarities. However, none of the previous studies evaluated for this report have utilized the similarities between the two types of gaming as a source of predictive power.

5. Even before considering the new survey data introduced in this study, the additional data sources used for this analysis improve upon existing studies in at least two ways: (1) this study estimated Tribal revenues by state each year from 2012 through 2023 (Section III), and (2) this study extended the sample period from existing studies, using data through 2023.
6. The revenue projections for new casinos in New York and Illinois provide context for the gambling market in these states going forward, which are anticipated to have additional growth in Land-based casinos in the coming years.

The remainder of this study is organized as follows. Section II provides an overview of the gaming market and a review of previous studies. Section III describes the data utilized in this study. Section IV provides an analysis of the observed changes in total revenues after iGaming was introduced in the iGaming States. Section V provides an analysis of the observed changes in existing Land-based revenues after iGaming was introduced in the iGaming States. Section VI includes analysis and results from AG Consumer Research and the AG State Gambling Survey.

Section VII provides background on the Projection States. Section VIII provides projections for Land-based revenues in the presence of iGaming based on the Land-based Treatment Effect. Section IX provides revenue projections for the new casino licenses in New York and new casinos in Illinois. Section X describes the models to project iGaming revenues in the Projection States. Section XI summarizes the results for each Projection State. Section XII analyzes tax implications in the iGaming States and Projection States. Section XIII provides author bios and a description of Analysis Group.

This study does not directly model other types of gambling and/or trading, such as sports betting, state lotteries, stock trading, or cryptocurrency trading. This study does not address the social and/or emotional aspects of gambling.

Projecting future and/or counterfactual revenues involves inherent uncertainty, especially in the context of new markets. There are numerous factors that influence gaming revenues and a limited number of observations to fully account for all factors. Such factors include (1) additional casino openings in a state, (2) additional casino openings in neighboring states, (3) casino renovations and expansions, (4) the quality of casino facilities and amenities, (5) the demand for specific casino brands, (6) marketing by casinos, (7) variation in tax rates of iGaming revenues, (8) changes to tax rates of Land-based revenues, and (9) changes in adjacent or related markets, like sports betting, lotteries, entertainment, and hospitality. In addition, broader economic conditions are inherently difficult to forecast, and these may influence gaming revenues. These factors include recessions or financial crises and changing political, climate, health, and/or technological conditions, such as wars, pandemics, natural disasters, and artificial intelligence.

II. Background

A. Overview of the Gaming Market

Gaming can be offered either in person ("Land-based") or online ("iGaming"). There are three primary Land-based gaming venues evaluated in this study: (1) commercial casinos, which are casinos approved by state legislatures and voters (including riverboat casinos and racetrack casinos),[55] (2) Tribal casinos, which are casinos located on Native American reservation land that are subject to the Indian Gaming Regulatory Act,[56] and (3) video gaming terminals, often referred to as VGTs or video lottery terminals (VLTs), which are electronic gaming consoles hosted in nontraditional gambling locations, such as bars and truck stops, where players can wager money to potentially make money based on random chance.[57]

According to the State of the States 2023 report, published by the American Gaming Association (AGA), commercial casinos are legal in 28 states, Tribal casinos are legal in 31 states, and VGTs are legal in 11 states.[58] Across the 50 U.S. states, there is substantial variation in the number and type of casinos, the prevalence of VGTs, and the share of revenue that comes from the different gaming venues.

Land-based casinos and VGTs. From 2012 through 2022 (aside from a sharp one-year decline and recovery in 2020-2021 associated with the COVID-19 pandemic), Land-based revenues have generally grown across the U.S., with an average CAGR of 2.8% when including all states except Nevada over the full time period.[59] However, the iGaming and non-iGaming States did not all experience growth at the same times.

2018 is used as a reference year to break up the period. 2018 is an important year for iGaming because it was just before iGaming was legalized in Pennsylvania and West Virgina, and it was around the time when New Jersey's iGaming revenues started to increase dramatically.[60] See Figure 18. The two early adopters, New Jersey and Delaware, had very slow growth in their first few years when compared to the other iGaming States based on iGaming revenue per adult. By contrast, the states that implemented

[55] https://g-mnews.com/en/tribal-vs-commercial-casinos-in-the-u-s/ (accessed December 16, 2023).

[56] https://g-mnews.com/en/tribal-vs-commercial-casinos-in-the-u-s/ (accessed December 16, 2023).

[57] https://www.playillinois.com/vgts/ (accessed December 16, 2023).

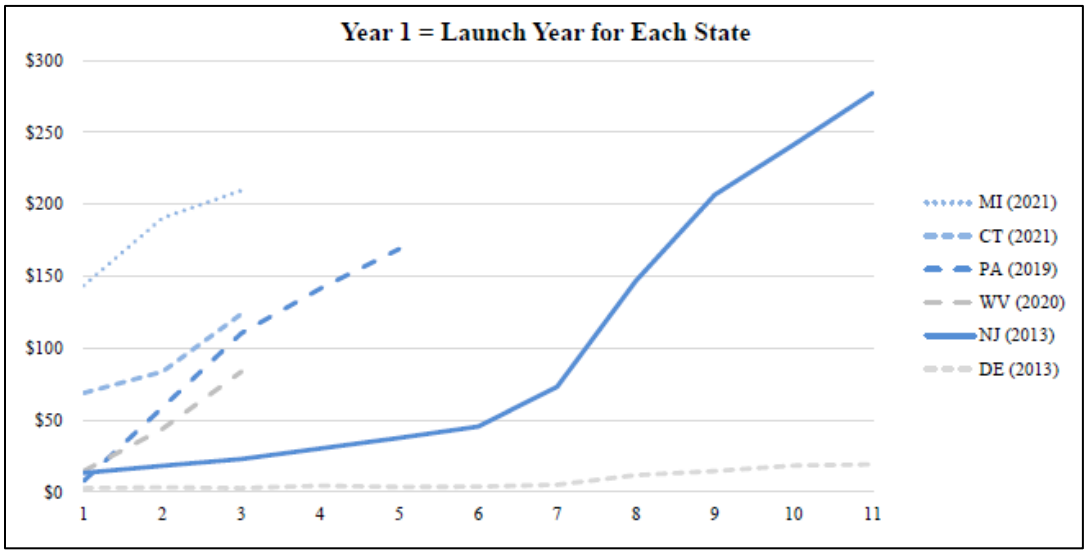
[58] AGA State of the States 2023, at pp. 13-14.

[59] Exhibits 19 and 19A. Nevada is excluded due to its unique stature in the gambling industry, in addition to the fact that the state did not report revenue in 2020.

[60] See Figure 18 at Year 6 for New Jersey, which corresponds to 2018.

iGaming after 2018, especially Michigan and Connecticut, generated more revenue per adult in Year 1 and have had much faster growth in their first few years.

Figure 18: Chart of iGaming Revenue per Adult in iGaming States, Normalized to Launch Year[61]



When using 2018 as a reference year to compare the iGaming States to all other states ("All Other States" in Figure 19), Land-based revenues in the iGaming States had greater CAGRs in 2018-2022 versus 2012-2018 by 2.1%, indicating an overall positive association between iGaming and Land-based revenue growth. See Figure 19. By contrast, Land-based revenues in all other states increased by only 0.6% over the same time periods. Based on the changes in growth rates before and after 2018, the iGaming States outperformed all other states by about 1.5% when compared to their growth in the previous period.[62]

[61] Exhibit 18. iGaming revenue per adult in Year 1 for all six iGaming States is annualized to estimate revenue generated over the course of a full year. See Exhibit 48-49A.

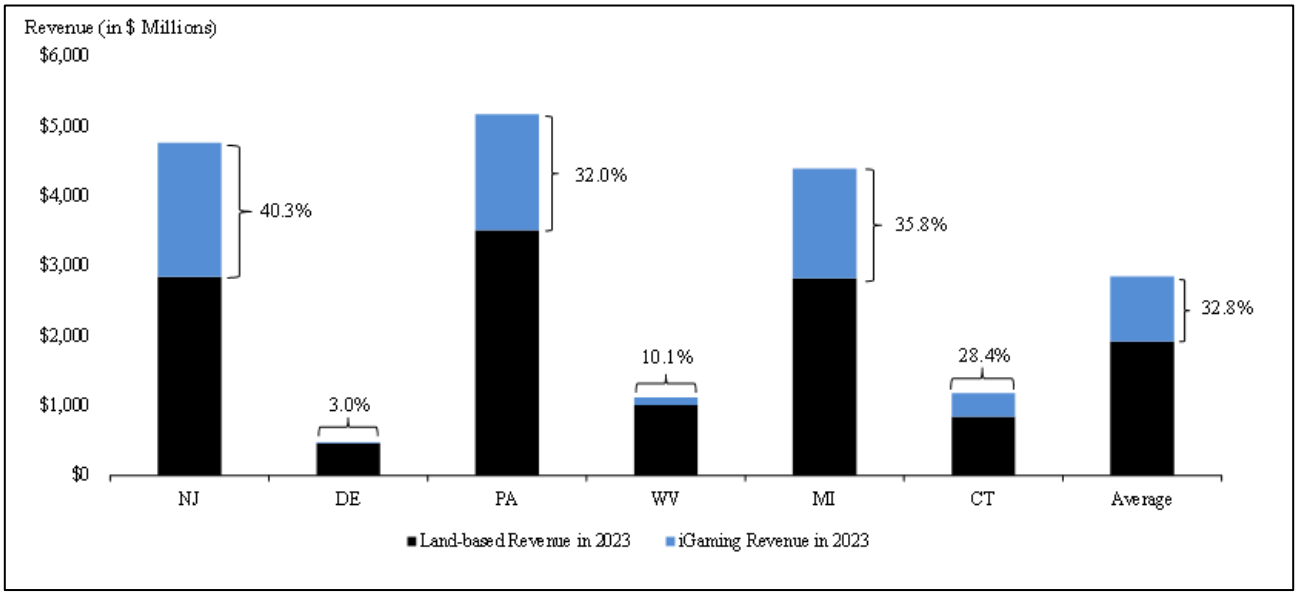
[62] 2.1% – 0.6% = 1.5%.

Figure 19: Changes in CAGRs of Land-based Revenues for iGaming States Versus Non-iGaming States Between 2012–2018 and 2018–2022[63]

Index	Category	2012–2018	2018–2022	Change in CAGR
[1]	iGaming States	-1.5%	0.6%	+2.1%
[2]	All Other States	3.8%	4.4%	+0.6%

iGaming. In total, across the six iGaming States, iGaming generated approximately $5.6 billion in gross gaming revenues in 2023, compared to $11.5 billion from Land-based casino revenues.[64] On average, iGaming represents approximately 32.8% of the market within these six states (when including iGaming, Land-based commercial casinos, and Land-based Tribal casinos). See Figure 20.

Figure 20: Share of iGaming Revenues and Land-based Revenues in 2023 (in $ Millions)[65]



[63] Exhibit 19.

[64] Tribal revenues are included in this calculation.

[65] Exhibit 20. Revenue amounts for certain states are projections based on 2023 data through these months: October for Delaware, September for Pennsylvania, and October for Michigan. For West Virginia, 2022 data is used due to the lack of available 2023 iGaming data. Connecticut Land-based revenue data is from slot machines only because table games are not reported.

Sports betting. While the impact of sports betting on casino revenues is not directly evaluated in this report, there are notable similarities between sports betting, iGaming, and Land-based casinos that are considered in this report. In May 2018, the Supreme Court ruled to strike down the Professional and Amateur Sports Protection Act, a 1992 law that barred state-authorized sports gambling.[66] Since then, sports betting has now launched in 33 states as of 2023.[67] In 2022, sports betting generated $6.4 billion in revenues, according to data collected from the University of Nevada, Las Vegas.[68]

B. Background of iGaming States

As of the date of this report, there are six states that have already legalized iGaming.[69] This section discusses the background of each iGaming State. New Jersey is discussed first, because it is both the largest iGaming market by 2023 revenues, and because it was the second state to implement iGaming, after only Delaware. The remaining states are discussed in the order in which they implemented iGaming.

1. New Jersey

New Jersey became the second state after Delaware to legalize iGaming in February 2013 with the passage of Assembly Bill 2578 (2012-2013), and the first iGaming site in the state began operating in November 2013.[70] As of 2023, New Jersey had the highest iGaming revenue among the six iGaming States with $1.92 billion.[71] As of 2024, there are a total of 30 authorized iGaming sites in New Jersey.[72]

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[66] https://www.espn.com/chalk/story/_/id/23501236/supreme-court-strikes-federal-law-prohibiting-sports-gambling (accessed February 1, 2024).

[67] Exhibit 59.

[68] Exhibit 87.

[69] Rhode Island became the seventh state to legalize in June 2023 (https://igamingbusiness.com/legal-compliance/rhode-island-becomes-seventh-state-legalise-igaming/ (accessed February 2, 2024)). Due to the recency of this action and lack of available data, however, this study does not utilize data from Rhode Island in its analysis.

Nevada is also excluded from the iGaming States because its online casino gambling options are limited. According to US Gaming Review, online casino gambling is not legal in the state of Nevada. However, two online casinos are legal in Chumba Casino and LuckyLand Slots, as they bypass the laws since the wagering involves sweeps cash or gold coins. Online poker is legal in Nevada, but the only site players in the state can visit is WSOP.com. https://usgamingreview.com/online-gaming/nevada/ (accessed February 26, 2024).

[70] Exhibit 71. See also: https://www.gamingregulation.com/regulation/united-states/new-jersey/interactive-gaming/ (accessed February 27, 2024).

[71] Exhibit 20.

[72] See https://www.njoag.gov/about/divisions-and-offices/division-of-gaming-enforcement-home/internet-gaming-sites/ (accessed February 27, 2024).

Within the state, iGaming is the fastest-growing source of commercial revenues, generating a total of $1.66 billion in revenues in 2022 and $1.92 billion in 2023.[73]

New Jersey has an established regulatory framework for iGaming. To operate iGaming, a Land-based casino must first apply for a permit. There is an application fee of $100,000 to acquire a permit, which can be applied to the $400,000 licensing fee.[74] After approval, iGaming licensees must renew their permits annually, paying a renewal fee based on the cost of maintaining enforcement, control, and regulation of internet wagering operations.[75] The renewal fee starts at $250,000.[76]

As an early adopter of iGaming, New Jersey did not have the benefit of learning from other states. Since iGaming's legalization, New Jersey has implemented several regulatory reforms, including the following:

1. In October 2017, New Jersey agreed to start pooling online poker players with Delaware and Nevada as part of the Multi-State Internet Gaming Agreement, first announced by the latter two states in 2014, and New Jersey officially joined this collaboration in April 2018.[77]
2. In 2017, the New Jersey Division of Gaming Enforcement proposed processes to streamline the licensure application process for companies active in multiple jurisdictions, loosen approval requirements for certain debt transactions, and change accounting and security regulations.[78]
3. In 2022, New Jersey introduced heightened responsible gaming standards applicable to all iGaming and sportsbook operators.[79] The standards required that internet casinos have systems in place to monitor player activity and flag signs of problem gambling.[80] It also required that special responsible gambling teams be present to provide resources to at-risk patrons.[81] These standards are not a formal requirement and were shared with casino operators in June 2022 by the Division of Gaming Enforcement, coming into effect in January 2023.[82]

[73] AGA State of the States 2023, at p. 83. Exhibit 28 for New Jersey in 2022 and 2023.

[74] https://www.americangaming.org/wp-content/uploads/2021/03/AGAGamingRegulatoryFactSheet_NewJersey-2022.pdf, at p. 1.

[75] https://www.americangaming.org/wp-content/uploads/2021/03/AGAGamingRegulatoryFactSheet_NewJersey-2022.pdf, at p. 4.

[76] https://www.americangaming.org/wp-content/uploads/2021/03/AGAGamingRegulatoryFactSheet_NewJersey-2022.pdf, at p. 4.

[77] AGA State of the States 2019, at p. 79.

[78] AGA State of the States 2018, at p. 79.

[79] AGA State of the States 2023, at p. 84.

[80] AGA State of the States 2023, at p. 84.

[81] AGA State of the States 2023, at p. 84.

[82] AGA State of the States 2023, at p. 84.

4. In July 2022, the New Jersey Division of Gaming Enforcement implemented two sets of practices to address the risks of online fraud.[83] The first required internet casinos and sports betting operators to apply multifactor authentication to prevent account takeover fraud or credential stuffing attacks.[84] Second, know your customer protocols required operators to use multifactor authentication to verify the identities of patrons establishing new iGaming accounts.[85]

Revenue Growth Trend Before iGaming (2007–2012). Between 2006 and 2016, New Jersey's gaming market experienced consistent declines.[86] The AGA indicated that in 2012, the year before iGaming launched, New Jersey experienced an 8% drop in gross gaming revenues and an 8.2% drop in gaming tax revenues, the largest declines in the country.[87] Indeed, New Jersey's annual average Land-based casino revenue growth rate before iGaming was -8.1% over the period 2009 to 2012.[88] The AGA indicates that casino closings and reduced tourism due to Hurricane Sandy, alongside increased competition from newer casinos in the mid-Atlantic region, contributed to this large revenue decline in the state.[89] Despite the legalization of iGaming in 2013 and a revenue contribution from iGaming, total gaming revenues continued to decrease until 2016, and iGaming's overall revenues were small in its first three years.[90]

In 2012, prior to the legalization of iGaming in New Jersey, Land-based casino revenues were $3.1 billion.[91] According to data from the AGA, New Jersey had 12 commercial casinos in 2012, eight in 2015, seven in 2016 and 2017, and nine from 2018 to 2022.[92] New Jersey also did not, and still does not, have any Tribal casinos or VGTs.[93] Land-based revenue per adult in 2012 was $478.[94]

[83] AGA State of the States 2023, at p. 84.

[84] AGA State of the States 2023, at p. 84.

[85] AGA State of the States 2023, at p. 84.

[86] Exhibit 21. See also AGA State of the States 2017, at p. 21.

[87] AGA State of the States 2012, at p. 2.

[88] Exhibit 27A, row [11].

[89] AGA State of the States 2013, at p. 2.

[90] Exhibit 21A, row [6].

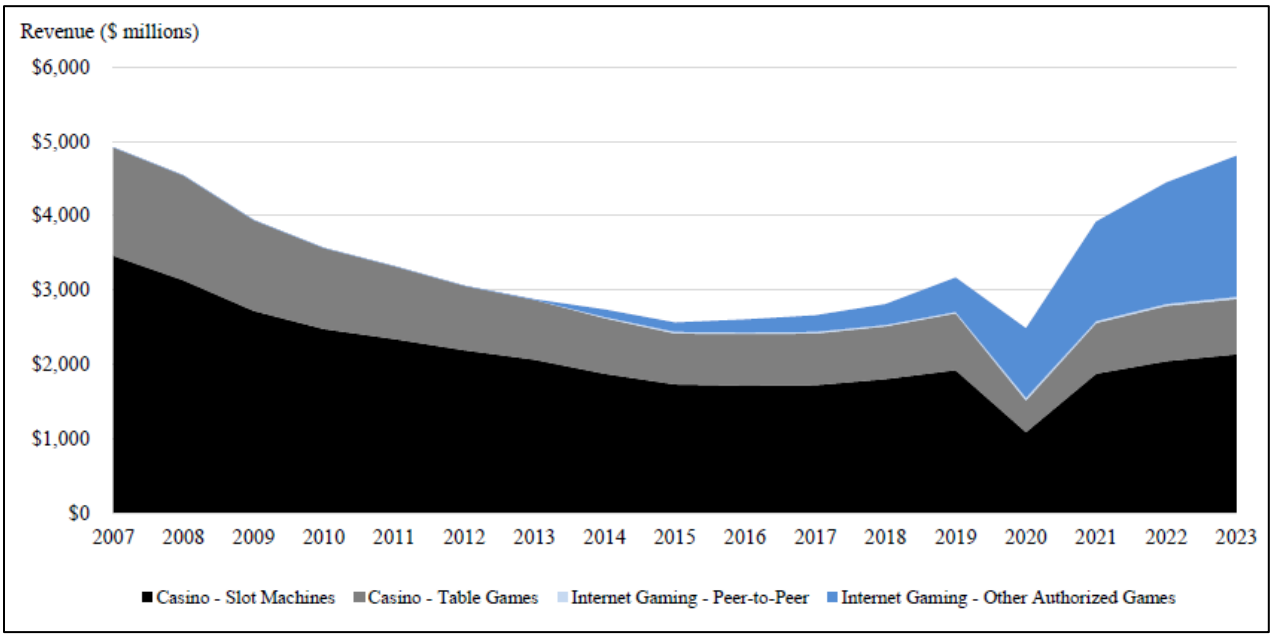
[91] Exhibit 21A, row [3].

[92] Exhibit 92.

[93] AGA State of the States 2023, at p. 14.

[94] Exhibit 73, row [1].

Figure 21: Chart of New Jersey Gambling Revenue by Venue and Game Type[95]



[95] Exhibit 21.

2. Delaware

With the passage of the Delaware Gaming Competitiveness Act of 2012 (HB 333) on June 28, 2012, under Governor Jack Markell, Delaware became the first state to legalize iGaming.[96] On November 7, 2013, iGaming launched in the state through a single state-selected operator, 888 Holdings, that is collaborating with Scientific Games Corporation.[97] The law legalized online slot machines, some table games, video poker, poker tournaments, and cash games to patrons older than 21 years of age.[98]

Delaware's racetrack casino licensees—Delaware Park, Dover Downs, and Harrington Raceway & Casino—do not have to obtain additional licenses to offer iGaming.[99] However, technology service vendors must obtain two-year licenses from the state for their services at a cost of $4,000, which can be renewed for another $4,000 for three-year periods.[100] Non-gaming vendors must pay a $2,000 license fee that runs for three years and can be renewed for $2,000 for four-year periods.[101] In general, the Delaware State Lottery Office regulates casino games in the state.[102]

Revenue Growth Trend Before iGaming (2007–2012). Prior to the legalization of iGaming, Delaware's Land-based casino revenues were declining. Even with the addition of table games as a new source of revenue in 2010, Land-based revenues declined from $614.2 million in 2007 to $520.5 million in 2012.[103] In fact, in 2012, the year immediately before the legalization of iGaming, Delaware experienced the second largest percentage decrease in both gaming revenues (a 4.7% decrease) and tax revenues (a 5.5% decrease) of any state in the U.S.[104] The AGA indicates that competition from other mid-Atlantic states, like in the case of New Jersey, is one of the reasons for this decline.[105] From 2012 to 2022, the

[96] https://www.legalsportsreport.com/delaware/casino/ (accessed December 18, 2023).

[97] https://www.legalsportsreport.com/delaware/casino/ (accessed December 18, 2023); 888 signed a contract with the Delaware Lottery to be the primary vendor team, along with Scientific Games Corporation, to operate iGaming. https://www.prnewswire.com/news-releases/888-announces-igaming-in-delaware-is-live-includes-full-complement-of-casino-games-and-poker-232530021.html (accessed February 6, 2024).

[98] https://www.legalsportsreport.com/delaware/casino/ (accessed December 18, 2023).

[99] https://www.legalsportsreport.com/delaware/casino/ (accessed December 18, 2023).

[100] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at PDF p. 1 (accessed December 18, 2023).

[101] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at PDF p. 1 (accessed December 18, 2023).

[102] https://www.legalsportsreport.com/delaware/casino/ (accessed December 18, 2023).

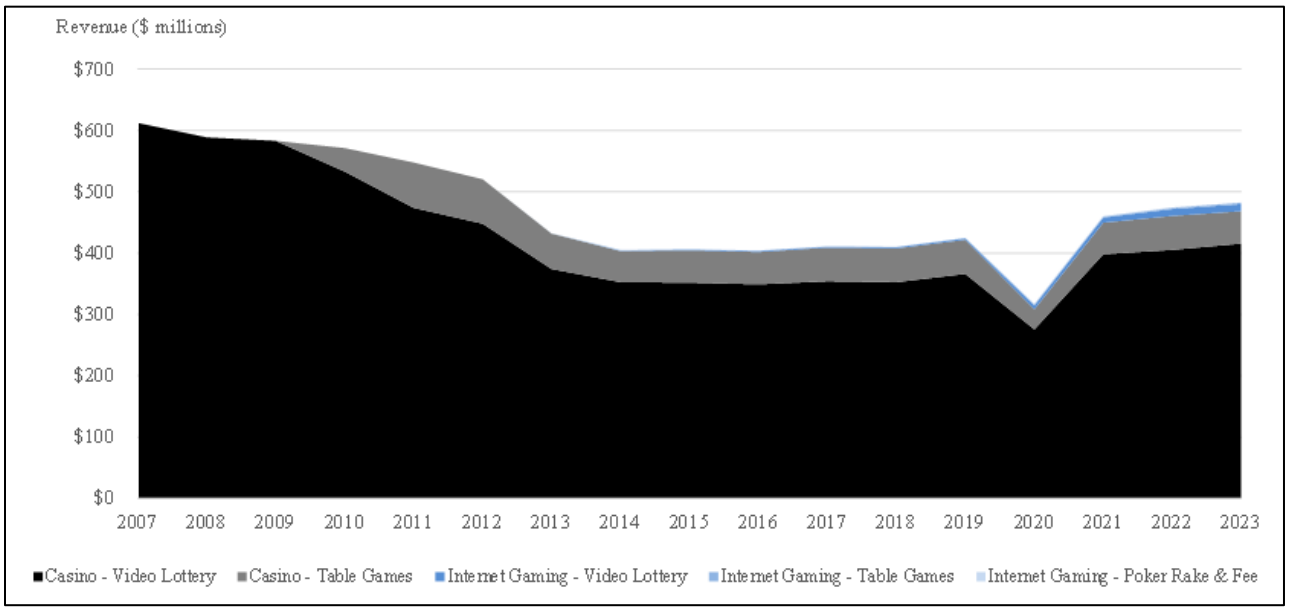
[103] Exhibit 22A.

[104] AGA State of the States 2013, at p. 11.

[105] AGA State of the States 2013, at p. 11.

number of commercial racinos in Delaware has remained constant at three.[106] Notably, Delaware does not have any Land-based commercial casinos, riverboat casinos, or Tribal casinos.[107]

Figure 22: Chart of Delaware Gambling Revenue by Venue and Game Type[108]



Despite the legalization and launch of iGaming in 2012 and 2013, respectively, it did not immediately generate sizeable revenues for Delaware. In 2014, the first full year iGaming operated in the state, it only generated $2.1 million in revenues.[109] Total annual iGaming revenues remained under $3 million through 2018.[110] Only starting in 2019 did revenues from iGaming in Delaware begin increasing slightly.[111]

[106] Exhibit 92.

[107] AGA State of the States 2023, at p. 4 and p. 16.

[108] Exhibit 22.

[109] Exhibit 22A, row [7].

[110] Exhibit 22A, row [7].

[111] Exhibit 22A, row [7].

3. Pennsylvania

Through the passage of House Bill 271 (HB 271), a comprehensive omnibus gaming expansion bill spanning over 900 pages in October 2017, Pennsylvania became the third state to legalize iGaming.[112] Among other things, HB 271 established the following: (1) the legalization of online poker, slots, and table games; (2) the creation of 12 total licenses for iGaming—one for each of the state's 12 Land-based casinos; (3) a $10 million cost to apply for a collective license to operate all three internet game types within the first 90 days of the licensing period; (4) a $4 million cost to apply for an individual license to operate any one game type after 90 days; (5) a $4 million cost to apply for any unclaimed individual licenses after 120 days for any qualified entities that aren't existing Pennsylvania Land-based casinos; and (6) a $1 million cost to officially obtain a vendor license.[113] In April 2018, the Pennsylvania Gaming Control Board approved several iGaming regulations, under which there is no limitation on the number of independent brands ("skins") that can operate under each iGaming license. Each skin a licensee operates must be clearly branded to indicate that it is being provided on behalf of the licensee.[114]

In addition to online gambling, HB 271 also legalized VGTs at truck stops, an online lottery, daily fantasy sports, the construction of up to 10 Category 4 ("satellite," or mini) casinos, and sports betting.[115] Each eligible and licensed truck stop in the state is only allowed to operate a maximum of five VGTs, with minimum bets of $5 and maximum bets of $1,000.[116] Unlike other states like Illinois (which is discussed later in this report), the VGT market in Pennsylvania has had less success. The first VGT went into service in Pennsylvania in August 2019, approximately seven years after the gaming format first emerged in Illinois.[117] In 2022, Illinois' network of over 45,000 VGTs generated $2.7 billion in revenues.[118] By contrast, Pennsylvania's 66 truck stops, accounting for a maximum of 330 VGTs, generated much smaller revenues of $41.2 million in 2022.[119] It is worth noting, however, that researchers believe that Pennsylvania has a large number of illegal VGTs, with an estimate of between 20,000 to 40,000 illegal units.[120] The differences in the VGT landscape between Illinois and Pennsylvania may also be attributable

[112] https://www.pennbets.com/pennsylvania-online-gambling-law/ (accessed December 12, 2023).

[113] https://www.pennbets.com/pennsylvania-online-gambling-law/ (accessed December 12, 2023).

[114] https://www.playpennsylvania.com/pa-online-gambling-skins/ (accessed January 9, 2024).

[115] https://www.pennbets.com/pennsylvania-online-gambling-law/ (accessed December 12, 2023).

[116] https://gamingcontrolboard.pa.gov/files/legislation/VGT_FAQ.pdf (accessed December 19, 2023).

[117] https://www.playpennsylvania.com/video-gambling-terminal/ (accessed December 20, 2023); 2023 AGA Report, at p. 43.

[118] AGA State of the States 2023, at p. 43, and Exhibit 39A.

[119] AGA State of the States 2023, at p. 99, and Exhibit 23A.

[120] https://www.playpennsylvania.com/video-gambling-terminal/ (accessed December 20, 2023).

to the vastly different tax rates in the two states: whereas Illinois only charges a 34% tax on VGTs, Pennsylvania charges a 52% tax rate on VGTs.[121]

Although iGaming operations became legal in 2017, the first iGaming sites did not launch until July 2019.[122] This is because the Pennsylvania Gaming Control Board initially implemented iGaming through a two-week test period with only three operators and limited game type offerings.[123] By the end of 2019, only five online options existed, but the initial revenue results seemed promising at the time.[124] Since then, the number of iGaming operations have grown considerably, and as of 2022, there are 18 internet casinos and 13 online sportsbooks in Pennsylvania.[125]

Revenue Growth Trend Before iGaming (2012–2018). Prior to the passage of HB 217, gaming revenues in Pennsylvania were stagnant. During the period from 2013 to 2018, total Land-based revenues only increased from $3.1 billion to $3.3 billion—an average annual growth rate of 1.8%.[126] According to the AGA, this result is partially because Pennsylvania's casino industry experienced marginal declines in revenue for the first time in 2014 and 2015 due to competition from new casinos in Ohio and Michigan.[127] In addition, Pennsylvania's slow growth during this time period may have been a result of the state's gambling industry approaching market saturation. In fact, as of December 2017, the state had already awarded all but one of its 14 total licenses to operate commercial casinos.[128] After 2017, the Pennsylvania Legislature authorized a wide-ranging gaming expansion bill that authorized up to 10 additional mini casinos, each limited to a maximum of 750 electronic gaming devices and 40 table games.[129] With all this in mind, Pennsylvania had 11 commercial casinos in 2012, 12 from 2015 to 2019, 13 in 2020, and 16 from 2021 to 2022.[130]

[121] https://www.playpennsylvania.com/video-gambling-terminal/ (accessed December 12, 2023); https://www.bonus.com/news/operators-video-gaming-terminals-illinois-influence (accessed December 12, 2023).

[122] https://unitedcommunityfcu.org/pennsylvania-online-gambling/#:~:text=Yes (accessed December 12, 2023).

[123] https://www.playpennsylvania.com/two-year-pa-online-casinos-look-back/ (accessed December 12, 2023).

[124] https://www.playpennsylvania.com/two-year-pa-online-casinos-look-back/ (accessed December 12, 2023).

[125] AGA State of the States 2023, at p. 98.

[126] Exhibit 23A, row [4]. ($3,256 million ÷ $3,097 million) ^ (1 ÷ 5 years) – 1 = 1.76%.

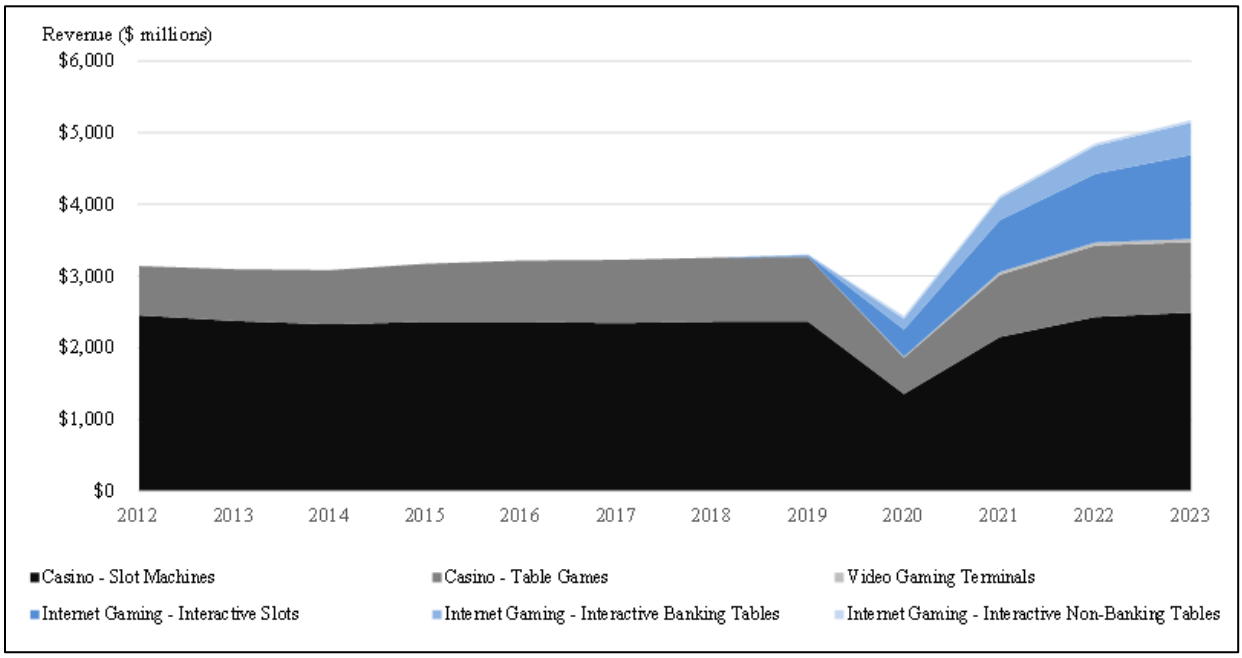
[127] AGA State of the States 2016, at p. 34.

[128] AGA State of the States 2018, at p. 97.

[129] AGA State of the States 2023, at p. 98.

[130] Exhibit 92.

Figure 23: Chart of Pennsylvania Gambling Revenue by Venue and Game Type[131]



[131] Exhibit 23A.

4. West Virginia

With the passage of the West Virginia Lottery Interactive Wagering Act (HB 2934) on March 27, 2019, through the office of Governor Jim Justice, West Virginia became the fourth U.S. state to legalize iGaming.[132] The law allowed the state's five Land-based casinos to apply for interactive gaming licenses, which permitted them to offer casino games and poker in an online format to patrons over 21 years of age.[133] Casinos in West Virginia can apply for five-year permits at a cost of $250,000, renewable every five years for $100,000.[134] iGaming operations in the state are subject to regulations by the West Virginia Lottery Commission.[135] The Interactive Wagering Act became effective in July 2020, and the DraftKings casino became the first iGaming operator in the state.[136] Since its legalization, iGaming has had success in West Virginia, accounting for (alongside sports wagering) more than 20% of total statewide commercial casino revenues, and is now the fastest-growing gaming type in the state.[137]

Revenue Growth Trend Before iGaming (2012–2019). In the years immediately prior to iGaming legalization in 2019, West Virginia experienced slight increases in Land-based revenues. From 2017 to 2019, Land-based revenues increased from $913 million to $942 million, a 1.6% annual increase.[138] This slight increase in revenues, however, came after several years of declining revenues. From 2012 to 2017, Land-based revenues in the state fell from $1.3 billion to $913 million.[139] According to the AGA, West Virginia's number of commercial casinos has remained constant at five from 2012 to 2022.[140] iGaming began operating in the state in 2020, the same year the COVID-19 pandemic began. Total Land-based revenues fell from $913 million in 2017 to $747 million in 2020, consistent with declines in other states

[132] https://contents.pokerstake.com/articles/west-virginia-officially-legalizes-online-gaming-including-poker-623398/ (accessed December 18, 2023).

[133] https://contents.pokerstake.com/articles/west-virginia-officially-legalizes-online-gaming-including-poker-623398/ (accessed December 18, 2023).

[134] https://contents.pokerstake.com/articles/west-virginia-officially-legalizes-online-gaming-including-poker-623398/ (accessed December 18, 2023).

[135] AGA State of the States 2023, at p. 117.

[136] https://www.mlive.com/casinos/reviews/west-virginia/ (accessed December 19, 2023).

[137] AGA State of the States 2023, at p. 112.

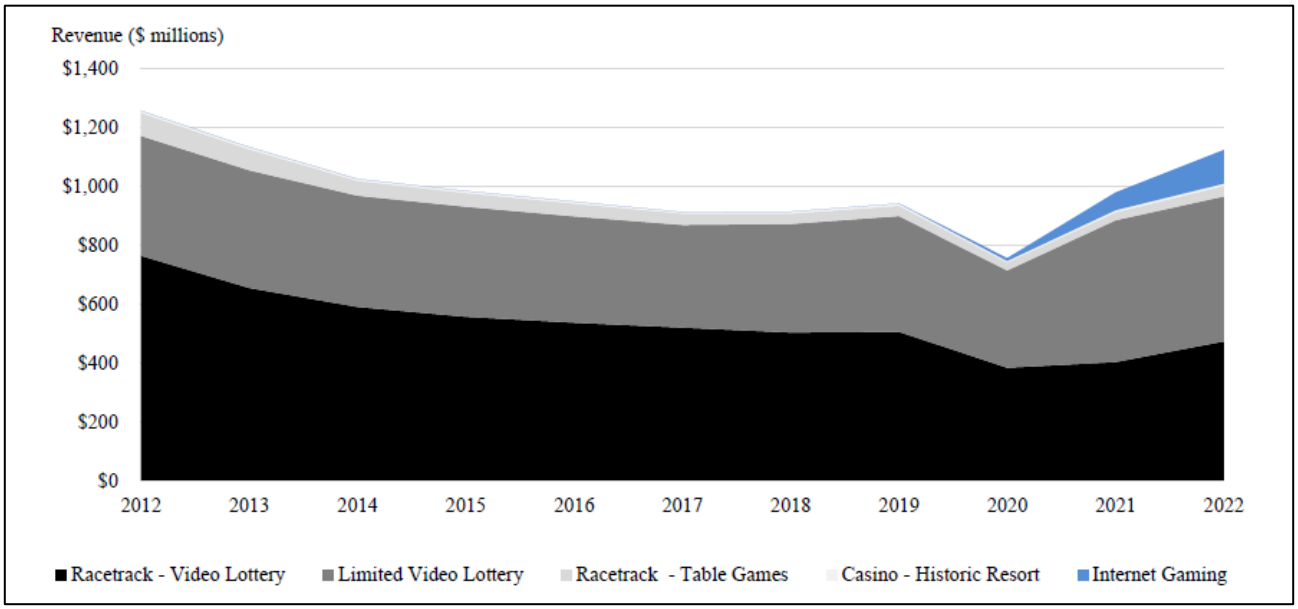
[138] Exhibit 24A, row [5]. ($942 million ÷ $913 million) ^ (1 ÷ 2 years) – 1 = 1.58%.

[139] Exhibit 24A, row [5].

[140] Exhibit 92.

during COVID-19.[141] iGaming still generated $9 million in revenues in the first year of its operation in West Virginia.[142]

Figure 24: Chart of West Virginia Gambling Revenue by Venue and Game Type[143]



[141] Exhibit 24A, row [5].

[142] Exhibit 24A, row [7].

[143] Exhibit 24.

5. Michigan

Michigan legalized iGaming with the passage of House Bill 4311 (HB 4311), or The Lawful Internet Gaming Act, on December 20, 2019, which made Michigan the fifth state in the country to legalize iGaming.[144] Among other things, this act legalized online poker, slots, table games, and sports betting.[145] HB 4311 also established that Land-based casino operators could each have one "skin" (i.e., an online brand) for online poker, in addition to a separate skin for iGaming.[146] The cost to acquire an iGaming operator license includes a $50,000 application fee, $100,000 initial license fee (valid for five years), and a $50,000 renewal fee for every year thereafter.[147]

In 2019, prior to the COVID-19 pandemic and the legalization of iGaming, Michigan's Tribal-owned casinos generated $1.5 billion in revenues, and Michigan's three Land-based casinos in Detroit also generated approximately $1.5 billion in revenues.[148] Although Michigan legalized iGaming in December 2019, it did not become operational until January 2021.[149] Since then, Michigan's iGaming industry had grown to a total of 15 online sportsbooks, 14 internet casinos, and three online poker platforms as of the end of 2022.[150]

Revenue Growth Trend Before iGaming (2012–2020). Prior to the legalization of iGaming, Land-based casino revenues in Michigan were relatively constant. During the period from 2012 to 2019, revenues only increased from $2.9 billion to $3.0 billion—growing just 2.2% over the course of seven years, or an annual growth rate of 0.3%.[151] According to the AGA, this trend is partially due to the fact that Michigan capped the total number of commercial casinos in the state at three as of 1996.[152] As such, Michigan's number of commercial casinos has remained constant at three from 2012 to 2022.[153] Additionally, an amendment from a ballot initiative in 2004 made gaming expansion in Michigan even more difficult, as the amendment requires that any new commercial gambling facilities or electronic gaming devices at

[144] https://www.mibets.com/law/ (accessed December 13, 2023).

[145] https://www.mibets.com/law/ (accessed December 13, 2023).

[146] https://www.mibets.com/law/ (accessed December 13, 2023).

[147] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Michigan-2022.pdf (accessed December 22, 2023).

[148] Exhibit 25A, rows [1] and [2].

[149] AGA State of the States 2023, at p. 66.

[150] AGA State of the States 2023, at p. 66.

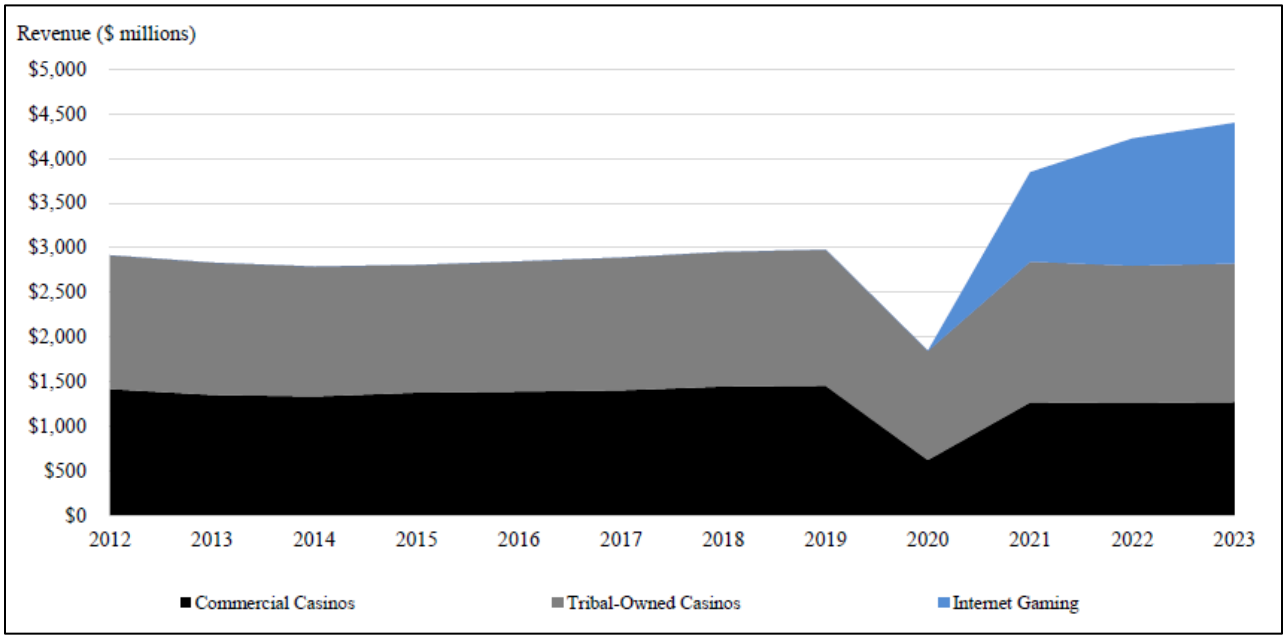
[151] Exhibit 25A, row [3]. ($2,977 million – $2,914 million) ÷ $2,914 million = 0.0216; ($2,977 ÷ $2,914) ^ (1 ÷ 7 years) – 1 = 0.31%.

[152] AGA State of the States 2023, at p. 66.

[153] Exhibit 92.

venues such as racetracks must receive a majority vote both statewide and locally.[154] During the COVID-19 pandemic, Land-based revenues declined in Michigan substantially, as Detroit's three commercial casinos closed over the summer and reopened at a severely restricted capacity.[155] Casinos were able to operate at full capacity after Michigan rescinded most of its COVID-19 restrictions on June 22, 2021.[156] Casinos in Detroit started to operate at full capacity by July 1, 2021.[157] In Michigan, Land-based revenues have not yet fully recovered to their pre-pandemic levels as of 2023. Prior to the pandemic, Michigan had 24 Tribal casinos in addition to three commercial casinos.[158] The permanent closure of the Bay Mills Indian Community-owned Kings Club Casino in Northern Michigan may explain in part why Michigan's casino industry has not recovered to pre-2020 levels.[159]

Figure 25: Chart of Michigan Gambling Revenue by Venue and Game Type[160]



[154] AGA State of the States 2021, at p. 78.

[155] AGA State of the States 2021, at p. 78.

[156] https://www.americangaming.org/research/covid-19-casino tracker/ (accessed February 5, 2024).

[157] https://www.playmichigan.com/detroit-casinos-capacity-limits-removed-july-1-mask-mandate/ (accessed February 5, 2024).

[158] AGA State of the States 2019, at p. 61. Michigan had 22 Tribal-owned casinos in 2012, 23 from 2015 to 2016, 24 from 2017 to 2020, and 23 from 2021 to 2022. Exhibit 93.

[159] https://www.playmichigan.com/kings-club-casino-permanently-closed-bay-mills/ (accessed February 5, 2024).

[160] Exhibit 25.

6. Connecticut

On May 27, 2021, Connecticut Governor Ned Lamont announced that he had signed House Bill 6451, which legalized both iGaming and sports betting in the state.[161] Through this bill, online casino games, such as slot machines, table games, and poker, became accessible to state residents.[162] This law authorized Connecticut's two gaming tribes, the Mohegan and Mashantucket Pequot, to offer online casino gaming and mobile betting off-reservation.[163] To do so, these two tribes had to apply for a "master wagering license" but were not required to pay any licensing or renewal fees.[164]

By contrast, other potential iGaming operators (persons or business entities seeking a contract with the master wagering licensee) had to apply at a cost of $250,000, with an annual renewal fee of $100,000.[165] Additionally, iGaming service providers (persons or businesses that provide goods and services to either gaming operators or master wagering licensees) were required to obtain a separate license at an initial application fee of $2,000, with an annual renewal cost of $2,000.[166] The DraftKings/Mashantucket Pequot Tribal Nation/Foxwoods Resort Casino and Mohegan Gaming & Entertainment/FanDuel Group iGaming operations (the only two in the state) launched on October 19, 2021, following a one-week trial period.[167]

Connecticut's casinos have experienced increasing competition from other markets in the region in recent years. While Connecticut has traditionally drawn a substantial proportion of its customers from neighboring states, such as Massachusetts,[168] the opening of the MGM Springfield and Encore Boston Harbor casino resorts in Massachusetts in 2018 and 2019, respectively, have restricted the customer base substantially.[169] The approval of retail and mobile sports betting in Massachusetts in 2022 further

[161] https://portal.ct.gov/Office-of-the-Governor/News/Press-Releases/2021/05-2021/Governor-Lamont-Signs-Legislation-Legalizing-Online-Gaming-and-Sports-Wagering-in-Connecticut (accessed December 19, 2023).

[162] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Connecticut-2022.pdf ("AGA Connecticut Regulatory Fact Sheet"), at p. 7.

[163] AGA Connecticut Regulatory Fact Sheet, at p. 6.

[164] AGA Connecticut Regulatory Fact Sheet, at p. 6.

[165] AGA Connecticut Regulatory Fact Sheet, at p. 6.

[166] AGA Connecticut Regulatory Fact Sheet, at p. 6.

[167] https://www.legalsportsreport.com/ct/casino/ (accessed December 19, 2023); https://www.draftkings.com/news-2021-10-foxwoods-and-draftkings-launch-online-sports-betting-and-igaming-in-connecticut (accessed December 19, 2023); https://newsroom.mohegansun.com/2021/10/19/mohegan-gaming-entertainment-and-fanduel-group-launch-mobile-sports-betting-and-casino-platforms-in-connecticut/ (accessed December 19, 2023).

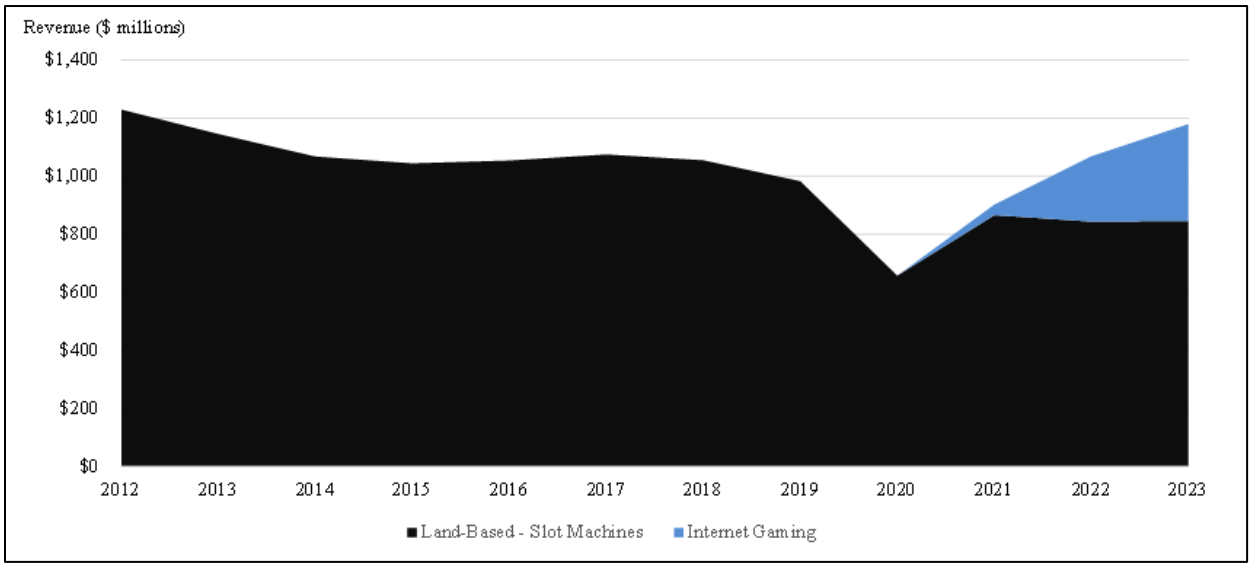
[168] AGA State of the State 2023, at p. 64.

[169] AGA State of the State 2023, at p. 63.

magnified this competition in the iGaming market despite Connecticut being the only New England state with legalized iGaming.[170]

Revenue Growth Trend Before iGaming (2012–2020). There are only two Land-based casinos in Connecticut, both of which are Tribal owned.[171] These two have been the only Land-based casinos in the state from 2012 to 2022.[172] Connecticut's state government websites provide data corresponding to casino win from slot machines only and do not provide data on table games.[173] Considering the available data on slot machine revenues, Connecticut was experiencing declining Land-based revenues prior to iGaming legalization. From 2012 to 2019, Land-based revenues fell from $1.2 billion to $982 million, an average annual decline of 3.2%.[174] During the COVID-19 pandemic in 2020, these revenues fell further to $657 million.[175] Although iGaming was legalized in 2021, making 2020 the last effective year before iGaming, this study uses 2019 as the baseline year so that the results are not impacted by COVID-19.[176]

Figure 26: Chart of Connecticut Gambling Revenue by Venue and Game Type[177]



[170] AGA State of the State 2023, at p. 34.

[171] AGA State of the State 2023, at p. 33.

[172] Exhibit 93.

[173] https://portal.ct.gov/DCP/Gaming-Division/Gaming/Gaming-Revenue-and-Statistics (accessed December 12, 2023).

[174] Exhibit 26A, row [3]. ($982 million ÷ $1,230 million) ^ (1 ÷ 7 years) – 1 = -3.17%.

[175] Exhibit 26A, row [3].

[176] See Figure 32.

[177] Exhibit 26.

C. Previous Studies

This section summarizes relevant academic articles and market reports studying the impact of one form of gambling on revenues and other outcomes of interest related to other forms of gambling:

1. Walker, Douglas M., and Jackson, John D., "Do U.S. Gambling Industries Cannibalize Each Other?" *Public Finance Review*, Vol. 36, No. 308 (2008): 308-333.[178]
2. Marionneau, Virve, "Market Cannibalization Within and Between Gambling Industries: A Systematic Review," *Journal of Gambling Issues*, Vol. 2017, No. 37 (2017): 1-35.[179]
3. Philander, K.S., "The Effect of Online Gaming on Commercial Casino Revenue," *UNLV Gaming Research & Review Journal*, Vol. 2, No. 2 (2011): 23-34.[180]
4. Philander, K.S., and Abarbanel, Brett, and Repetti, Toni, "Consumer Spending in the Gaming Industry: Evidence of Complementary Demand in Casino and Online Venues," *International Gambling Studies*, Vol. 15, No. 2 (2015): 1-17.[181]
5. Philander, K.S., and Fiedler, Ingo, "Online Poker in North America: Empirical Evidence on Its Complementary Effect on the Offline Gambling Market," *Gaming Law Review and Economics*, Vol. 16, No. 7-8 (2012): 415-423.[182]
6. The Innovation Group, "iGaming in Maryland," November 2023.[183]
7. SAGE Policy Group, "iGaming in Maryland," January 2024.[184]
8. Deutsche Bank, "iCasino Growing Market Gaming Revenue, But Is It Good for Everyone?" September 2022.[185]

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[178] Walker, Douglas M., and Jackson, John D., "Do U.S. Gambling Industries Cannibalize Each Other?" *Public Finance Review*, Vol. 36, No. 308 (2008): 308-333 ("Walker and Jackson (2008)").

[179] Marionneau, Virve, "Market Cannibalization Within and Between Gambling Industries: A Systematic Review," *Journal of Gambling Issues*, Vol. 2017, No. 37 (2017): 1-35 ("Marionneau (2017)").

[180] Philander, K.S., "The Effect of Online Gaming on Commercial Casino Revenue," *UNLV Gaming Research & Review Journal*, Vol. 2, No. 2 (2011): 23-34 ("Philander (2011)").

[181] Philander, K.S., and Abarbanel, Brett, and Repetti, Toni, "Consumer Spending in the Gaming Industry: Evidence of Complementary Demand in Casino and Online Venues," *International Gambling Studies*, Vol. 15, No. 2 (2015): 1-17 ("Philander et al. (2015)").

[182] Philander, K.S., and Fiedler, Ingo, "Online Poker in North America: Empirical Evidence on Its Complementary Effect on the Offline Gambling Market," *Gaming Law Review and Economics*, Vol. 16, No. 7-8 (2012): 415-423 ("Philander and Fiedler (2012)").

[183] The Innovation Group, "iGaming in Maryland," November 2023, available at https://dlslibrary.state.md.us/publications/JCR/2023/2023_49-50.pdf ("TIG Report (2023)").

[184] SAGE Policy Group, "iGaming in Maryland," January 2024, available at https://annearundelchamber.org/wp-content/uploads/2024/01/igamingreport.pdf ("SAGE Policy Group Memorandum (2024)").

[185] Deutsche Bank, "iCasino Growing Market Gaming Revenue, But Is It Good for Everyone?" September 2022 ("Deutsche Bank Report (2022)").

9. The Innovation Group and the American Gaming Association, "Sizing the Illegal Market and Unregulated Gaming Markets in the United States," November 2022.[186]
10. Spectrum Gaming Group, "Gaming Market Study: State of New York," January 2021.[187]
11. Spectrum Gaming Group, "Market and Policy Analysis: Prospective Internet Casino Gaming in Indiana," December 2023.[188]
12. iDEA and Meister Economic Consulting, "Economic Impact of New Jersey Online Gaming: Further Lessons Learned," October 2019.[189]
13. iDEA and Eilers & Krejcik Gaming, "Comparing Online and Land-Based Casino Gaming," February 2024.[190]

Walker and Jackson (2008). This article provided a comprehensive analysis of the interindustry relationships between lotteries, casinos, horse racing, and greyhound racing from 1985 to 2000.[191] The authors collected gambling volume data for each of the four games they studied.[192] The data they collected for greyhound racing, horse racing, and lotteries were *handle per capita*, which is the total dollar value of bets placed divided by the state population.[193] For casinos, the authors collected data on *revenue per capita*, which is the amount the casinos keep after paying the winning bets divided by the state

[186] The Innovation Group and the American Gaming Association, "Sizing the Illegal Market and Unregulated Gaming Markets in the United States," November 2022, available at https://www.americangaming.org/wp-content/uploads/2022/11/Sizing-the-Illegal-and-Unregulated-Gaming-Markets-in-the-US.pdf ("AGA and The Innovation Group Report (2022)").

[187] Spectrum Gaming Group, "Gaming Market Study: State of New York," January 2021, available at https://www.gaming.ny.gov/pdf/Spectrum%20New%20York%20Gaming%20Study%20Main%20Report,%20Final.pdf ("Spectrum New York Gaming Report (2021)").

[188] Spectrum Gaming Group, "Market and Policy Analysis: Prospective Internet Casino Gaming in Indiana," December 2023, available at https://www.in.gov/igc/files/Spectrum-Report-for-Indiana-Gaming-Commission-2023-Final.pdf ("Spectrum iGaming in Indiana Report (2023)").

[189] iDEA and Meister Economic Consulting, "Economic Impact of New Jersey Online Gaming: Further Lessons Learned," October 2019, available at https://ideagrowth.org/wp-content/uploads/2019/11/Economic-impact-online-gaming-NJ-2019.pdf ("iDEA and Meister Economic Impact of iGaming in New Jersey (2019)").

[190] iDEA and Eilers & Krejcik Gaming, "Comparing Online and Land-Based Casino Gaming," February 2024, available at https://ideagrowth.org/wp-content/uploads/2024/02/EK_iDEA_Comparison-of-Online-and-Land-Based-Casino_Feb-2024.pdf ("iDEA and Eilers & Krejcik Gaming Report (2024)").

[191] Walker and Jackson (2008), at pp. 308-309.

[192] Walker and Jackson (2008), at p. 311.

[193] Walker and Jackson (2008), at p. 314.

population.[194] In addition, the authors collected data on the square footage of Tribal-owned casinos as a proxy for Tribal casino volume, as the Tribal casinos are not required to report revenue or handle data.[195]

This article further controlled for a variety of explanatory factors, including adjacent-state variables and demographic data.[196] This article found that state-licensed casino gambling revenues are ***positively*** linked to horse racing handle and Tribal casino square footage.[197] This article estimated that a $1 *increase* in horse racing handle per capita is linked to a $0.36 *increase* in state-licensed casino gambling revenues per capita and that a 1-square-foot *increase* in Tribal casinos in a given state is associated with a $113 *increase* in state-licensed casino gambling revenue per capita.[198] On the other hand, the authors found a smaller *negative* correlation between lottery handle and state-licensed casino gambling revenues, with a $1 *increase* in lottery handle per capita being linked to a $0.08 *decrease* in state-licensed casino gambling revenues per capita.[199] The authors found no significant correlation between dog racing handle and state-licensed casino gambling revenues.[200]

While this article used data from nearly two decades ago and is not specific to iGaming, the results are informative of generally positive correlations between different types of gambling revenues.

Marionneau (2017). This article indicates that as of 2017, academic research on the impact of iGaming on Land-based casinos was limited.[201] Marionneau (2017) discusses three studies that have attempted to quantify the impact of iGaming on Land-based casinos: Philander (2011), Philander et al. (2015), and Philander and Fiedler (2012).

Philander (2011). This article estimated the effect of online gaming on commercial gaming from 1999 to 2006 for the entire U.S.[202] The author notes that the U.S. passed the Unlawful Internet Gambling Enforcement Act in October 2006, prior to which the online gaming market in the U.S. was characterized by loose regulations and relatively easy access.[203] The author states that due to the lack of significant regulation during this period, not all online gaming operators were required to file their revenue values

[194] Walker and Jackson (2008), at p. 314.

[195] Walker and Jackson (2008), at p. 314.

[196] Walker and Jackson (2008), at pp. 314-317.

[197] Walker and Jackson (2008), at pp. 322-323.

[198] Walker and Jackson (2008), at pp. 322-323.

[199] Walker and Jackson (2008), at pp. 322-323.

[200] Walker and Jackson (2008), at pp. 322-323.

[201] Marionneau (2017), at p. 23.

[202] Philander (2011), at p. 26.

[203] Philander (2011), at pp. 23-24.

with the government or any other regulatory organization.[204] Hence, the author used estimates of online gaming revenues derived from another study, not precisely audited values.[205] The author further obtained revenues of Land-based casinos from the American Gaming Association (AGA).[206] The article found that online gaming had a negative relationship with Land-based casino revenues, with a $1 increase in online gaming revenue coinciding with a $0.28-$0.30 decrease in Land-based casino revenue.[207]

While the Philander (2011) study estimates a negative impact across the U.S., the results are of limited reliability and applicability to the present study for the potential impact of iGaming in 2024 through 2029 for at least two reasons. First, Philander (2011) was conducted during a period when online gaming lacked regulations and legal frameworks, so the data used are not necessarily reliable. Second, the nature of online gaming from 1999 to 2006 was different from today, when internet, computer, and mobile phone availability and speeds were significantly less prevalent than they are today.

Philander et al. (2015). This article analyzed data form the 2010 British Gambling Prevalence Study, which is a nationally representative survey of 7,756 adults, aged 16 or older and living in private houses in England, Scotland, and Wales.[208] The respondents were asked about their participation in various gambling activities, including in person or online, in the past 12 months.[209] The authors focused their study on slot machines, casino-style games, and bingo.[210] The authors analyzed the frequency of gambling, recorded in the data as eight ordinal categories of involvement ranging from no involvement (1) to everyday or almost every day (8).[211] The authors found that a 1-ordinal-point increase in the reported frequency of online casino gambling was related to a 0.365-ordinal-point increase in the reported frequency of Land-based casino gambling.[212]

Contrary to Philander (2011), Philander et al. (2015) found a positive association between online casino activity and Land-based casino activity. However, this study may be of limited value to the current study

[204] Philander (2011), at p. 26.

[205] Philander (2011), at p. 26.

[206] Philander (2011), at p. 26. The author noted that the study excluded Tribal revenues. *See* Philander (2011), at p. 26.

[207] Philander (2011), at pp. 27-28 and 30.

[208] Philander et al. (2015).

[209] Philander et al. (2015).

[210] Philander et al. (2015).

[211] Philander et al. (2015).

[212] Philander et al. (2015). Similarly, the authors reported that a 1-ordinal-point increase in the reported frequency of online slot machine activity was related to a 2.543-ordinal-point increase in the reported frequency of Land-based slot machine activity and that a 1-ordinal-point increase in the reported frequency of online bingo activity was related to a 0.817-ordinal-point increase in the reported frequency of Land-based bingo activity. *See* Philander et al. (2015).

because it was conducted using U.K. data, which has permitted and regulated online gambling since 2005.[213] The results from the U.K. data might not be directly applicable to the U.S., as the U.K. is a more mature market. Philander et al. (2015) noted that the U.K. gaming market is different from the U.S. market, which includes integrated resorts.[214]

Philander and Fiedler (2012). This article analyzed online poker, using the Online Poker Database of the University of Hamburg to estimate the market size of online poker in the U.S. in 2010.[215] The authors studied the impact of Land-based revenues on online poker revenues for each U.S. state.[216]

The authors collected data on commercial casino revenues, along with racetrack casino revenues, from the AGA.[217] The authors collected state Tribal revenues estimated by a different study and lottery revenue from the Tax Foundation.[218] The authors controlled for internet users in each state, disposable income per capita in each state, and the population of each state.[219] The authors found a small positive association between Land-based casino revenues and online poker revenues.[220] The study found that an additional $1 million in offline gross gaming revenue is associated with an additional $2,700 in online poker revenue.[221]

To summarize the three academic articles discussed above, one article found a negative association between online casino activities and Land-based casino activities, while the remaining two found a positive association. While these studies provide some indication of the underlying relationship between online and offline casino activities, none of them provide a clear indication about the same relationship in the present context, which this article aims to study.

TIG Report (2023). This study evaluated the potential impact of iGaming legalization on Land-based revenues in Maryland.[222] The study compared brick-and-mortar casino performances in 2019 and 2022 for states that had legalized iGaming (Connecticut, Delaware, Michigan, New Jersey, Pennsylvania, and West Virginia), compared to a select sample of those that had not (Colorado, Florida, Illinois, Indiana,

[213] Philander et al. (2015).

[214] Philander et al. (2015).

[215] Philander and Fiedler (2012).

[216] Philander and Fiedler (2012).

[217] Philander and Fiedler (2012).

[218] Philander and Fiedler (2012).

[219] Philander and Fiedler (2012).

[220] Philander and Fiedler (2012).

[221] Philander and Fiedler (2012).

[222] TIG Report (2023), at p. 4.

Iowa, Kansas, Maine, Missouri, New York, Ohio, and Rhode Island).[223] It considered the change in Land-based revenues in both groups, taking into account each group's gross domestic product (GDP) and population, to identify "baseline" brick-and-mortar casino growth rates in each state.[224] The GDP growth rate and population growth rate were both subtracted from the gross gaming revenue (GGR) growth in each state to estimate the net GGR growth.[225] Overall, the TIG Report (2023)'s result for net GGR growth was -8.2% in the iGaming States, 2% in the non-iGaming States, and -10.2% overall.[226]

The study also investigated the potential size of a legal iGaming market in Maryland, the impact of iGaming on the state lottery, the size of the illegal gambling market in the state, the methods to transition the illegal market to a legal market, consumer protection, and multijurisdictional agreements.[227] The study estimated a stabilized annual forecast of more than $900 million in gross revenue from iGaming legalization in Maryland.[228] This $900 million represents an increase from a baseline of $0 because iGaming does not yet exist in Maryland.

The TIG Report (2023) combined its various estimates of the impact of iGaming on Land-based revenues to report, "We observed 2% same-store casino revenue growth in non-iGaming States, versus an 8.2% decline in iGaming States, suggesting a cannibalization rate of approximately 10% of casino gaming revenue. … Since Maryland's casino revenue is just over $2 billion annually, this would amount to a loss of just more than $200 million in casino revenue, against a gain of $900 million in iGaming revenue."[229]

While the TIG Report (2023) provides a useful estimate for the overall size of the iGaming market in Maryland, the study's analysis of the impact of iGaming on Land-based revenues is flawed and has limited reliability for several reasons, including the following:

1. The study's primary methodology of subtracting GDP growth and population growth from GGR growth is flawed and not consistent with economic logic. TIG did not establish the rationale for subtracting growth rates of GDP and population from gaming revenues, and we are not aware of an economic model that would suggest the growth rates of GDP and population are additive to compute a baseline.

[223] TIG Report (2023), at pp. 23-24.

[224] TIG Report (2023), at p. 22.

[225] TIG Report (2023), at p. 23.

[226] TIG Report (2023), at pp. 5 and 24.

[227] TIG Report (2023), at p. 4.

[228] TIG Report (2023), at p. 5.

[229] TIG Report (2023), at pp. 5-6.

2. The reported "cannibalization" figure of $200 million is highly flawed, and it is a misapplication of the methodology from TIG's own report. TIG applied the -10.2% figure (which is calculated by adding up the growth rates of Land-based revenues, population, and GDP and then taking a difference in averages from other control states) to Maryland's Land-based revenues of $2 billion. By contrast, if the TIG model were to be believed, Maryland's population and GDP growth rates would have to be added back in to the -10.2% figure to calculate the impact of iGaming on Land-based revenues.
3. The study used a fixed period (2019-2022),[230] which does not account for the fact that iGaming was legalized at different times in the different states and, in some cases (West Virginia, Michigan, and Connecticut), during the middle of this period.
4. The study did not properly account for the baseline trends in the iGaming states. For example, the study reported large negative changes of -14.2% and -16.3% in Connecticut.[231] However, Connecticut's revenues were already declining prior to the introduction of iGaming, which changes the result when properly accounted for in the analysis.[232]
5. The study did not properly account for the baseline trends in control states. For example, it reported large positive changes in Colorado, Florida, Iowa, and Ohio.[233] However, revenues in these states were already increasing prior to the introduction of iGaming, which changes the result when properly accounted for in the analysis.[234]
6. The study did not address why states chose to legalize iGaming, a challenge known in economics as "selection," which can lead to biased results. To the extent states that legalized iGaming have done so because of declining trends in Land-based revenues, TIG's analysis and results would be attributing slower growth in Land-based revenues to iGaming when it should be attributed to other factors.

[230] TIG Report (2023), at p. 24.

[231] TIG Report (2023), at p. 24.

[232] See Section V.B.

[233] TIG Report (2023), at p. 23.

[234] See Section V.B.

SAGE Policy Group Memorandum (2024). Building upon the TIG Report (2023), this memorandum elaborates on points the author perceived as lacking detailed discussion.[235] The author argues that, even within the previously acknowledged limitations of this study, the TIG Report (2023) underplays the long-term decline of Land-based casino revenues following the legalization of iGaming.[236] However, the author does not provide empirical evidence to substantiate this claim.

In the second section of the memorandum, the author directly utilizes the TIG study's estimated 10.2% reduction in Land-based casino revenues to conclude that Maryland's Land-based casinos would potentially employ between 685 and 1,215 fewer people after iGaming legalization.[237] Lastly, the author introduces two hypotheses: (1) iGaming legalization not only lowers short-term revenues but also diminishes incentives for existing enterprises to invest and expand,[238] and (2) after iGaming legalization, a significant portion of iGaming revenues may come at the expense of consumers' demand for other in-state leisure and hospitality activities.[239] Due to the shortcomings in the TIG Report (2023) discussed above and the lack of additional data or analysis in this memorandum, the SAGE Policy Group study has limited reliability.

Deutsche Bank Report (2022). This study analyzes the three largest iGaming casino markets: Michigan, New Jersey, and Pennsylvania. The authors argue that, despite iGaming being a high-quality business with healthy margins, its presence and growth have a negative impact on Land-based casino revenues.[240] The authors examine the performance of Land-based operations in 2022 relative to 2018 for the three iGaming States, comparing them with a subset of states that had not legalized iGaming. The study includes Iowa, Missouri, Indiana, Ohio, Louisiana, Maryland, and Mississippi in the control group.[241] The study reveals average GGR growth between 2018 and 2022 of -0.2% and 13% in the iGaming and non-iGaming States, respectively.[242] In their main result, the authors estimate that the GGR in the iGaming States could have been $662 million larger if they had followed non-iGaming casino trends.[243] For similar

[235] SAGE Policy Group Memorandum (2024).

[236] SAGE Policy Group Memorandum (2024), at p. 1.

[237] SAGE Policy Group Memorandum (2024), at p. 2.

[238] SAGE Policy Group Memorandum (2024), at p. 5.

[239] SAGE Policy Group Memorandum (2024), at p. 4.

[240] Deutsche Bank Report (2022), at p. 1.

[241] Deutsche Bank Report (2022), at p. 1.

[242] Deutsche Bank Report (2022), at pp. 2-3.

[243] Deutsche Bank Report (2022), at p. 4.

reasons as the shortcomings of the TIG Report (2023) discussed above, the Deutsche Bank Report has limited reliability.

AGA and The Innovation Group Report (2022). This report presents an estimate of the potential size of the illegal and unregulated gaming market, encompassing sports betting, iGaming, and unregulated slots.[244] Illegal and unregulated markets involve wagers placed by U.S. residents with operators lacking a U.S. gaming license.[245] The study utilizes a survey conducted by The Innovation Group of 5,284 U.S. adults to approximate people's propensity to gamble in legal and illegal channels. The authors use the calculated propensities to estimate the size of the illegal and unregulated market.[246]

The study estimates that Americans bet more than $510 billion annually with illegal and unregulated operators, resulting in a $44.2 billion potential loss in legal gaming revenue and a $13.3 billion potential loss in annual tax revenue for state governments.[247] The iGaming results indicate that 30% of respondents exclusively played in illegal channels,[248] implying a $13.5 billion potential loss in revenue for legal iGaming and a $3.9 billion potential annual tax revenue loss.[249]

Spectrum New York Gaming Report (2021). This report presents a comprehensive study of the entire ecosystem of the gaming market in New York state. The study includes a complete analysis of the performance of commercial casinos and the economic impact of the industry, as well as the implications of awarding new commercial casino licenses, changes in the taxation rate for existing casinos, and the introduction of other forms of gaming markets, such as sports betting and iGaming.[250]

Focusing on the study's evaluation of the potential gains from legalizing iGaming in New York, it finds that after five years of introducing iGaming, the state could generate approximately $750 million in iGaming GGR.[251] The report projects iGaming revenues by taking the ratio of the GGR and the GDP for New Jersey and applying that percentage to the GDP in New York, using information from 2014 to 2018.[252] The projection methodology uses only New Jersey as a comparison state because other markets are either too new (Pennsylvania and West Virginia) or have restricted or highly taxed products (Delaware

[244] AGA and The Innovation Group Report (2022), at p. 1.

[245] AGA and The Innovation Group Report (2022), at p. 3.

[246] AGA and The Innovation Group Report (2022), at p. 4.

[247] AGA and The Innovation Group Report (2022), at p. 3.

[248] AGA and The Innovation Group Report (2022), at p. 5.

[249] AGA and The Innovation Group Report (2022), at p. 3.

[250] Spectrum New York Gaming Report (2021), at pp. 1-2.

[251] Spectrum New York Gaming Report (2021), at p. 254.

[252] Spectrum New York Gaming Report (2021), at p. 254.

and Nevada).[253] Due to the growth of the iGaming market over the past two years, the projections for iGaming revenues in this Spectrum study are lower than those that would be projected using updated data through 2023.

Spectrum iGaming in Indiana Report (2023). This report provides a comprehensive analysis of the potential effects of introducing iGaming in Indiana. It includes descriptions of existing iGaming markets, a demographic characterization of iGaming players, revenue and employment projections for iGaming, and an analysis of the impact of iGaming on other gaming sectors in Indiana, such as Land-based casinos, digital sports wagering, lottery, and horse racing.[254]

The report projects a robust GGR of $2.065 billion after three years of iGaming implementation,[255] corresponding to additional state tax revenues ranging from $373 million (20% tax rate) to $1.047 billion (45% tax rate).[256] Drawing from data in states that have legalized iGaming, this study finds that all iGaming States experienced GGR growth from 2019 to 2022, which the study interprets as countering the cannibalization argument.[257] The study suggests that retail casino operators offering iGaming can leverage digital platforms to enhance and grow their retail revenues. Interview evidence from Land-based executives supports this idea, indicating that "iGaming immediately boosted enrollment in its player loyalty program and casino visits"[258] and that a "standard business model for retail casino operators in an omni-channel market is to leverage digital platforms to enhance retail revenues."[259] Finally, the demographic characterization of iGaming players versus Land-based players shows that the two products target different consumer populations. Therefore, they can be viewed as complementary services rather than substitutes.[260]

iDEA and Meister Economic Impact of iGaming in New Jersey (2019). This study provides an analysis of the iGaming market in New Jersey, where iGaming has been legalized since 2013, as of 2019. The authors show that New Jersey has the most successful business model among the states that had legalized iGaming at the time: Delaware in 2013, Nevada in 2014, and Pennsylvania in 2018.[261] New

[253] Spectrum New York Gaming Report (2021), at p. 254.

[254] Spectrum iGaming in Indiana Report (2023), at p. 1.

[255] Spectrum iGaming in Indiana Report (2023), at p. 40.

[256] Spectrum iGaming in Indiana Report (2023), at p. 44.

[257] Spectrum iGaming in Indiana Report (2023), at p. 46.

[258] Spectrum iGaming in Indiana Report (2023), at p. 9.

[259] Spectrum iGaming in Indiana Report (2023), at p. 10.

[260] Spectrum iGaming in Indiana Report (2023), at p. 19.

[261] iDEA and Meister Economic Impact of iGaming in New Jersey (2019), at p. 10.

Jersey's business model allows licensed Atlantic City casinos to operate multiple iGaming websites for each property.[262] The study characterizes the iGaming and Land-based casino businesses as **complementary**.[263] The authors argue that the complementary nature of the products may explain their finding that, despite Land-based casino revenues decreasing after the financial crisis in 2008, both iGaming and Land-based casino revenues started growing after the legalization of iGaming in 2017.[264]

Using an input-output approach that accounts for multiplier effects, the iDEA and Meister Economic Impact study finds that the upfront investment and ongoing day-to-day operations of New Jersey's iGaming from 2013 through 2018 yielded a significant positive economic impact. This impact includes $2 billion in output, 6,552 jobs, $401 million in wages, and $259.3 million in taxes.[265]

iDEA and Eilers & Krejcik Gaming Report (2024). This report presents an analysis that combines qualitative and quantitative data to offer strong evidence supporting the conclusion that the legalization of iGaming has a positive impact on Land-based casino revenues.[266] The report includes testimony from executives operating Land-based and iGaming businesses obtained from interview sources and the authors' proprietary survey. The qualitative analysis has the advantage of indirectly incorporating internal customer databases of casino operators with both retail and online products.[267] Overall, the executives consider Land-based and online casinos to be complementary services, unanimously rejecting the idea of iGaming cannibalizing Land-based casino revenues.[268]

Quantitatively, the report employs three different methodologies to argue that the introduction of iGaming has a positive impact on Land-based casino revenues.[269] The authors first compare the growth rate for Land-based casino revenues before and after iGaming implementation, finding that all iGaming States experienced revenue growth ranging from 0.34% in Connecticut to 6.02% in West Virginia, with an average growth of 2.44%.[270] In comparison to previous reports using differences in growth rates between the iGaming and non-iGaming States, the iDEA and Eilers & Krejcik Gaming report also includes an analysis comparing the aggregate performance of these two groups of states.

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[262] iDEA and Meister Economic Impact of iGaming in New Jersey (2019), at p. i.

[263] iDEA and Meister Economic Impact of iGaming in New Jersey (2019), at p. 17.

[264] iDEA and Meister Economic Impact of iGaming in New Jersey (2019), at p. 17.

[265] iDEA and Meister Economic Impact of iGaming in New Jersey (2019), at pp. 7-10.

[266] iDEA and Eilers & Krejcik Gaming Report (2024), at p. 3.

[267] iDEA and Eilers & Krejcik Gaming Report (2024), at p. 10.

[268] iDEA and Eilers & Krejcik Gaming Report (2024), at pp. 7-10.

[269] iDEA and Eilers & Krejcik Gaming Report (2024), at p. 3.

[270] iDEA and Eilers & Krejcik Gaming Report (2024), at p. 13.

Importantly, the methodology in the iDEA and Eilers & Krejcik Gaming report addresses the main technical issues highlighted previously by considering the fact that iGaming was legalized at different times in different states. It also takes into account the different pre-legalization trends in both the iGaming and non-iGaming States.[271] Using this robust methodology, the authors found that five out of the six iGaming States outperformed the non-iGaming States in terms of their Land-based casino revenue growth when considering the same time periods.[272]

Finally, the iDEA and Eilers & Krejcik Gaming report presents a "bottom-up" model in which it constructs a hypothetical state based on demographic differences between online and Land-based players, rates of online and retail casino participation by consumers, the impact of retail and online casino participation on consumer wallet growth, the availability of Land-based casinos, and the impact of cross-selling. The study found that the net impact of iGaming on Land-based casino revenues for a typical U.S. state is a positive 1.7%.[273]

III. Data

A. Revenue Analysis Data

This study utilizes data from a variety of different sources, including (1) state government and gaming control board websites, (2) the American Gaming Association (AGA) reports and website, (3) the University of Nevada, Las Vegas (UNLV) Center for Gaming Research publications, (4) Covers.com, (5) the National Indian Gaming Association (NIGC) Regional Revenue Reports, (6) U.S. census data, (7) Federal Reserve Economic Data (FRED), and (8) the TIG Report (2023) discussed in Section II.C.

This study analyzes data (when available) over a period of at least 10 years for the primary 11 states evaluated: the six states that have already legalized iGaming (New Jersey, Delaware, Pennsylvania, Michigan, Connecticut, and West Virginia) and the five states where the projected impact of iGaming is being evaluated (New York, Illinois, Louisiana, Maryland, and Virginia). Data are generally collected on an annual basis, and they are generally differentiated by game type (e.g., slot machines, table games, online poker) and venue (e.g., commercial casinos, Tribal-owned casinos, racetrack casinos, riverboat casinos, VGTs, iGaming).

There are certain data limitations in this study. Revenue data from state websites vary regarding the specificity of data available and the time at which iGaming or commercial casinos began operating. The

[271] iDEA and Eilers & Krejcik Gaming Report (2024), at pp. 21-23.

[272] iDEA and Eilers & Krejcik Gaming Report (2024), at p. 24.

[273] iDEA and Eilers & Krejcik Gaming Report (2024), at pp. 25-26.

availability of state-level Tribal-owned casino data is especially sparse, as Native American tribes are considered independent entities that operate outside the jurisdiction of state regulations.[274] In addition, for the purposes of this study's primary analysis, data corresponding to sports betting is excluded, as such data does not directly measure the impact of iGaming on Land-based revenue.[275]

State Government and Gaming Control Board Websites. Data for each of the 11 states evaluated in this study are collected to cover both commercial casinos and iGaming data reported by the government entities. See Exhibit 21 through Exhibit 26 for the charts and tables displaying the available data for each iGaming state and Exhibit 47 through Exhibit 51 for the charts and tables displaying the available data for each projection state. The corresponding notes and sources for the data collection process are listed on these exhibits as well.

AGA Reports. Data from the AGA are primarily collected from the AGA's annual "State of the States" reports. These reports contain several metrics for many U.S. states over the past 10 years, including (1) the number of commercial (Exhibit 92) and Tribal-owned casinos (Exhibit 93), (2) the number of gaming machines in non-casino locations (Exhibit 94) and Tribal casinos (Exhibit 95), (3) commercial casino tax revenue (Exhibit 89), and (4) overall consumer spend at commercial casinos (Exhibit 90). The AGA also provides a "State of Play" website that provides estimates of Tribal-owned casino revenues in 2016, which are utilized in this study to estimate Tribal revenues in other years (Exhibit 77).

UNLV Publications. The UNLV provides multiple reports that measure aggregated "casino wins" for almost every U.S. commercial casino jurisdiction going back to 2005 (see Exhibit 85 and Exhibit 86). Some of the UNLV reports include revenue from fantasy sports and sports betting while also excluding VGTs.[276] To account for these differences, this study uses data in some years collected directly from state governmental entities. The original UNLV dataset, including sports betting revenues, is available as Exhibit 87, and the updated UNLV dataset with sports betting data subtracted is available as Exhibit 88. To not confound sports betting revenues with Land-based casino revenues, the updated UNLV data with sports betting data subtracted is used in a difference-in-differences model in Section V.B of this report.

[274] https://www.justia.com/native-american-law/gaming-regulations-for-native-americans/ (accessed December 21, 2023). Michigan is one exception to this idea, as the state uniquely provides annual Tribal gaming reports with revenue data included. *See* https://www.michigan.gov/mgcb/tribal-casinos/tribal-gaming-reports (accessed December 21, 2023).

[275] Sports betting data are included elsewhere in the analysis (i.e., in calculating projected iGaming revenue), but they are not considered a component of Land-based revenue when considering the impact of iGaming legalization.

[276] The UNLV data tracks video poker revenue in Louisiana and Illinois only.

Covers.com. Monthly sports betting revenues by state are collected from this website. These revenue figures are used to project iGaming revenues by applying the correlation between sports betting revenue per adult and iGaming revenue per adult in Section X of this report.

NIGC Regional Reports. Unlike commercial casino data, state-level Tribal-owned casino revenue data are not publicly available. The NIGC provides annual revenue reports of Tribal-owned casino revenue data within seven regions across the U.S. This study estimates state-level Tribal casino revenues each year from 2012 to 2022 using (1) the regional revenue figures reported each year by the NIGC, (2) a 2017 report published by the AGA with state-level Tribal-owned casino revenue in 2016, and (3) changes in the number of slot machines at Tribal-owned casinos in each year in each state.[277] See Exhibit 76 to Exhibit 84.

U.S. Census Data. U.S. Census Bureau data on state population totals of individuals 21 and over from 2012 to 2022 are collected (Exhibit 104). These data are used to estimate various per-adult gambling metrics over time.

Federal Reserve Economic Data. FRED data on U.S. per capita personal income for each state from 2012 to 2022 are collected (Exhibit 105).

TIG Report (2023). The TIG study is used to obtain iGaming revenue data for West Virginia because these data are not accessible to the public (Exhibit 24A).

B. Exploratory Research for Qualitative Survey ("AG Consumer Research Interviews")

Analysis Group conducted a qualitative survey (see Section III.C) to better understand how current and prospective users of Land-based casinos, iGaming, VGTs, and "off-the-books" gaming[278] think and feel about their experiences and preferences related to betting or wagering money.

The qualitative survey was informed by exploratory research, consisting of 34 individual interviews of consumers who game, gamble, or bet in person at casinos and who have varying levels of experience with iGaming. Fifteen respondents were recruited from iGaming States (New Jersey, Delaware, Pennsylvania, West Virginia, Michigan, and Connecticut), 13 respondents were recruited from Projection States (New York, Illinois, Louisiana, Maryland, and Virginia), and six respondents were recruited from

[277] The R-squared of the correlation between (1) the AGA's estimated state-level Tribal-owned casino revenue in 2016 and (2) the number of slot machines at Tribal-owned casinos in 2016 is 0.9843, showing that the number of slot machines is a strong predictor of revenue. See Exhibit 81.

[278] Off-the-books gaming includes bets or wagers not placed using an authorized sportsbook or casino.

two additional states with legalized online sports betting that are near states of interest (Massachusetts and Ohio). [279]

Initial interviewees (as well as survey respondents) were recruited through Sago, a well-known market research provider.[280] Interviewees were compensated for their participation in the qualitative survey through Sago. Qualified interviewees were those who (1) were of legal gambling age (respondents ranged in age from 25 to 71) and resided in a state of interest; (2) did not work for casinos, sportsbooks, other gambling platforms, law firms, legal services organizations, courts, marketing agencies, market research companies, or advertising agencies; and (3) indicated that they had wagered money on casino games (e.g., poker, slots, roulette, etc.) in the past six months or planned to do so in the next six months.[281] Further, interviewees were required to indicate that their past or prospective wagering activity on casino games had either taken place or would take place at a Land-based casino, through an online casino (iGaming),[282] via a VGT, or via an unofficial or off-the-books online casino.

Each AG Consumer Research Interview lasted approximately 20-30 minutes and was moderated by trained staff at Analysis Group. The moderator asked respondents various open-ended questions related to respondents' past experiences with betting or wagering on casino games in general and asked additional questions as appropriate related to respondents' specific experiences with in-person casinos, online casinos, and VGTs.

C. Qualitative Survey

After the Consumer Research Interviews were finalized, Analysis Group also conducted an online qualitative survey ("AG State Gambling Survey"), which was used to understand the profiles and habits of gaming consumers. The goal of the AG State Gambling Survey was to study current and prospective users of Land-based casinos, iGaming, VGTs, and offshore casinos in the iGaming and Projection States. The survey consisted of 2,200 total respondents, including 200 for each of the six iGaming States and five Projection States. To qualify, survey respondents had to be over 21 years of age and indicate that

[279] The counts of respondents by state were five from New Jersey, two from Delaware, three from Pennsylvania, one from West Virginia, two from Michigan, two from Connecticut, three from New York, four from Illinois, two from Louisiana, two from Maryland, two from Virginia, four from Massachusetts, and two from Ohio.

[280] Sago's online panel provides access to "millions of verified and deeply profiled nationwide and niche audiences in more than 50 countries." "Sago Panel," Sago, available at https://sago.com/en/solutions/quantitative/panel/ (accessed on December 19, 2023).

[281] Select respondents who qualified through the screening questionnaire were scheduled for one-on-one interviews over Zoom, which took place between November 30 and December 8, 2023. Quotas for age, gender, and state were used across all target states, with Sago recruiting and scheduling additional respondents for interviews based on respondents' availabilities and, in some instances, cancellations.

[282] Initial interviews demonstrate that the term "online casinos" was more widely recognized than the term "iGaming" by gamers. Hence, the interviews and surveys used the term "online casinos" to align with common knowledge.

they had participated in a gambling activity of interest in the past 12 months or would consider doing so in the next 12 months.[283,284] The survey was administered online from January 17, 2024, to February 6, 2024, through the vendor Sago, and consisted of both closed-ended and open-ended questions.[285] The survey was based on well-accepted principles of survey design and applied best practices, both generally for marketing research and for research conducted for the purpose of litigation.[286]

Respondents were assigned to "paths" in the survey based on their qualifying criteria.[287] There were seven available paths: (1) Past Casino, (2) Past VGT, (3) Past Offshore, (4) Past Online, (5) Consider Casino, (6) Consider VGT, and (7) Consider Online. Each path asked respondents about their behaviors and/or thoughts regarding the associated type of gambling. In each path, respondents were asked questions related to the frequency, location, and travel logistics (if applicable) of their gambling sessions; the money they play with; changes in their gambling behavior; and their perceptions regarding their current or expected gambling habits.

[283] Gambling activities of interest are defined as betting or wagering on casino games at a casino; betting or wagering on sports (excluding horse racing) at a casino's sportsbook; betting or wagering on casino games using a licensed online casino; betting or wagering on casino games using an unlicensed ("offshore") casino (considering this in the next 12 months not included); or betting or wagering on casino games using a VGT.

[284] The survey was fielded on a representative sample for each state based on the U.S. Census Bureau 2022 ACS 5-Year Estimates Subject Tables. "2022: ACS 5-Year Estimate Subject Tables," United States Census Bureau, available at https://data.census.gov/table/ACSST5Y2022.S0101?t=Age%20and%20Sex&g=040XX00US09,10,17,22,24,26,34,36,42,51,54 (accessed on December 19, 2023).

[285] Sago's online panel provides access to "millions of verified and deeply profiled nationwide and niche audiences in more than 50 countries." "Sago Panel," Sago, available at https://sago.com/en/solutions/quantitative/panel/ (accessed on February 26, 2024).

[286] We closely adhered to the standards set forth by the Federal Judicial Center in the *Reference Guide on Survey Research* and in the *Manual for Complex Litigation*. Both are critical references for designing and conducting valid and reliable studies used in litigation. *See* Diamond, Shari S., "Reference Guide on Survey Research," in *Reference Manual on Scientific Evidence*, Third Edition, The National Academies Press, 2011, pp. 359-423; *See also Manual for Complex Litigation*, Fourth Edition, Federal Judicial Center, 2004, p. 103.

[287] Respondents were assigned to the Past Casino path for selecting in QS8 that they had participated in the past 12 months in "Betting or wagering on casino games at a casino" or "Betting or wagering on sports (excluding horse racing) at a casino's sportsbook"; to the Past VGT path for selecting "Betting or wagering on casino games using an electronic gambling machine (e.g., a machine situated at a licensed establishment that is not a casino, such as a bar, a restaurant, or a gas station)"; to the Past Offshore path for selecting "Betting or wagering on casino games using an unlicensed ('offshore') casino"; and to the Past Online Path for selecting "Betting or wagering on casino games using a licensed online casino (e.g., DraftKings, Caesars Palace, BetMGM, or FanDuel)." Consider Casino, Consider VGT, and Consider Online paths were assigned using the same respective response options in QS9. Respondents who qualified for both Past and Consider paths for a given type of gambling (e.g., Past Casino and Consider Casino) were only assigned to the associated Past path for that type of gambling.

IV. Observed Changes in Total Revenues After iGaming Was Introduced

A. Overview

The changes in total casino revenues associated with the introduction of iGaming in the iGaming States can be motivated by the following thought experiment. Consider a counterfactual "but-for" world in which iGaming is not legalized, but everything else is kept constant. If such a world could be modeled accurately, the difference between (1) the total revenues in this but-for world where iGaming is not legalized and (2) the total revenues in the actual world where iGaming is legalized would isolate the change in total casino revenues associated with the introduction of iGaming.

However, the only world that is truly observable is the actual world where iGaming has been legalized in the iGaming States. Therefore, a counterfactual model of what the total revenues in the iGaming States may have been in the absence of iGaming is necessary to more accurately measure the changes associated with iGaming. Simply comparing the outcomes of the iGaming States to states without iGaming may not be sufficient because the states that did not implement iGaming could differ materially from the iGaming States.

Projecting counterfactual but-for revenues involves inherent uncertainty, especially in the context of new markets. There are numerous factors that influence gaming revenues and a limited number of observations to fully account for all factors. Such factors include (1) additional casino openings in the state, (2) additional casino openings in neighboring states, (3) casino renovations and expansions, (4) the quality of casino facilities and amenities, (5) the demand for specific casino brands, (6) marketing by casinos, (7) variation in tax rates of iGaming revenues, (8) changes to tax rates of Land-based revenues, and (9) changes in adjacent or related markets, like sports betting, lotteries, entertainment, and hospitality. In addition, broader economic conditions are inherently difficult to forecast, and these may influence gaming revenues. These factors include recessions or financial crises and changing political, climate, health, and/or technological conditions, such as wars, pandemics, natural disasters, and artificial intelligence.

Accounting for the complexity in projecting future revenues in this specific context, this study employs the interrupted time series (ITS) approach to estimate the changes in total revenues associated with iGaming. This study projects the compound annual growth rate (CAGR) of Land-based revenues (or equivalently, total casino revenues) prior to the introduction of iGaming and compares it to the CAGR of total casino revenues (Land-based and iGaming included) after iGaming was introduced. In this way, the ITS approach is measuring the overall change in the CAGR of total casino revenues associated with iGaming and attributing that effect to iGaming.

This approach is relevant and informative to policymakers because it is the best measure of the overall total market effect. The advantages of this approach include the following: (1) it provides one simple measure of the overall change observed after iGaming was introduced, and (2) it uses data from within each state only, so it does not suffer from potential confounding factors in other states.

There are some limitations of this approach. First, it does not separate the differential effects of each component. For example, if the legalization of iGaming introduces new users to the entertainment value of casinos and/or incentivizes additional investment in new Land-based casinos, which in turn grows the Land-based market as well as the iGaming market, the ITS approach using total revenues captures all of these effects in one number and is not able to distinguish between them. See Section V for an analysis of the observed changes when Land-based revenues are isolated. Second, this approach also does not separate the effects of introducing iGaming versus other growth in the economy or the casino market over time. However, casino revenues in each state may be more sensitive to some economic factors than others, and using each state's pre-existing trend as the baseline may be more reliable than attempting to control for specific factors.

B. ITS Approach

Methodology. The method used in this study to estimate the change in total casino revenues related to iGaming is an ITS approach. According to academic researchers, the ITS approach is the strongest and most commonly used technique to assess the impact of an intervention when a randomized control trial is not feasible, and it is a widely accepted methodology in social sciences and public health.[288] The ITS approach lends itself well to contexts in which data are available at multiple time points, both before and after an interruption (i.e., an intervention or an exposure) occurs and when the interruption occurs at different points of time for different treated groups.[289]

The ITS approach extrapolates the pre-intervention data to predict trends had the intervention not occurred.[290] The difference between the actual post-intervention trend observed in the data and the

[288] Baicker, Katherine, and Svorons, Theodore, "Testing the Validity of the Single Interrupted Time Series Design," Becker Friedman Institute Health Economics Initiative, Working Paper No. 2019-97, 2019: 1:50 ("Baicker and Svorons (2019)"); Turner, Simon L., Karahalios, Amalia, Forbes, Andrew B., Taljaard, Monica, Grimshaw, Jeremy M., and McKenzie, Joanne E., "Comparison of Six Statistical Methods for Interrupted Time Series Studies: Empirical Evaluation of 190 Published Series," *BMC Medical Research Methodology*, Vol. 21, No. 134, 2021: 1-19 ("Turner et al. (2021)a"); Jandoc, Racquel, Burden, Andrea M., Mamdani, Muhammad, Levesque, Linda E., and Cadarette, Suzanne M., "Interrupted Time Series Analysis in Drug Utilization Research Is Increasing: Systematic Review and Recommendations," *Journal of Clinical Epidemiology*, Vol. 68, 2015: 950-956 ("Jandoc et al. (2015)").

[289] Turner et al. (2021)a, at p. 1.

[290] Jandoc et al. (2015), at p. 950.

predicted trend using the pre-intervention period informs the impact of the intervention.[291] The following graph illustrates an application of the ITS approach.[292]

Figure 27: Illustration of the ITS Approach[293]

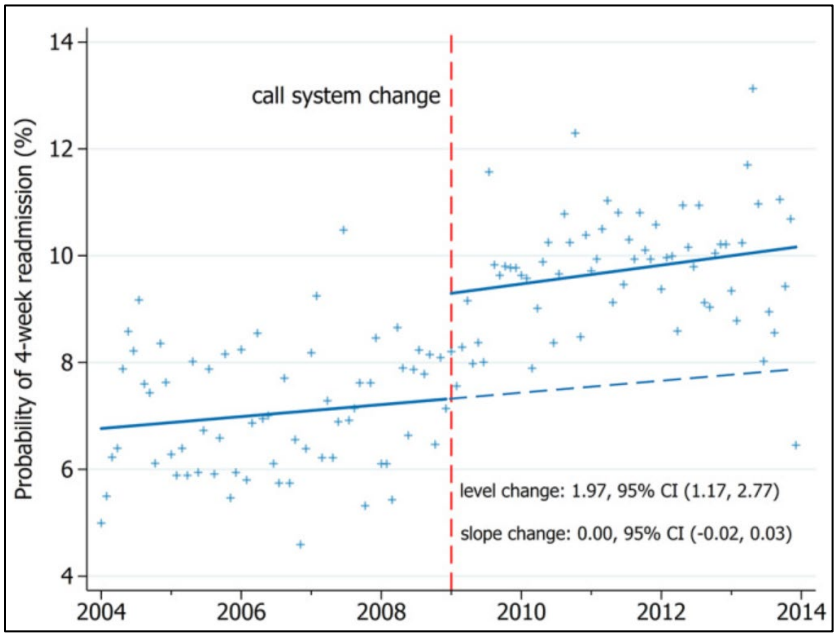


Figure 27 above presents the results of an ITS study examining the impact of a physician call system change on hospital readmissions in Canada.[294] The intervention involved changing the way that the hospital admissions were distributed to inpatient physician teams.[295] The dashed red vertical line represents the time when the intervention started, and the solid blue line to the left of the dashed red vertical line represents the trends in the probability of readmissions prior to the intervention. In this application of the ITS approach, the dashed blue line extrapolates the trend in readmissions prior to the intervention and predicts what the trend in readmissions would have been had the intervention not happened. The solid blue line to the right of the red vertical line represents the actual trend in

[291] Baicker and Svorons (2019), at p. 1.

[292] Turner, Simon L., Karahalios, Amalia, Forbes, Andrew B., Taljaard, Monica, Grimshaw, Jeremy M., Korevaar, Elizabeth, Cheng, Allen C., Bero, Lisa, and McKenzie, Joanne E., "Creating Effective Interrupted Time Series Graphs: Review and Recommendations," *Research Synthesis Methods*, Vol. 12, 2021: 106-117 ("Turner et al. (2021)b").

[293] Turner et al. (2021)b, at p. 114.

[294] Turner et al. (2021)b, at p. 114.

[295] Turner et al. (2021)b, at p. 114.

readmissions after the intervention occurred. The difference between the solid and the dashed blue lines after the intervention informs the effect of the intervention.

Application. The ITS approach is applied to the six iGaming States. The ITS approach is used to estimate the change in the CAGR of total revenues associated with the introduction of iGaming.

In this setting, the intervention is the introduction of iGaming. The CAGRs of Land-based revenues prior to the introduction of iGaming are used to project the CAGRs of total revenues in the counterfactual but-for world if iGaming had not been introduced. These projected CAGRs of total revenues are then compared to the actual CAGRs of total revenues to assess the change in CAGR associated with iGaming.

C. Results by State

New Jersey. New Jersey introduced iGaming in November 2013.[296] To establish a trend at least five years prior to iGaming implementation, this study utilized data on New Jersey's Land-based revenues starting in 2007. Because the steep decline in Land-based revenue from 2007 to 2009 is disproportionate to the remainder of the pre-iGaming trend in Land-based revenues, this study uses the period between 2009 and 2012 to estimate the CAGR of Land-based revenues prior to the introduction of iGaming.[297] New Jersey's Land-based revenues decreased from approximately $3.9 billion in 2009 to $3.1 billion in 2012, at a CAGR of -8.1%.[298]

According to the ITS approach, if iGaming had not been introduced in New Jersey in 2013, the CAGR of the Land-based revenues, and therefore the total revenues, would have continued at its previous rate of -8.1% between 2012 and 2023.[299] However, after iGaming was introduced, New Jersey's trend in total revenues improved. Annual total revenues in New Jersey increased from approximately $3.1 billion in 2012 to $4.8 billion in 2023, a CAGR of 4.1%.[300]

Applying the ITS approach, the difference between the actual CAGR of 4.1% after iGaming and the projected CAGR of -8.1% based on the pre-iGaming data informs the change in total revenues related to

[296] Exhibit 71.

[297] This pre-treatment period is conservative. If an alternate period of 2007-2012 were used to calculate the pre-existing trend, the CAGR would have been -9.1% (($4.9 billion in 2007 ÷ $3.1 billion in 2012) ^ (1 / 5 years) – 1 = -9.09%), which is even more negative than -8.1%, so both the Land-based Treatment Effect and Total Treatment Effect of introducing iGaming would be more positive. See Exhibit 21A.

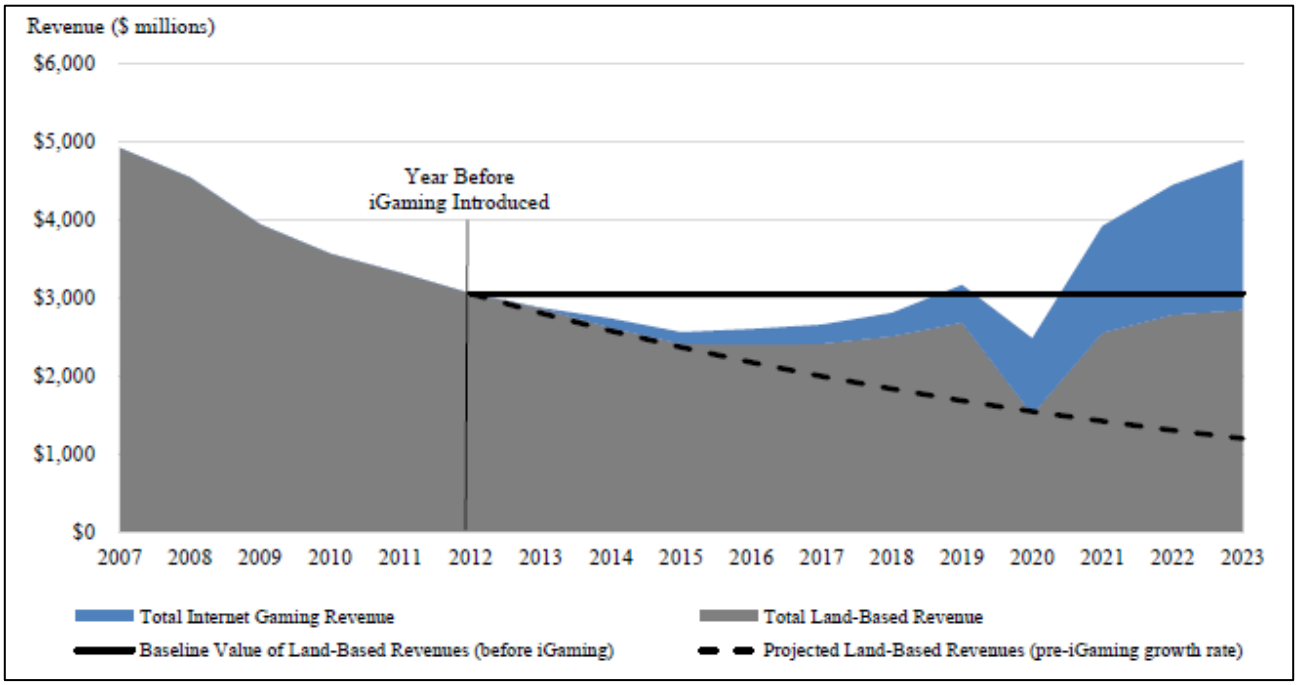
[298] Exhibit 28A.

[299] Exhibit 28A.

[300] Exhibit 28A.

iGaming, which for New Jersey is estimated to be an increase of 12.3 percentage points.[301] Thus, the introduction of iGaming in New Jersey is associated with a $1.7 billion annual casino revenue increase from the baseline 2012 annual casino revenue of $3.1 billion, a 56.1% increase.[302]

Figure 28: New Jersey Casino Revenues Before and After Legalizing iGaming, 2007–2023[303]



Delaware. After iGaming was introduced in Delaware in November 2013,[304] the CAGR of total casino revenues improved from -3.2% to -0.7%. Applying the ITS approach, the difference between the two, a 2.5 percentage point increase, informs the change in total revenues associated with iGaming.[305] In other

[301] An alternate model for New Jersey is constructed that considers 2015 as the baseline year due to iGaming's slow initial growth in the state. See Exhibits 28B and 28C. In this model, the CAGR of total casino revenues improves from -7.9% before iGaming to 8.1% after iGaming, a 15.9% increase.

[302] Exhibit 28-33C.

[303] Exhibit 28.

[304] Exhibit 71.

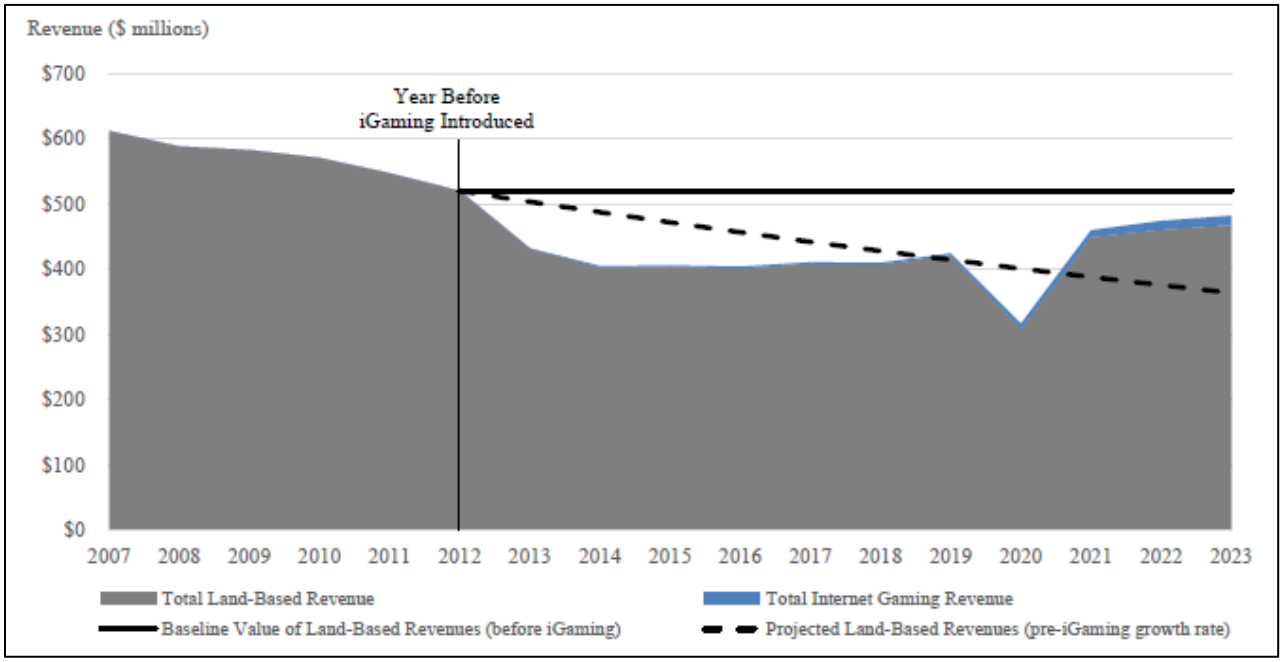
[305] Exhibit 29A. An alternate model for Delaware is constructed that considers 2018 as the baseline year due to iGaming's slow initial growth in the state. See Exhibits 29B and 29C. In this model, the CAGR of total casino revenues improves from -1.2% (Land-based revenue trend from 2013 to 2018) to 3.3% (2018 to 2023), a 4.5% increase.

words, while total revenues have continued to decline after iGaming was introduced, they have been declining at a slower rate, which shows an improvement in the trend after the introduction of iGaming.

There are multiple reasons the Delaware gambling market is not comparable to other states. First, the iGaming market is not as competitive because iGaming launched in the state through a single state-selected operator. Second, iGaming revenues only make up a very small fraction of total revenues (only 3% in 2023, compared to New Jersey, Pennsylvania, and Michigan, where it is over 30%).[306]

Nonetheless, the sharp decline in revenues occurred in 2013 and 2014, and total revenues have increased since 2014 in the presence of iGaming. In total, while iGaming is associated with a decrease in annual total casino revenues from $521 million in the baseline year of 2012 to $483 million in 2023, this decrease represents an improvement in the trend of total revenues compared to pre-iGaming. Compared to the revenue projections based on the pre-iGaming trend, total casino revenues are $119 million higher, a 32.6% increase.[307]

Figure 29: Delaware Casino Revenues Before and After Legalizing iGaming, 2007–2023[308]



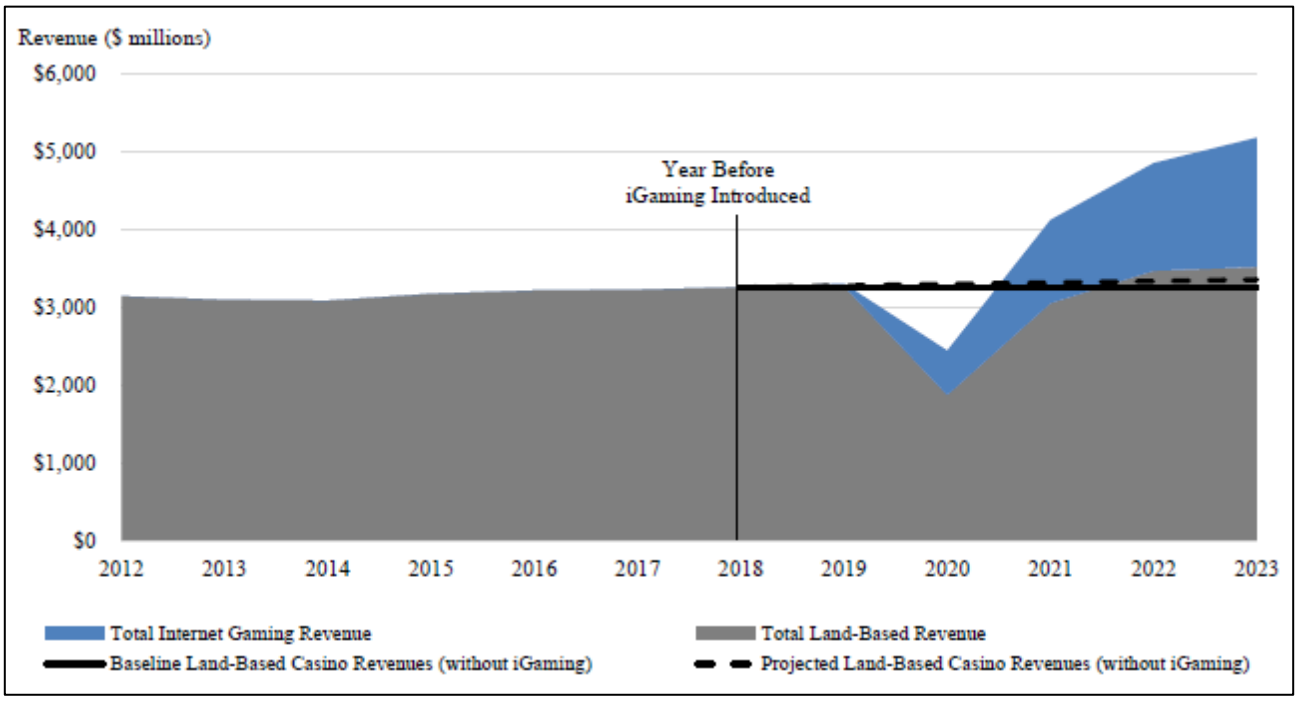
[306] See Figure 20.

[307] Exhibit 28-33C.

[308] Exhibit 29.

Pennsylvania. After the introduction of iGaming in Pennsylvania in July 2019,[309] the CAGR of total casino revenues improved from 0.6% to 9.7%. Applying the ITS approach, the difference between the two, a 9.1 percentage point increase, informs the change in total revenues associated with iGaming.[310] Overall, total annual casino revenues increased by $1.9 billion from 2018 through 2023, a 58.9% increase.[311] When compared to the revenue projections without iGaming, overall casino revenues increased by $1.8 billion, or 54.3%.[312]

Figure 30: Pennsylvania Casino and VGT Revenues Before and After Legalizing iGaming, 2012–2023[313]



[309] Exhibit 71.

[310] Exhibit 30A.

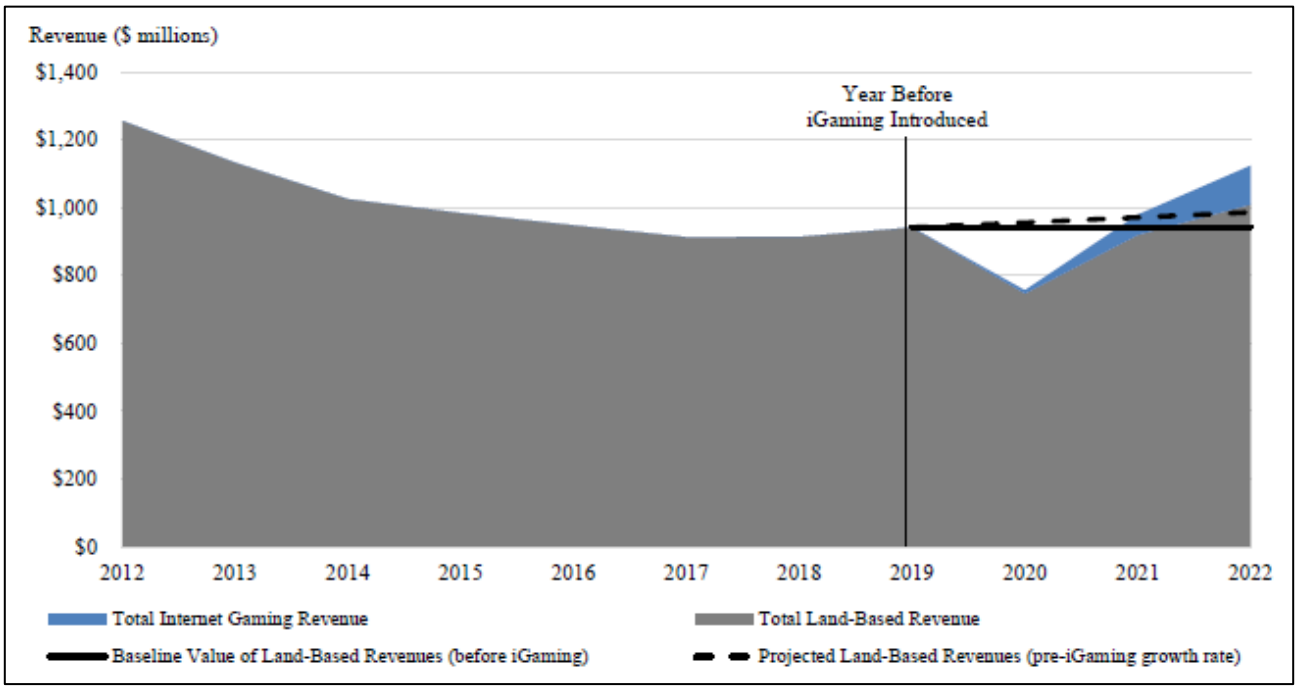
[311] Exhibit 28-33C.

[312] Exhibit 28-33C.

[313] Exhibit 30.

West Virginia. After the introduction of iGaming in West Virginia in July 2020,[314] the CAGR of total casino revenues improved from 1.6% to 6.1%.[315] Applying the ITS approach, the difference between the two, a 4.5 percentage point increase, informs the change in total revenues associated with iGaming.[316] Overall, total annual casino revenues increased by $182 million from 2020 through 2022, a 19.3% increase compared to the 2019 baseline. [317] When compared to the revenue projections without iGaming, overall casino revenues increased by $137 million, or 13.9%.[318]

Figure 31: West Virginia Casino and VGT Revenues Before and After Legalizing iGaming, 2012–2022[319]



[314] Exhibit 71.

[315] See Exhibit 31A. 2017 is used as the start year of the pre-treatment period to account for the uptick in West Virgina's revenues in 2017-2019 and represent the most recent trend. Revenues had been declining in West Virginia prior to 2017, so if an earlier trend is considered, that would show an even more positive impact from iGaming and a more positive Total Treatment Effect.

[316] Exhibit 31A.

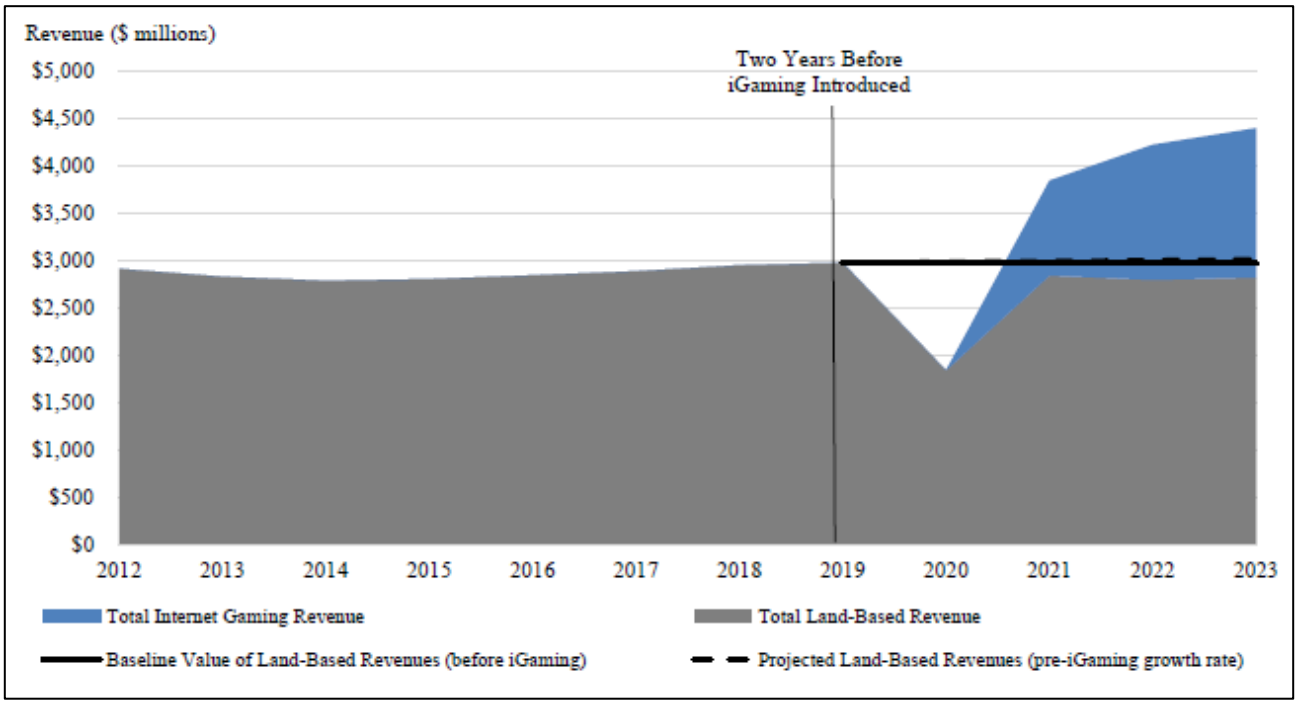
[317] Exhibit 28-33C.

[318] Exhibit 28-33C.

[319] Exhibit 31.

Michigan. In Michigan, 2019 is used as the baseline year rather than 2020 because 2020 was negatively impacted by the COVID-19 pandemic, so the revenue trend leading into 2019 is a better indication of the pre-iGaming trend of Land-based revenues. After the introduction of iGaming in Michigan in January 2021,[320] the CAGR of total casino revenues improved from 0.3% to 10.3%. Applying the ITS approach, the difference between the two, a 10 percentage point increase, informs the change in total revenues associated with iGaming.[321] Overall, total annual casino revenues increased by $1.4 billion from 2019 through 2023, a 47.8% increase compared to the 2019 baseline.[322] When compared to the revenue projections without iGaming, overall casino revenues increased by $1.4 billion, or 46%.[323]

Figure 32: Michigan Casino Revenues Before and After Legalizing iGaming, 2012–2023[324]



[320] Exhibit 71.

[321] Exhibit 32A.

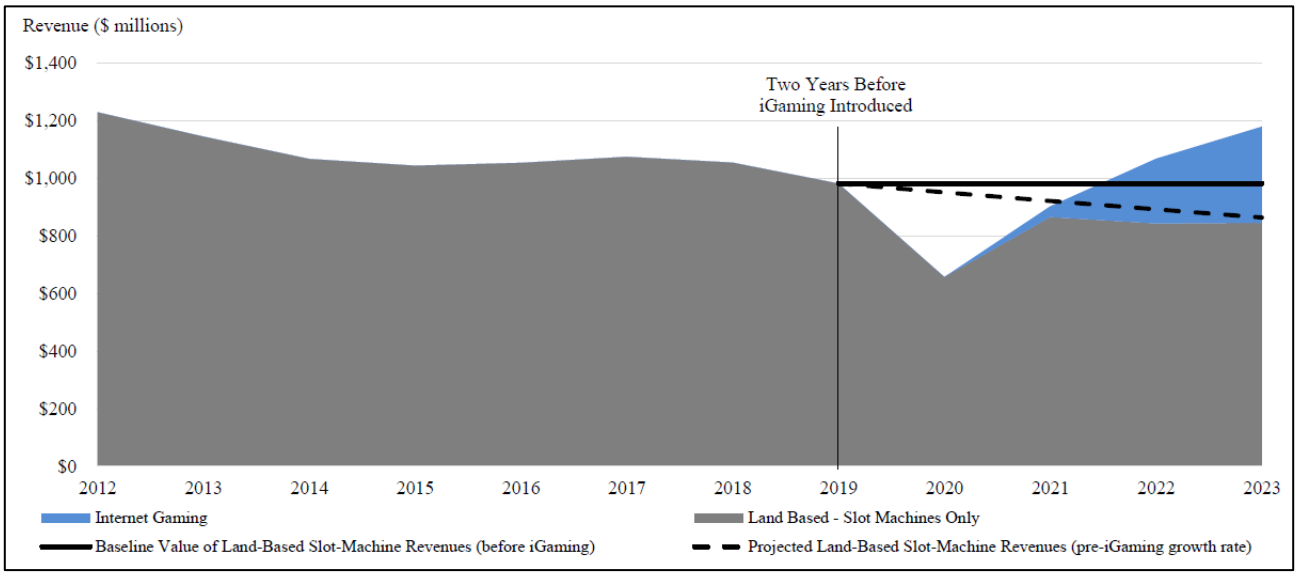
[322] Exhibit 28-33C.

[323] Exhibit 28-33C.

[324] Exhibit 32.

Connecticut. In Connecticut, 2019 is used as the baseline year rather than 2020 because 2020 was negatively impacted by the COVID-19 pandemic, so the revenue trend leading into 2019 is a better indication of the pre-iGaming trend of Land-based revenues. After the introduction of iGaming in Connecticut in October 2021,[325] the CAGR of total casino revenues from slot machines reported by the casinos improved from -3.2% to 4.7%.[326] Applying the ITS approach, the difference between the two, a 7.8 percentage point increase, informs the change in total revenues associated with iGaming.[327] Overall, total annual casino revenues increased by $198 million from 2019 through 2023, a 20.1% increase compared to the 2019 baseline.[328] When compared to the revenue projections without iGaming, overall casino revenues increased by $316 million, or 36.6%.[329]

Figure 33: Connecticut Casino Revenues Before and After Legalizing iGaming Using Actual Tribal Data on Slot Machines Only, 2012–2023[330]



[325] Exhibit 71.

[326] Exhibit 33A. An alternate model for Connecticut is constructed with estimated table games data included. In this model, the CAGR of total casino revenues improves from -4% before iGaming to 8.7% after iGaming, a 12.6% increase. See Exhibit 33B and Exhibit 33C.

[327] Exhibit 33A.

[328] Exhibit 28-33C.

[329] Exhibit 28-33C.

[330] Exhibit 33.

D. Overall Results

In aggregate, across the six iGaming States, Land-based revenues grew at a CAGR of -2.2% before iGaming.[331] Total revenues, including Land-based and iGaming revenues, grew at a CAGR of 7.2% after iGaming.[332] Thus, the application of the ITS approach yields the Total Treatment Effect to be an increase in the CAGR of total casino revenues by 9.4 percentage points after the introduction of iGaming.[333]

The overall market expansion associated with iGaming is a 46% increase in total annual casino revenues compared to the baseline before iGaming.[334] When compared to revenue projections based on each iGaming state's CAGR before iGaming, the overall market expansion increases to 75.1%.[335]

V. Observed Changes in Existing Land-based Revenues After iGaming Was Introduced

Overall, the framework applied to analyze the changes in existing Land-based revenues after the introduction of iGaming is similar to the framework applied in Section IV to analyze the changes in total casino revenues after the introduction of iGaming. For the iGaming States, the world in which iGaming is not legalized is not observable. Therefore, a counterfactual modeling of what the Land-based revenues in the iGaming States may have been in the absence of iGaming is necessary to more accurately measure the changes associated with iGaming. As in Section IV, the primary results reported for the "Land-based Treatment Effect" are from an ITS model, similar to the model used to estimate the "Total Treatment Effect." In addition, this study utilizes two further approaches motivated by popular techniques used in economic and social science academic literature to assess the changes in Land-based revenues related to the introduction of iGaming: (1) a model motivated by the difference-in-differences (DiD) technique (Section V.B) and (2) a model based on the economic concept of elasticity (Section V.C).

[331] Exhibit 28-33A.

[332] Exhibit 28-33A.

[333] See Figure 2 and Exhibit 28-33A.

[334] See Figure 1 and Exhibit 28-33C.

[335] Exhibit 28-33C.

A. ITS Approach

Methodology. As discussed in Section IV.B, the ITS approach extrapolates the pre-intervention data to predict trends had the intervention not occurred.[336] The difference between the actual post-intervention trend observed in the data and the predicted trend using the pre-intervention period informs the impact of the intervention.[337] The methodology remains the same as in Section IV.B to assess the change in Land-based revenues related to iGaming.

Application. As in Section IV.B, the ITS approach is applied to the six iGaming States. In this instance, however, the ITS approach is specifically used to estimate the change in the CAGR of Land-based revenues after the introduction of iGaming.

As in Section IV.B, the intervention is the introduction of iGaming, and the CAGRs of Land-based revenues prior to the introduction of iGaming are used to project the CAGRs of Land-based revenues in the counterfactual but-for world if iGaming had not been introduced. These projected CAGRs of Land-based revenues are then compared to the actual CAGRs of Land-based revenues to assess the changes related to iGaming.

Results by State

New Jersey. After the introduction of iGaming in New Jersey in 2013, the CAGR of Land-based casino revenues improved from -8.1% to -0.6%.[338] Applying the ITS approach, the difference between the two, a 7.5 percentage point increase, informs the change in Land-based revenues after iGaming was introduced.[339] The change in CAGRs before and after iGaming, the "Land-based Treatment Effect," is +7.5%.[340] While Land-based revenues in 2023 were slightly lower than they were in 2012 ($3.1 billion in the baseline year of 2012 versus $2.8 billion in 2023), this decrease represents a substantial improvement from the very negative trend prior to 2012. This improvement in the trend indicates that the introduction of iGaming was associated with a net positive change in the CAGR of Land-based revenues.

[336] Jandoc et al. (2015), at p. 950.

[337] Baicker and Svorons (2019), at p. 1.

[338] Exhibit 28A.

[339] Exhibit 28A.

[340] An alternate model is constructed for New Jersey that considers 2015 as the baseline year due to iGaming's slow initial growth in the state. See Exhibits 28B and 28C. In this model, the CAGR of Land-based revenues improves from -7.9% before iGaming to 2.1% after iGaming, a 9.9% increase.

Delaware. After the introduction of iGaming in Delaware in 2013, the CAGR of Land-based casino revenues improved from -3.2% to -1.0%.[341] Applying the ITS approach, the difference between the two, a 2.2 percentage point increase, informs the change in Land-based revenues after iGaming was introduced.[342] The Land-based Treatment Effect is +2.2%.[343] While Land-based revenues in 2023 were slightly lower than they were in 2012 ($521 million in the baseline year of 2012 versus $468 million in 2023), this decrease represents a substantial improvement from the negative trend prior to 2012. This improvement in the trend indicates that the introduction of iGaming was associated with a net positive change in the CAGR of Land-based revenues.

Pennsylvania. After the introduction of iGaming in Pennsylvania in 2019, the CAGR of Land-based revenues improved from 0.6% to 1.6%.[344] Applying the ITS approach, the difference between the two, a 1.0 percentage point increase, informs the change in Land-based revenues after iGaming was introduced.[345] The Land-based Treatment Effect is +1.0%. Overall, Land-based revenues increased by $261 million from 2018 through 2023, an 8.0% increase.[346] When compared to the revenue projections without iGaming, Land-based casino revenues increased by $162 million, or 4.8%.[347]

Analysis indicates that Pennsylvania operators benefited from New Jersey's years of experience and learning, which allowed them to successfully execute marketing campaigns with multiple launches occurring in a short time frame.[348] In addition, HB 217 introduced online sports betting alongside iGaming, which enabled operators to cross-sell these products and reach a critical mass of players faster.[349] Further, the COVID-19 pandemic fostered more widespread adoption of iGaming, as Land-based alternatives had largely shut down.[350]

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[341] Exhibit 29A.

[342] Exhibit 29A.

[343] An alternate model is constructed for Delaware that considers 2018 as the baseline year due to iGaming's slow initial growth in the state. See Exhibits 29B and 29C. In this model, the CAGR of Land-based revenues improved from -1.2% before iGaming to 2.8% after iGaming, a 4% increase.

[344] Exhibit 30A.

[345] Exhibit 30A.

[346] Exhibit 28-33C.

[347] Exhibit 28-33C.

[348] https://www.playpennsylvania.com/two-year-pa-online-casinos-look-back/ (accessed December 12, 2023).

[349] https://www.playpennsylvania.com/two-year-pa-online-casinos-look-back/ (accessed December 12, 2023).

[350] https://www.playpennsylvania.com/two-year-pa-online-casinos-look-back/ (accessed December 12, 2023).

West Virginia. After the introduction of iGaming in West Virginia in 2020, the CAGR of Land-based revenues improved from 1.6% to 2.4%.[351] Applying the ITS approach, the difference between the two, a 0.8 percentage point increase, informs the change in Land-based revenues after iGaming was introduced.[352] The Land-based Treatment Effect is +0.8%. Overall, the Land-based revenues increased by $68 million from 2019 through 2022, a 7.2% increase compared to the 2019 baseline.[353] When compared to the revenue projections without iGaming, Land-based casino revenues increased by $23 million, or 2.3%.[354]

Michigan. After the introduction of iGaming in Michigan in 2021, the CAGR of Land-based revenues decreased from 0.3% to -1.3%.[355] Applying the ITS approach, the difference between the two, a 1.6 percentage point decrease, informs the change in Land-based revenues after iGaming was introduced.[356] The Land-based Treatment Effect is -1.6%. Overall, Land-based revenues decreased by $153 million from 2019 through 2023, a 5.2% decrease compared to the 2019 baseline.[357] When compared to the revenue projections without iGaming, Land-based casino revenues decreased by $190 million, or 6.3%.[358] As discussed in Section I and Section II.B, external factors such as (1) the large decline in casino revenues during the COVID-19 pandemic in 2020-21 and the inability of casinos to fully recover to their previous levels for reasons unrelated to iGaming, and/or (2) competition from new casinos and VGTs in the neighboring states (rather than iGaming) may explain the modest relative decrease in the CAGR of Land-based revenues.

Connecticut. After the introduction of iGaming in Connecticut in 2021, the CAGR of Land-based casino revenues from slot machines as reported by the casinos continued its downward trend, declining slightly from -3.2% to -3.7%.[359] Applying the ITS approach, the difference between the two, a 0.5 percentage point decrease, informs the change in Land-based revenues after iGaming was introduced.[360] The Land-based Treatment Effect is -0.5%. Overall, Land-based revenues decreased by $137 million from 2019

[351] Exhibit 31A.

[352] Exhibit 31A.

[353] Exhibit 28-33C.

[354] Exhibit 28-33C.

[355] Exhibit 32A.

[356] Exhibit 32A.

[357] Exhibit 28-33C.

[358] Exhibit 28-33C.

[359] Exhibit 33A.

[360] Exhibit 33A.

through 2023, a 13.9% decrease compared to the 2019 baseline.[361] When compared to the revenue projections without iGaming, Land-based casino revenues decreased by $19 million, or 2.2%.[362] As discussed in Section I and Section II.B, external factors such as competition from new casinos in the neighboring states (rather than iGaming) may explain the modest relative decrease in the CAGR of Land-based revenues.

When considering estimated tables revenue, after the introduction of iGaming in Connecticut in 2021, the CAGR of Land-based casino revenues (including slot machines as reported by the casinos and estimated table games revenue) no longer exhibits a downward trend, increasing from -4% to 3.8%.[363] Applying the ITS approach, the difference between the two, a 7.7 percentage point increase, informs the change in Land-based revenues after iGaming was introduced.[364] When considering both slots and estimated table games, the Land-based Treatment Effect in Connecticut is +7.7%.

Overall Results. In aggregate, across the six iGaming States, the Land-based revenues grew at a CAGR of -2.2% before iGaming and -0.2% after iGaming.[365] Thus, the application of the ITS approach yields the result that the Land-based Treatment Effect is an increase in the CAGR of Land-based revenues by 1.9 percentage points after the introduction of iGaming.[366]

When comparing the initial value of Land-based revenue to the final value as of the most recent data available, the improvement in the trend implies that Land-based revenues exceed the revenue projections based on the pre-existing negative trend before iGaming by 17.7%.[367] In sum, this study does not find evidence to indicate that the introduction of iGaming is associated with cannibalization of existing Land-based revenues.[368] On the contrary, the aggregate Land-based Treatment Effect of a 1.9 percentage point increase in the CAGR of Land-based revenues indicates that the presence of iGaming may be complementary and lead to an increase in the CAGR of Land-based revenues.

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[361] Exhibit 28-33C.

[362] Exhibit 28-33C.

[363] Exhibit 33C.

[364] Exhibit 33C.

[365] Exhibit 28-33B.

[366] See Figure 4 and Exhibit 28-33B.

[367] Exhibit 28-33C.

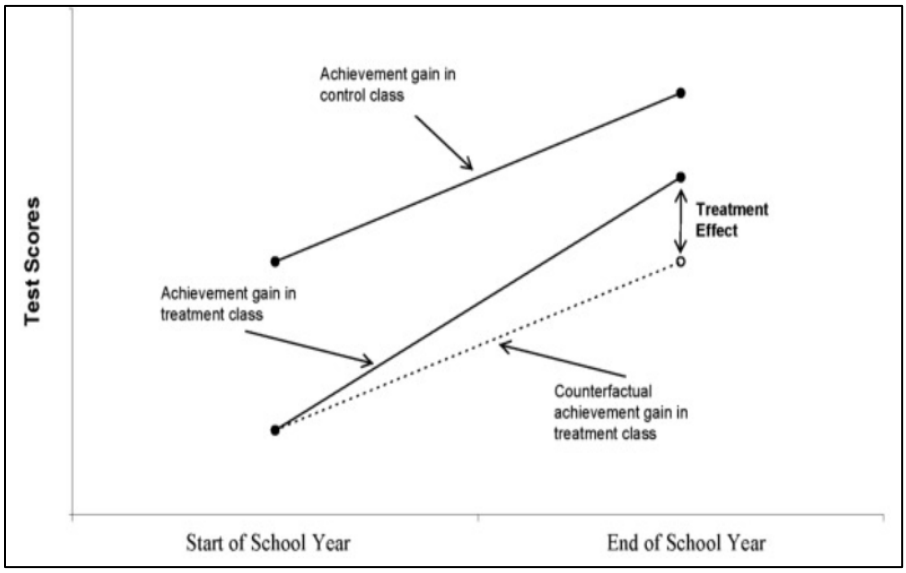
[368] iGaming is associated with modest negative effects in Michigan and Connecticut. However, as discussed in Sections I, II.B, and V.A, external factors such as competition from new casinos and VGTs in the neighboring states (rather than iGaming) may explain the modest relative decrease in the CAGR of Land-based revenues. Further, when considering estimated tables games revenues in Connecticut, Connecticut has a positive Land-based Treatment Effect.

B. Approach Motivated by the DiD Technique

Methodology. A second approach, motivated by a popular statistical tool called the DiD technique, is utilized to evaluate the changes in CAGR of Land-based revenues associated with the introduction of iGaming. The DiD approach is a widely accepted methodology in social sciences.[369] The DiD approach is typically applied to study the changes in outcomes of certain groups that are exposed to a treatment, as compared to the changes in outcomes of other groups that are not exposed to the same treatment. The intuition of the DiD approach can be best explained by considering two groups and two periods; in the first period, neither group is exposed to the treatment, while in the second period, only one of the groups is exposed to the treatment.[370]

Figure 34 below illustrates an application of the DiD approach, in which the two periods are the start and the end of the school year, during which one of the two classes received additional lessons in the afternoons. The class that received the additional lessons is the treatment class, and the other class is the control class. Figure 34 below shows the impact of the afternoon classes on test scores.

Figure 34: Illustration of the DiD Approach[371]



[369] Schwerdt, Guido, and Woessmann, Ludger, "Chapter 1 – Empirical Methods in the Economics of Education," *The Economics of Education (Second Edition)*, 2020: 3-20 ("Schwerdt and Woessmann"), available at https://www.sciencedirect.com/topics/economics-econometrics-and-finance/difference-in-differences (accessed December 22, 2023).

[370] Schwerdt and Woessmann, at p. 5.

[371] Schwerdt and Woessmann, at p. 5.

The DiD approach uses the trend (or "difference") of the non-treated, or control, group to project the trend of the treated group in the absence of the treatment. In the above example, the difference between the test scores of the control class at the start and the end of the school year is used as a "counterfactual" measure of what the test scores of the treatment class would have been at the end of the school year, in the absence of the afternoon classes, as depicted by the dashed line. The difference between the actual observed test scores of the treatment class against the projected test scores at the end of the school year estimates the impact of the afternoon classes. The approach is labeled the DiD approach, as it relies on two differences: the first is used to project the outcome for the treated group in the absence of the treatment, and the second is used to estimate the impact of the treatment.

Applications. An approach motivated by the DiD technique is utilized to evaluate the change in the CAGR of Land-based revenues associated with the introduction of iGaming in the six iGaming States. In this specific setting, the treatment is the legalization of iGaming, and the treatment states are the iGaming States that have already legalized iGaming.

Unlike the standard setup for the DiD approach, the situation with iGaming legalization is different in multiple ways. First, the six iGaming States legalized iGaming at different times. This is accounted for by estimating a state-specific model for each iGaming State. Second, the differing trends for the iGaming States relative to the counterfactual control states prior to treatment are accounted for by evaluating the impact of the treatment as the difference between (1) the change in CAGR for the treatment states and (2) the change in CAGR for the control states. This has the effect of normalizing the trends across the iGaming States and the counterfactual control states.

Projecting counterfactual revenues involves inherent uncertainty. There are numerous factors that influence gaming revenues and a limited number of observations to fully account for all factors, including but not limited to those discussed in Sections I and IV. Recognizing the limitations for any set of controls and considering these factors, three separate sets of control states are used as counterfactuals to apply an approach motivated by the DiD technique to evaluate the change in the CAGR of Land-based revenues associated with the introduction of iGaming.

First set of counterfactual control states. The first set of counterfactual control states consists of the Projection States, or the states that are currently contemplating legalizing iGaming. These states form a good counterfactual set of controls to the iGaming States because they are similar to the iGaming States in that they are currently undertaking the same decision of legalizing iGaming. Because these states are

considering legalizing iGaming, this is a signal they have similarities to the states that have already legalized iGaming with respect to a revealed preference for implementing iGaming.[372]

Second set of counterfactual control states. The second set of counterfactual control states consists of the states referenced in the TIG Report (2023) discussed in Section II.C. These states are Colorado, Florida, Illinois, Indiana, Iowa, Kansas, Maine, Missouri, New York, Ohio, and Rhode Island. There is some overlap with the states used in the first control group, and this is an expanded set of counterfactual states to provide an additional robustness check.

Third set of counterfactual control states. A third set of counterfactual control states is used for New Jersey and Delaware: other "future" iGaming States (i.e., the states that had not yet legalized iGaming at the time, Pennsylvania, West Virginia, Michigan, and Connecticut). By the same logic used for the Projection States, these other iGaming States provide a good counterfactual to New Jersey and Delaware because they legalized iGaming in the years following New Jersey and Delaware, indicating that they have similarities to New Jersey and Delaware with respect to a revealed preference for implementing iGaming.

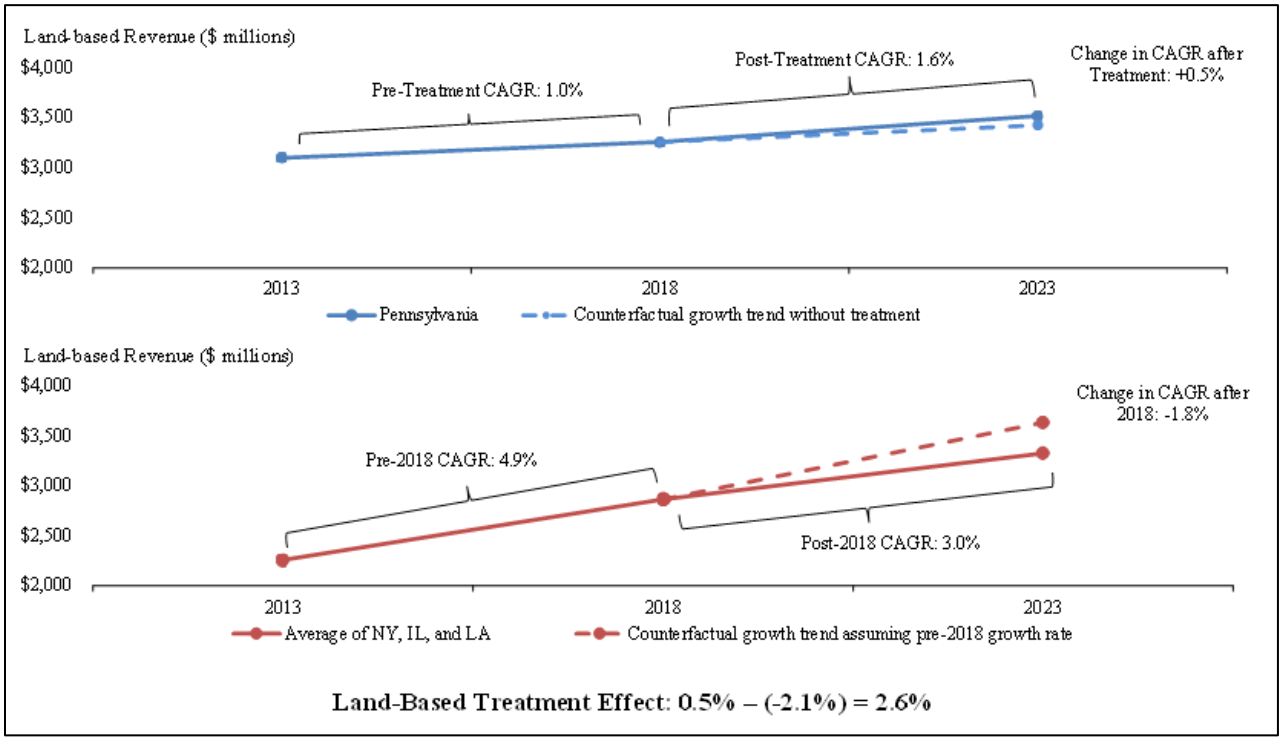
Using the three aforementioned control groups, the change in the CAGR of Land-based revenues associated with the introduction of iGaming is calculated as the difference between (1) the actual change in the CAGRs of Land-based revenues in the iGaming States before and after the introduction of iGaming and (2) the actual change in the CAGRs of the control states during the same time period. The pre- and post-treatment periods are generally set so that the pre-treatment period is the same length as the post-treatment period for each iGaming State. For each of the three counterfactual control groups, the revenue weighted average of all of the iGaming States is reported to calculate an aggregate measure, the "Land-based Treatment Effect."[373]

Figure 35 shows a visual of the comparison of Pennsylvania versus the Projections States (excluding Maryland) as a control group.

[372] This is similar to the economic concept of revealed preference, which is the notion that behavior is an indicator of preferences.

[373] For each set of control states, the aggregate Land-based Treatment Effect is calculated by weighting the Land-based Treatment Effects of each iGaming State according to the values of Land-based revenues in the year immediately prior to the introduction of iGaming in each iGaming State.

Figure 35: Chart of Pennsylvania Revenue Trends Pre- and Post-Treatment Using the Projection States as a Control Group, Excluding Maryland[374]



Results Using Projection States as a Control Group. When comparing the relative changes in the CAGRs of Land-based revenues between the pre- and post-treatment periods for the iGaming States versus the Projection States, three of the states (New Jersey, Pennsylvania, and West Virgina) show positive associations, and three of the states (Delaware, Michigan, and Connecticut) show negative associations.[375] On average, the result when using the Projection States as a control group is that the Land-based Treatment Effect is +0.8%.[376] When weighting the results by each iGaming State's Land-based revenues, this effect increases to +1.6%.[377] The results are also reported excluding Maryland as a control because Maryland's revenues were influenced by the opening of the MGM National Harbor in 2016. Excluding Maryland as a control, the average Land-based Treatment Effect is -0.2%, and the weighted average is **0.5%**.[378] See Figure 36. This metric is likely the most reasonable measure, and it

[374] Exhibit 35.

[375] Exhibit 36.

[376] Exhibit 36A.

[377] Exhibit 36A.

[378] Exhibit 36.

can be interpreted as meaning that the introduction of iGaming is associated with a 0.5 percentage point increase in the Land-based CAGR for iGaming States when compared to the Projection States.[379]

Altogether, these results support the finding that iGaming is most likely associated with a relative increase in Land-based revenues, with effect sizes ranging from -3.2% to +2.8% and an effect size of **+0.5%** likely being the most reasonable measure.[380]

Figure 36: Land-based Treatment Effect Using Projection States as a Control Group, Excluding Maryland[381]

Index	State	Pre-Treatment Period	Post-Treatment Period	Difference for iGaming States[382]	Difference for Control States[383]	Land-based Treatment Effect[384]
[1]	New Jersey	2007 – 2012	2012 – 2017	4.5%	1.7%	2.8%
[2]	Delaware	2007 – 2012	2012 – 2017	(1.5%)	1.7%	(3.2%)
[3]	Pennsylvania	2013 – 2018	2018 – 2023	0.5%	(1.8%)	2.4%
[4]	West Virginia	2016 – 2019	2019 – 2022	2.6%	1.1%	1.5%
[5]	Michigan	2015 – 2019	2019 – 2023	(2.8%)	(0.2%)	(2.6%)
[6]	Connecticut	2015 – 2019	2019 – 2023	(2.2%)	(0.2%)	(2.0%)
[7]	Average	*n/a*	*n/a*	0.2%	0.4%	(0.2%)
[8]	**Weighted Average**	***n/a***	***n/a***	**0.6%**	**0.0%**	**0.5%**[385]

Results Using TIG Report (2023) States as a Control Group. When comparing the relative changes in the CAGRs of Land-based revenues between the pre- and post-treatment periods for the iGaming States versus the states used in the TIG Report, two of the states (New Jersey and West Virginia) show positive associations, and four of the states (Delaware, Pennsylvania, Michigan, and Connecticut) show negative

[379] Exhibit 36.

[380] Exhibit 36.

[381] Exhibit 36.

[382] The change in CAGR from "Pre-Treatment Period" to "Post-Treatment Period."

[383] The change in CAGR from "Pre-Treatment Period" to "Post-Treatment Period" for the counterfactual control states.

[384] "Difference for iGaming State" – "Difference for Control States."

[385] Land-based Treatment Effect does not exactly match due to rounding.

associations.[386] On average, the result when using the TIG Report states as a control group is that the Land-based Treatment Effect is -1.5%.[387] When weighting the results by each iGaming State's Land-based revenues, this effect increases to -1%.[388] See Figure 37. This metric can be interpreted as meaning that the introduction of iGaming is associated with a 1 percentage point decrease in the CAGR of Land-based revenues for iGaming States when compared to the TIG Report states.

Altogether, these results are likely less reliable than the results based on the Projection States because the set of counterfactual control states includes several states that are not as far along in the process toward legalizing iGaming, and some of these states had large positive changes in CAGRs in later time periods relative to earlier time periods that may be specific to those states and unrelated to trends in the iGaming States.[389] For example, when comparing the trends in 2019-2022 relative to 2016-2019, states that experienced large positive changes were Colorado (+7.4%), Florida (+4.8%), and Iowa (+6.1%).[390] Recognizing the limited reliability of using these states as counterfactual controls, the results show that the degree of the Land-based Treatment Effect ranges from **-1.5% to -1%** (see Figure 37), which is notably far lower than the effect reported in the TIG Report of -10.2%.

[386] Exhibit 37.

[387] Exhibit 37.

[388] Exhibit 37.

[389] Exhibit 36-38A to Exhibit 36-38G.

[390] Exhibit 36-38D.

Figure 37: Land-based Treatment Effect Using TIG States as a Control Group[391]

Index	State	Pre-Treatment Period	Post-Treatment Period	Difference for iGaming States[392]	Difference for Control States[393]	Land-based Treatment Effect
[1]	New Jersey	2007 – 2012	2012 – 2017	4.5%	0.5%	4.0%
[2]	Delaware	2007 – 2012	2012 – 2017	(1.5%)	0.5%	(2.0%)
[3]	Pennsylvania	2014 – 2018	2018 – 2022	0.2%	0.6%	(0.4%)
[4]	West Virginia	2016 – 2019	2019 – 2022	2.6%	2.3%	0.3%
[5]	Michigan	2016 – 2019	2019 – 2022	(3.6%)	2.3%	(5.8%)
[6]	Connecticut	2016 – 2019	2019 – 2022	(2.7%)	2.3%	(4.9%)
[7]	**Average**	*n/a*	*n/a*	(0.1%)	1.4%	(1.5%)
[8]	**Weighted Average**	***n/a***	***n/a***	***n/a***	***n/a***	**(1.0%)**

Results Using Future iGaming States as a Control Group. When comparing the relative changes in CAGRs of Land-based revenues between the pre- and post-treatment periods for New Jersey and Delaware versus the future iGaming States, the estimated Land-based Treatment Effect increases substantially. The Land-based Treatment Effect is estimated as 22.5% for New Jersey and 16.5% for Delaware, with an average of 19.5% and a weighted average of **21.6%**.[394] This effect is in part because two of the control states, Pennsylvania (24.2% CAGR) and Michigan (17.1% CAGR), experienced substantial growth from 2007 to 2012, which then tapered off from 2012 to 2017, during the treatment period.[395] Because of this high growth in the pre-treatment period, these results also have limited reliability compared to the results from using the Projection States as the control group. Recognizing the limited reliability of using these states as counterfactual controls, the results show that the degree of the Land-based Treatment Effect ranges from 19.5% to 21.6%, which supports the finding that iGaming is most likely associated with a relative increase in Land-based revenues.[396]

[391] Exhibit 37.

[392] The change in CAGR from "Pre-Treatment Period" to "Post-Treatment Period."

[393] The change in CAGR from "Pre-Treatment Period" to "Post-Treatment Period" for the counterfactual control states.

[394] Exhibit 38.

[395] Exhibit 36-38A and Exhibit 36-38B.

[396] Exhibit 38.

Figure 38: Land-based Treatment Effect Using Future iGaming States as a Control Group[397]

Index	State	Pre-Treatment Period	Post-Treatment Period	Difference for iGaming States[398]	Difference for Control States[399]	Land-based Treatment Effect
[1]	New Jersey	2007 – 2012	2012 – 2017	4.5%	(18.0%)	22.5%
[2]	Delaware	2007 – 2012	2012 – 2017	(1.5%)	(18.0%)	16.5%
[3]	Average	*n/a*	*n/a*	1.5%	(18.0%)	19.5%
[4]	**Weighted Average**	***n/a***	***n/a***	**3.6%**	**(18.0%)**	**21.6%**

C. Elasticity Model

Methodology. A third approach is used to evaluate the change in the growth rates of Land-based revenues associated with the introduction of iGaming. In this approach, annual data are considered from each iGaming State, and the correlation is tested between the year-over-year percent change in Land-based revenues and the year-over-year percent change in iGaming revenues. Put another way, this model seeks to identify the elasticity of Land-based revenues with respect to iGaming revenues.

Using elasticity as a means of examining the relationship between two variables is a common practice in economics. A typical example for which elasticity is applied is in calculating the "price elasticity of demand," which is defined as "the ratio of the percentage change in quantity demanded of a product to the percentage change in price."[400]

The elasticity of Land-based revenues with respect to iGaming revenues is an informative metric to this analysis because it indicates whether increases in iGaming revenues are associated with (1) increases in Land-based revenues (i.e., the two products grow simultaneously, indicating potential complementarity), (2) decreases in Land-based revenues (i.e., one product's growth is associated with the other product decreasing, which may imply substitution or cannibalization), or (3) no change in Land-based revenues (i.e., the change in iGaming revenues has no detectable impact on Land-based revenue).

[397] Exhibit 38.

[398] The change in CAGR from "Pre-Treatment Period" to "Post-Treatment Period."

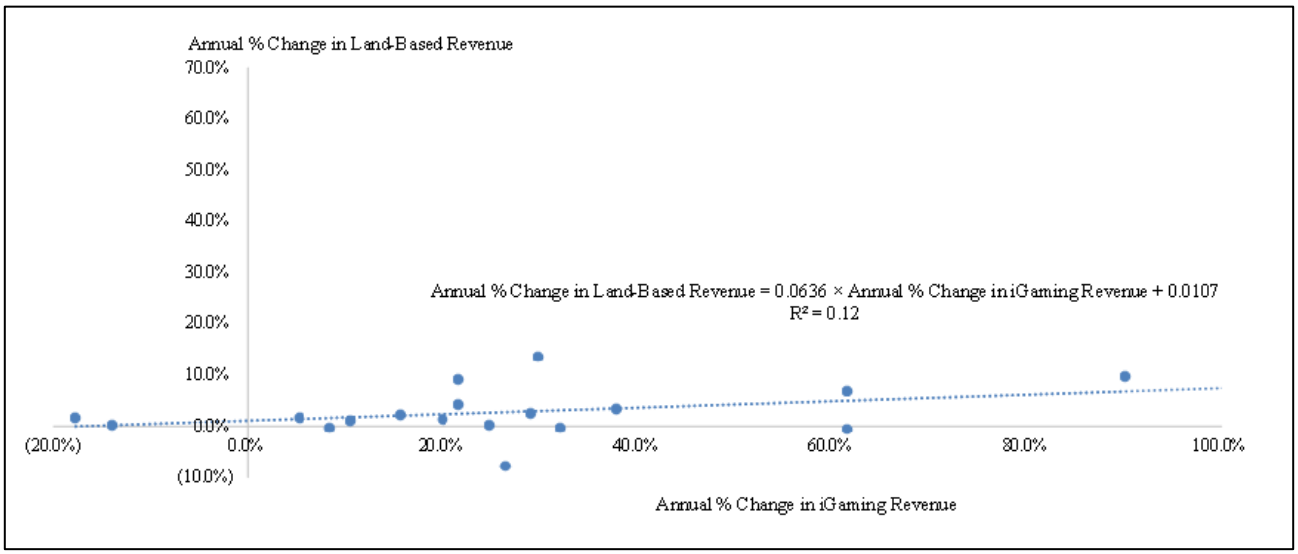
[399] The change in CAGR from "Pre-Treatment Period" to "Post-Treatment Period" for the counterfactual control states.

[400] See https://www.investopedia.com/terms/p/priceelasticity.asp (accessed January 23, 2024).

Application and Results. The year-over-year percent change in Land-based revenues and the year-over-year percent change in iGaming revenues for all the iGaming States in each year after the legalization of iGaming, excluding certain years,[401] are pooled together. A single elasticity model is estimated, incorporating data from all the iGaming States. Additionally, state-specific elasticity models are estimated for New Jersey and Delaware only, as these are the only two iGaming States with sufficient observations allowing for state-specific estimation.

Figure 39 below presents the results from the overall elasticity model incorporating data from all the iGaming States. Each observation corresponds to one of the six iGaming States and its year-over-year percent changes in one year.[402]

Figure 39: Correlation Between Annual Change in iGaming Revenue and Land-based Revenue[403]



As shown in Figure 39, the correlation between the percent change in iGaming revenues and the percent change in Land-based revenues is weak and slightly positive, exhibiting a slope of 0.0636 and an R-

[401] The model omits outliers that are influenced by notable factors other than changes in iGaming to estimate the elasticity based on observations when both the iGaming and Land-based markets were operating under normal conditions. Observations including the first year of iGaming from each state are omitted because the first-year data were mainly partial years and because the iGaming growth rates are outside of a useful range for estimation. Observations for 2019-2020 and 2020-2021 are excluded because these are outliers due to the substantially reduced Land-based revenues because of COVID-19 in 2020. From 2019 to 2020, Land-based revenues in all states substantially decreased because of COVID-19 shutdowns, and from 2020 to 2021, Land-based revenues in all states substantially increased. This model would not be able to disentangle the impact of COVID-19 versus the impact of iGaming, so the observations are omitted.

[402] See https://www.investopedia.com/terms/p/priceelasticity.asp (accessed January 23, 2024).

[403] Exhibit 39.

squared of approximately 12%.[404] On average, this result indicates that every 1 percentage point increase in iGaming revenue is associated with a 0.063 percentage point increase in Land-based revenue.

The two state-specific models corroborate the findings from the overall elasticity model. The elasticity model for New Jersey indicates that every 1 percentage point increase in iGaming revenue is associated with a 0.085 percentage point increase (a slight increase) in Land-based revenue, with an R-squared of approximately 5%.[405] The Delaware model indicates that every 1 percentage point increase in iGaming revenue is associated with a -0.002 percentage point decrease (essentially no change) in Land-based revenue, with an R-squared of approximately 0.2%.[406]

The above analyses and results from the elasticity models support the finding that iGaming is most likely associated with a slight relative increase in Land-based revenues.

D. Overall Results

In summary, the report utilizes the ITS approach, an approach motivated by the DiD technique, and an elasticity model to evaluate the change in growth rates of Land-based revenues associated with the introduction of iGaming. The overall results are summarized as follows.

ITS Approach. iGaming is associated with an increase in the Land-based revenue CAGR for New Jersey (+7.5%), Delaware (+2.2%), Pennsylvania (+1%), and West Virginia (+0.8%). For Michigan and Connecticut, iGaming is associated with a marginal decrease in the Land-based growth rate (-1.6% and -0.5%, respectively). On average, the Land-based Treatment Effect (weighted by each state's initial Land-based revenue levels prior to the introduction of iGaming) is **+1.9%**.

Approach motivated by the DiD Technique. While the situation with iGaming legalization does not allow for a standard setup for the DiD technique, an approach motivated by the DiD technique is implemented, using three different (albeit imperfect) sets of controls. The most reliable set of controls is likely the set of Projection States with available data. Using the Projection States (excluding Maryland) as a control group to estimate the counterfactual trend in Land-based revenues for the iGaming States had they not legalized iGaming, a positive Land-based Treatment Effect is estimated in New Jersey (+2.8%), Pennsylvania (+2.4%), and West Virginia (+1.5%). A negative Land-based Treatment Effect is estimated in Delaware (-3.2%), Michigan (-2.6%), and Connecticut (-2%). On average (with the same

[404] Exhibit 39.

[405] Exhibit 39B.

[406] Exhibit 39B.

weights as those used in the ITS model), iGaming was associated with a 0.5% increase in the Land-based growth rate.[407]

Using the TIG Report states as a control group, the estimated Land-based Treatment Effects are as follows: New Jersey (+4%), Delaware (-2%), Pennsylvania (-0.4%), West Virginia (0.3%), Michigan, (-5.8%), and Connecticut (-4.9%). These results indicate that iGaming was associated with a weighted average 1% decrease in the Land-based growth rate.[408]

When examining New Jersey and Delaware relative to the trends in the future iGaming States, the estimated Land-based Treatment Effects are as follows: New Jersey (22.5%) and Delaware (16.5%). These results indicate that iGaming was associated with a weighted average 21.6% increase in the Land-based growth rate.

Of the three sets of results motivated by the DiD technique, two are consistent with a positive change in Land-based revenues after iGaming, while one shows a negative change. The Projection States form a good counterfactual set of controls to the iGaming States because they are similar to the iGaming States in that they are currently undertaking the same decision of legalizing iGaming. The results from these states support the finding that iGaming is most likely associated with a slight positive increase in Land-based revenues.[409]

Elasticity Model. Three elasticity models are estimated to assess the correlation between the year-over-year percent change in Land-based revenues and the year-over-year percent change in iGaming revenues. The first model, incorporating data from all the iGaming States, estimates that every 1 percentage point increase in iGaming revenue is associated with a 0.0636 percentage point increase in Land-based revenue. The second model, incorporating data from New Jersey only, estimates that every 1 percentage point increase in iGaming revenue is associated with a 0.085 percentage point increase in Land-based revenue. The third model, incorporating data from Delaware only, estimates that every 1 percentage point increase in iGaming revenue is associated with a 0.002 percentage point decrease (essentially no change) in Land-based revenue. Altogether, the evidence from the elasticity models supports the finding that iGaming is most likely associated with a slight positive increase in Land-based revenues but one that is not statistically significant. Overall, the results from this model provide additional support that iGaming is unlikely to cannibalize Land-based revenues, and if anything, it is associated with a slight positive increase in Land-based revenues.

[407] See Figure 36 and Exhibit 36.

[408] See Figure 37 and Exhibit 37.

[409] See Figure 38 and Exhibit 38.

VI. Consumer Research Supports Key Findings

As described in Section III.C, the AG State Gambling Survey examines the profiles and habits of gaming consumers, who are defined as residents of either an iGaming State (New Jersey, Delaware, Pennsylvania, West Virginia, Michigan, and Connecticut) or a Projection State (New York, Illinois, Louisiana, Maryland, and Virginia) who are current or prospective users of Land-based casinos, iGaming, VGTs, and/or offshore casinos. Prior to fielding the AG State Gambling Survey, Analysis Group also conducted the AG Consumer Research Interviews, for which current gaming consumers were interviewed in each state (see Section III.B).[410] The discussion in this section draws upon quantitative and qualitative results from the AG Consumer Research Interviews and the AG State Gambling Survey. Figure 40 below lists the summary statistics of survey respondents by state group.

Figure 40: Demographic Statistics of AG State Gambling Survey Respondents by State Category[411]

Variable	iGaming States	Projection States	Total
Number of Respondents Who Started Survey	4,627	4,873	9,500
Number of Respondents Who Participated in or Would Consider Participating in a Gambling Activity of Interest[412]	1,524	1,303	2,827
Number of Respondents Who Completed Survey	1,280	1,109	2,389
Gender (Completed Survey)			
Male	765	804	1,569
Female	515	305	820
Median Age (Completed Survey)	42	37	40

[410] Fifteen respondents were recruited from iGaming States, thirteen respondents were recruited from Projection States, and six respondents were recruited from two additional states with legalized online sports betting that are near states of interest (Massachusetts and Ohio).

[411] Exhibit 40.

[412] Gambling activities of interest are defined as betting or wagering on casino games at a casino, betting or wagering on sports (excluding horse racing) at a casino's sportsbook, betting or wagering on casino games using a licensed online

A. Revenue Generated by iGaming Is Due to Overall Market Expansion

Evidence from the AG State Gambling Survey provides further support for the economic modeling results that illustrate the potential for market expansion driven by iGaming. The survey results demonstrate that iGaming can introduce people to other gaming activities and expand economic activity in the gaming market. The subsections that follow explore additional support for key conclusions derived from the AG Consumer Research Interviews and the AG State Gambling Survey data.

1. iGaming Creates a New Opportunity to Increase Gaming Frequency

Many Land-based casino consumers visit casinos relatively infrequently. The results of the AG State Gambling Survey suggest that consumers who engage in iGaming do so more frequently than consumers who play casino games at a casino. Out of the 889 total iGaming consumers who have participated in iGaming over the past 12 months, 675 (or 75.9%) said that they participate in iGaming at least once per month.[413] Meanwhile, among the 979 respondents who have participated in Land-based casino gaming over the same period, only 433 (or 44.2%) reported they visit casinos at least once per month.[414,415]

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casino, betting or wagering on casino games using an unlicensed ("offshore") casino (considering this in the next 12 months not included), or betting or wagering on casino games using a VGT.

[413] AG State Gambling Survey, Question B1 ("You mentioned that you have bet or wagered on casino games using a licensed online casino in the past 12 months. To the best of your recollection, how many times have you bet or wagered using an online casino in the past week, month, or year?"). Similarly, iGaming consumers also show a greater frequency of use than VGT consumers. Among the 465 total VGT consumers, 309 (or 66.5%) said that they used VGTs at least once per month. AG State Gambling Survey, Question D1 ("You mentioned that you have bet or wagered on casino games using an electronic gambling machine (e.g., a machine situated at a licensed establishment that is not a casino, such as a bar, a restaurant, or a gas station) in the past 12 months. To the best of your recollection, how many times have you bet or wagered using an electronic gambling machine in the past week, month, or year?").

[414] Hereafter, "Land-based casino consumers" refers to respondents in the AG State Gambling Survey who indicated that they have participated in Land-based casino gaming in the past 12 months. Similarly, "iGaming consumers" refers to respondents who indicated that they have engaged in iGaming in the past 12 months, "VGT consumers" refers to respondents who indicated that they have used a VGT in the past 12 months, and "offshore consumers" refers to respondents who indicated that they have engaged in offshore casino gaming in the past 12 months.

[415] AG State Gambling Survey, Question A3 ("To the best of your recollection, how many times have you visited a casino for the purpose of betting or wagering in the past week, month, or year?"). Respondents indicated their frequency through a drop-down list of integers from 1 to 20, as well as "More than 20," to indicate the number of times within a selected time period and a drop-down list of "week", "month", or "year" to indicate the time period. For example, a respondent who wanted to indicate that they visited casinos 2 times a week would select "2" in the first drop-down list and "week" in the second drop-down list.

All respondents who selected any option in the first drop-down list and either "week" or "month" in the second drop-down list, or those who selected any integer equal to or greater than 12, including "More than 20," and selected "year" in the second drop-down list were classified as visiting at least once per month. All respondents who selected any integer greater than or equal to 4 and less than or equal to 11 in the first drop-down list and selected "year" in the second drop-down list were classified as having visited at least once every 1-3 months. Respondents who selected an integer greater than or equal to 1 and less than or equal to 3 in the first drop-down list and "year" in the second drop-down list were classified as having visited 1-3 times per year.

iGaming creates the opportunity to increase the frequency of gaming, with Land-based casino visits remaining separate, distinct gaming events that occur relatively infrequently for many gamers.

Similar patterns hold among both the iGaming States and the Projection States. Out of the 406 Projection State Land-based casino consumers and the 573 iGaming State Land-based casino consumers, only 187 (or 46.1%) and 246 (or 42.9%), respectively, reported they visit casinos at least once per month.[416] A 61-year-old female respondent from Virginia indicated that she visited Land-based casinos "to do something that [she doesn't] do often but enjoy[s] doing." [417] iGaming consumers showed a greater frequency of use. Among the 322 Projection State iGaming consumers and the 567 iGaming State iGaming consumers, 238 (or 73.9%) and 437 (or 77.1%), respectively, said that they participated in iGaming at least once per month.[418, 419] A 39-year-old male respondent from Louisiana said he uses an online casino because "it's just more convenient … . [He] can't get out much, so this is always the best way to go about it." [420]

Thus, legalizing iGaming could allow for market expansion by creating another legitimate space for individuals to engage in gambling.

2. iGaming Can Capture Some Offshore or Illegal Gaming Revenue

[416] AG State Gambling Survey, Question A3.

[417] AG State Gambling Survey, Question A21 ("Please think now about your experiences visiting casinos. In your own words, what would you say are the main reasons that you visit casinos? *(Please be as specific as possible)*"), Record #6775 (Female, 61, Virginia, Projection State).

[418] AG State Gambling Survey, Question B1. Similarly, iGaming consumers also show a greater frequency of use than VGT consumers. Among the 205 Projection State VGT consumers and the 260 iGaming State VGT consumers, 138 (or 67.3%) and 171 (or 65.8%), respectively, said that they used VGTs at least once per month. AG State Gambling Survey, Question D1.

[419] Results from Question B3 and Question B7 suggest that iGaming consumers in Projection States indicate high familiarity with leading iGaming platforms and tend to engage in iGaming when it is available to them in other states. AG State Gambling Survey, Question B3 ("Next, we would like to ask you a few questions about your most recent session betting or wagering on online casino games. Which online casino did you use to bet or wager? Why that one?") and Question B7 ("Next, we would like to ask you a few questions about your typical session betting or wagering on online casino games. Which online casino do you typically use to bet or wager? Why that one?").

Conclusions in this study are unaffected by a sensitivity removing iGaming consumers in Projection States who showed in Question B3 or B7 that they likely improperly considered Land-based casinos when asked about iGaming.

[420] AG State Gambling Survey, Question B10 ("Please think now about your experiences betting or wagering on online casino games. In your own words, what would you say are the main reasons that you bet or wager using an online casino? *(Please be as specific as possible)*"), Record #8475 (Male, 39, Louisiana, Projection State).

iGaming presents a large opportunity to bring in some currently "offshore" or illegal gaming,[421] which would generate revenues for casinos, increase employment opportunities for new jobs to serve these new customers, and create additional government tax revenues from activity that was previously offshore, illegal, or otherwise unregulated. A report from the American Gaming Association (AGA) estimated that, as of 2021, total bets for illegal iGaming and unregulated machines were $447.1 billion, and total potential gaming revenue from illegal iGaming and unregulated machines was estimated to be $40.4 billion.[422] As of 2021, the Projected States' share of the total U.S. Land-based gaming industry was approximately 20.2%.[423] Based on this ratio, the potential revenue opportunity from the illegal gaming industry in the Projected States is estimated to be $8.2 billion in 2021.[424]

In the AG State Gambling Survey, among the 66 offshore consumers in the Projection States, 43 (65.2%) indicated they had also engaged in iGaming in the past 12 months.[425] In terms of future intentions, 44 respondents (or 66.7%) indicated that they would consider iGaming in the next 12 months.[426] The results were similar for the iGaming States: Among the 56 iGaming State offshore consumers, 44 (78.6%) indicated they had also engaged in iGaming in the past 12 months.[427] Among these 56 respondents, 42 (or 75%) indicated that they would consider iGaming in the next 12 months.[428]

A 39-year-old male from Maryland, one of the Projection States, indicated that he had engaged in offshore casino games because "it was illegal in [the] US."[429] Another respondent indicated that he had engaged in online gaming because "at the time betting was illegal in the [S]tates but [he] had a few crypto

[421] The AG Gambling Survey defines "offshore" as "betting or wagering on casino games using an unlicensed" casino or sportsbook.

[422] American Gaming Association, "Sizing the Illegal and Unregulated Gaming Markets in the United States," November 2022, at p. 1.

[423] Calculated as $12.5 billion for Land-based revenue in the Projected States divided by $62.1 billion. ($12.5 billion / $62.1 billion = 20.2%). Land-based revenue (including estimated Tribal revenues while excluding sports betting) was $62.1 billion in 2021 for all states with data. See Exhibit 75.

[424] Calculated as $40.4 billion x 20.2% = $8.2 billion.

[425] AG State Gambling Survey, Question S8. Betting or wagering through an "offshore" casino was defined to respondents as betting or wagering through an "unlicensed" casino. *See* AG State Gambling Survey Instrument.

[426] AG State Gambling Survey, Question S9.

[427] AG State Gambling Survey, Question S8.

[428] AG State Gambling Survey, Question S9.

[429] AG State Gambling Survey, Question C9 ("Please think now about your experiences betting or wagering on offshore casino games. In your own words, what would you say are the main reasons that you bet or wager using an offshore casino? *(Please be as specific as possible)"),* Record #8305 (Male, 39, Maryland, Projection State).

dollars."[430] By legalizing iGaming, a portion of the existing illegal gaming industry can be captured, thereby increasing in-state revenues and employment.

3. iGaming Can Expand the Betting Market Because Consumers Are Interested in Engaging With Established Brands Who Offer Them Other Legal Betting Opportunities

Companies that offer multiple betting products across sports betting, Land-based casinos, and iGaming, such as FanDuel, BetMGM, DraftKings, and Fanatics,[431] can increase interest and participation in betting among people who participate in one type of betting but not others currently offered in their state.

For example, the AG Consumer Research Interviews show that interviewees are interested in playing online casino games through well-known brands that they already use for sports betting or Land-based casino visits. One 59-year-old male interviewee from Illinois who mentioned visiting MGM and Caesars Land-based casinos said that if online casinos were available, he would look for "the major brands that I'm familiar with, like Caesars, MGM, uh, you know, those are brands that I [t]rust."[432] One 40-year-old female interviewee from Louisiana was asked whether she would be interested in playing casino games on FanDuel. She expressed awareness and potential interest by saying, "They actually do offer it. They just don't have it for Louisiana."[433] In the AG State Gambling Survey, one respondent who expressed interest in iGaming indicated, "I would want one that is safe and has a good reputation. Possibly casino based. Like BetMG[M]."[434]

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[430] AG State Gambling Survey, Question B3 ("Next, we would like to ask you a few questions about your most recent session betting or wagering on online casino games. Which online casino did you use to bet or wager? Why that one?"), Record #5503 (Male, 33, Connecticut, iGaming State).

[431] "America's #1 Sportsbook and the premier mobile sports betting operator in the U.S." See "About," FanDuel, available at https://www.fanduel.com/about; "BetMGM is a partnership between MGM Resorts International and Entain Holdings that is revolutionizing sports betting and online gaming in the United States." See "Who We Are," BetMGM, available at https://www.betmgminc.com/who-we-are/; "Whether you're seeking glory on our top-rated app, your desktop, or at one of our retail sportsbook locations, this is opportunity knocking. Answer the call and dig into the prime rib of American sportsbook. Feast on your favorite sports wagers and indulge your victories as sweet, sweet dessert." See "About," DraftKings, available at https://www.draftkings.com/draftkings-about; "Enjoy betting on your favorite sports. Play casino games including slots, table games, live-action dealers, and our exclusive Fanatics Blackjack (where available). See Homepage, *Fanatics Sportsbook*, available at https://sportsbook.fanatics.com/.

[432] AG Consumer Research Interviews, December 4, 2023, at 10:00 a.m. (Male, 59, Illinois, Projection State).

[433] AG Consumer Research Interviews, December 5, 2023, at 10:00 a.m. (Female, 40, Louisiana, Projection State).

[434] AG State Gambling Survey, Question F1 ("You mentioned that you would consider betting or wagering on casino games using a licensed online casino in the next 12 months. We would like to ask you a few questions about a potential session betting or wagering on licensed online casino games. If you know, which licensed online casino would you use to bet or wager? Why that one? (*Please be as specific as possible)*"), Record #9807 (Female, 64, Illinois, Projection State).

4. iGaming Presents a New Opportunity for People Who Enjoy Playing Casino-Like Games Online

Some consumers have been playing casino-like games online in states where iGaming has not been legalized. According to the results of the AG State Gambling Survey, out of the 322 Projection State respondents who have bet or wagered through licensed online casinos in the past 12 months, 105, or 32.6%, indicated that they had played either Solitaire Clash or Bingo Cash.[435] iGaming can bring in additional gaming revenue by presenting an opportunity for people who enjoy playing free casino-like games online to play similar games for money. From the AG Consumer Research Interviews, one 70-year-old female interviewee from New York said, "I play [online Bingo and Solitaire] for entertainment, cause most of the time, if there's nothing on television or anything and [y]ou don't want to clean, you just go on the game and just, you know, it passes time. Sometime[s] I play, I put money in, [and] sometimes I don't. I just play for the fun of it just to [k]ill some time."[436]

5. iGaming Can Supplement the Gaming Market by Increasing the In-State Gambling Activity of Certain Gaming Consumers

iGaming can further support the growth of in-state gaming markets by increasing the gaming frequency of people who otherwise regularly visit casinos outside their home states. According to the results of the AG State Gambling Survey, 36.5% of Land-based casino consumers in the Projection States indicated that the location of their typical visit to a casino was outside their home states, compared to only 18.0% of respondents in the iGaming States.[437] Among these Land-based casino consumers who typically travel out of state for Land-based gaming, 48.0% of respondents in the Projection States (and 53.4% in the iGaming States) indicated that they would consider participating in iGaming in the next 12 months, assuming that such an option is available to them.[438] Results for each Projection State are shown in Figure 41 below.

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[435] Solitaire Clash and Bingo Cash are considered skill-based gameplay and thus are not categorized as iGaming. "Effortlessly play classic Klondike Solitaire and compete in Multiplayer Tournaments to win real cash and prizes! Download now and use your skill to earn those dollar bills!" *See* "Solitaire Clash: Win Real Cash," App Store, available at https://apps.apple.com/us/app/solitaire-clash-win-real-cash/id1589643727; "Bingo Cash games offer an exciting opportunity to win real money through skill-based gameplay. The process is user-friendly and straightforward, catering to both beginners and seasoned players." *See* "Bingo Cash FAQ's," Bingo Cash, available at https://www.bingocash.com/faq. AG State Gambling Survey, Question B ("Which of the following apps or websites, if any, do you use? … (d) Online gambling games (e.g., Solitaire Clash, Bingo Cash)").

[436] *See* AG Consumer Research Interviews, December 1, 2023, at 2:00 p.m. (Female, 70, New York, Projection State).

[437] AG State Gambling Survey, Question A6 ("Which of the following best describes the location of your most recent visit to a casino?").

[438] AG State Gambling Survey, Question A6 and Question S9.

Figure 41: Projection States Out-of-State Travel for Typical Casino Visit and iGaming Consideration[439]

State	% Traveling Out of State for Typical Casino Visit	% of Traveling Out of State Who Are Also Considering iGaming
New York	40.7%	52.3%
Illinois	44.7%	41.2%
Louisiana	23.8%	45.0%
Maryland	30.1%	45.5%
Virginia	43.1%	53.6%

To the extent that some out-of-state Land-based casino consumers would supplement their out-of-state Land-based casino gaming activity with in-state iGaming, iGaming would allow residents in the Projection States to contribute to in-state gaming revenues.

B. iGaming Is Associated With Increased Land-based Revenues

AG's survey evidence further demonstrates how iGaming's audience and product offering can be differentiated from and complementary to Land-based gaming, which translates into a lack of cannibalization in the gaming market. The following subsections explore additional support for key conclusions derived from the AG Consumer Research Interviews and the AG State Gambling Survey.

1. iGaming Can Introduce People to the Entertainment Value of General Gaming

Results from the AG State Gambling Survey suggest that legalized iGaming can introduce people to the entertainment value of gaming and may increase the number of overall participants in the Land-based gaming market. These results suggest that many current iGaming consumers who do not currently participate in Land-based casino gaming would consider visiting Land-based casino properties in the near future.

In the AG State Gambling Survey, 889 of 2,389 qualifying respondents (37.2%) indicated that they had participated in iGaming in the past 12 months.[440] Of these 889 iGaming consumers, 343 (or 38.6%) had

[439] Exhibit 41.

[440] AG State Gambling Survey, Question S8 ("You indicated you have bet or wagered money on casino games, sports, or horse racing in the past 12 months. Which of the following best describe your betting or wagering activity in the past 12

not participated in any Land-based casino gaming in the past 12 months, making them prospective Land-based gaming participants. Among this prospective pool of 343 respondents, 134 (or 39.1%) indicated that they would consider participating in Land-based casino gaming in the next 12 months.[441] **To the extent that these 134 respondents were to convert to Land-based casino gamers in the next 12 months, this would represent up to a 13.7% potential increase in the existing number of participants in the Land-based casino market, drawn from consumers with previous experiences with iGaming.**[442] Thus, iGaming provides an opportunity to introduce non-casino-going consumers to Land-based casino gaming, growing the number of overall participants.

The AG State Gambling Survey finds similar trends among both the iGaming States and Projection States. In the iGaming States, 567 (or 44.3%) of 1,280 qualifying respondents had engaged in iGaming in the past 12 months, compared to 322 (or 29.0%) of 1,109 total respondents in the Projection States (see Figure 42).[443]

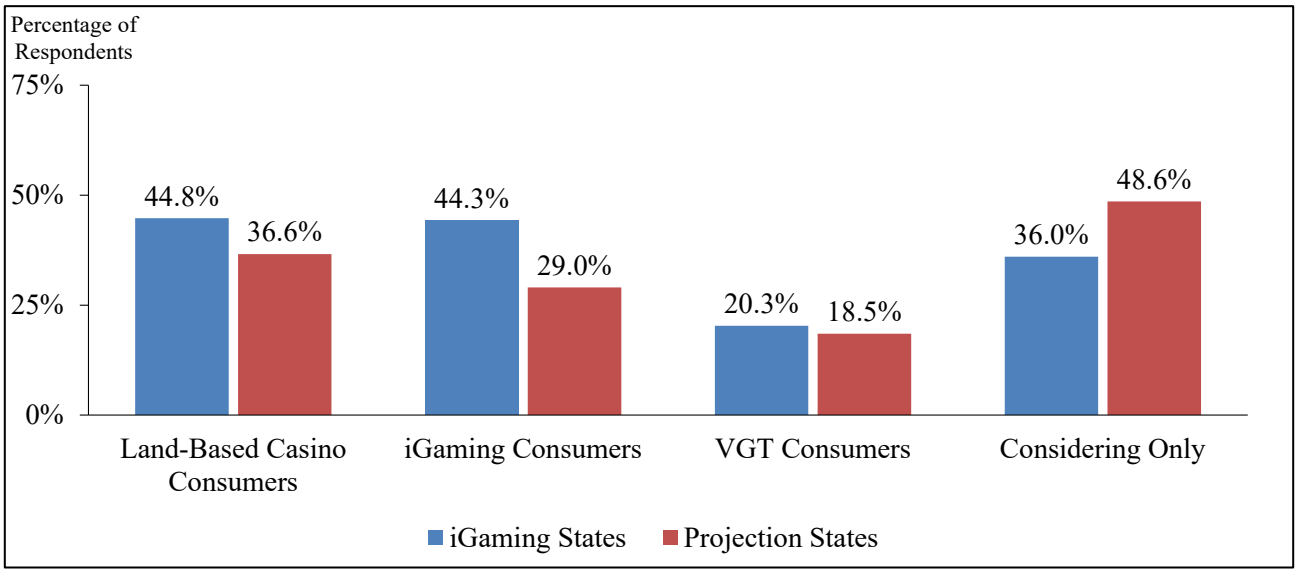
months? (a) Betting or wagering on casino games at a casino; (b) Betting or wagering on casino games using an electronic gambling machine (e.g., a machine situated at a licensed establishment that is not a casino, such as a bar, a restaurant, or a gas station); (c) Betting or wagering on casino games using an unlicensed ("offshore") casino; (d) Betting or wagering on casino games using a licensed online casino (e.g., DraftKings, Caesars Palace, BetMGM, FanDuel); (e) Betting or wagering on sports (excluding horse racing) at a casino's sportsbook; (f) Betting or wagering on sports (excluding horse racing) using a licensed online sportsbook (e.g., DraftKings, BetMGM, FanDuel); (g) Betting or wagering on sports (excluding horse racing) using an unlicensed ("offshore") sportsbook; (g) Betting or wagering on horse racing; (h) Betting or wagering on lamp-lighting contests; (i) Other (*please specify*); (j) Don't know / Unsure.").

[441] AG State Gambling Survey, Question S9 ("You indicated you would consider betting or wagering money on casino games, sports, or horse racing in the next 12 months. Assuming all of the options below are available to you, which of the following activities would you consider doing in the next 12 months? (a) Betting or wagering on casino games at a casino; (b) Betting or wagering on casino games using an electronic gambling machine (e.g., a machine situated at a licensed establishment that is not a casino, such as a bar, a restaurant, or a gas station); (c) Betting or wagering on casino games using an unlicensed ("offshore") casino; (d) Betting or wagering on casino games using a licensed online casino (e.g., DraftKings, Caesars Palace, BetMGM, FanDuel); (e) Betting or wagering on sports (excluding horse racing) at a casino's sportsbook; (f) Betting or wagering on sports (excluding horse racing) using a licensed online sportsbook (e.g., DraftKings, BetMGM, FanDuel); (g) Betting or wagering on sports (excluding horse racing) using an unlicensed ("offshore") sportsbook; (g) Betting or wagering on horse racing; (h) Betting or wagering on lamp-lighting contests; (i) Other (*please specify*); (j) Don't know / Unsure.").

[442] This is calculated using a denominator of 979 total respondents who have participated in Land-based casino gaming in the past 12 months: 134 / 979 = 0.137, or 13.7%.

[443] AG State Gambling Survey, Question S8.

Figure 42: Rate of Consumers Engaging in Each Type of Betting[444]

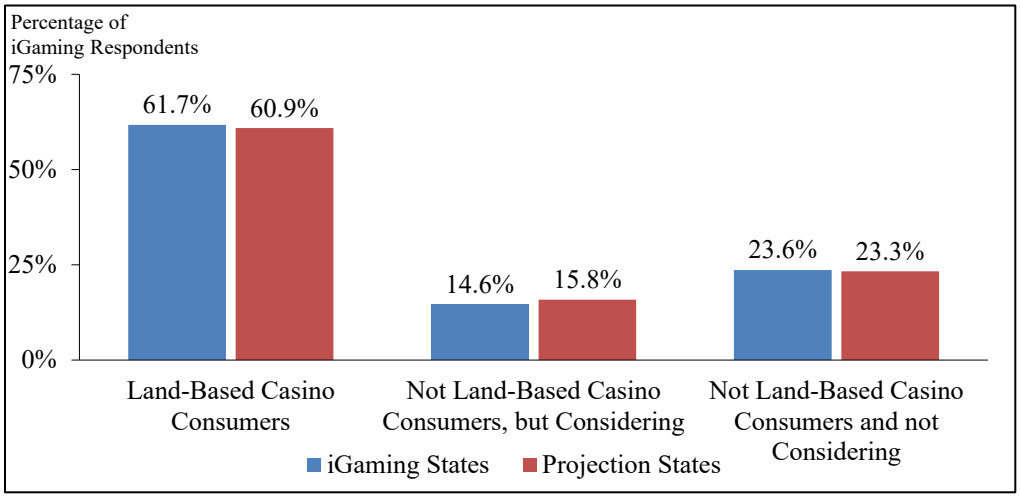


Of these iGaming consumers, 83 (or 14.6%) in the iGaming States and 51 (or 15.8%) in the Projection States indicated that they had not visited a Land-based casino in the past 12 months but would consider doing so in the next 12 months (see Figure 43).[445]

[444] Exhibit 42.

[445] AG State Gambling Survey, Question S8.

Figure 43: Chart of iGaming State and Projection State Current iGaming Consumers Who Are Prospective Land-based Casino Consumers[446]



Responses to open-ended questions from iGaming consumers who haven't visited a casino in the past 12 months illustrate the appeal that Land-based casino gaming can have for them as a result of their experiences with iGaming. When asked why they would be interested in going to a casino in the next 12 months,[447] several respondents noted that going to a casino would be fun and different from their online gaming experiences. For example, respondents stated the following:

- "It's nice to do it online on a licensed casino app, but it's also nice to do it at a real casino."[448]
- "To try it for the first time … I never bet in an actual casino so I would love to try that in the next 12 months."[449]
- "Because casinos have other activities I would enjoy, and there is plenty of stuff to do. It would make a good vacation."[450]
- "[The] main reason I would consider betting is because I have never done it before in real life. And my friends want to go and bet too."[451]

[446] Exhibit 43.

[447] AG State Gambling Survey, Question QE4 ("In your own words, what would you say are the main reasons that you would consider betting or wagering at a casino in the next 12 months?").

[448] AG State Gambling Survey, Record #6393 (Male, 41, Michigan, iGaming State).

[449] AG State Gambling Survey, Record #9709 (Male, 21, Illinois, Projection State).

[450] AG State Gambling Survey, Record #10576 (Male, 29, New York, Projection State).

[451] AG State Gambling Survey, Record #16713 (Male, 21, Connecticut, iGaming State).

- "To get out of my home state and go see some of the world[.]"[452]

2. iGaming Can Expand Economic Activity in the Gaming Market

The majority of consumers who engage in iGaming indicate that they have not decreased their Land-based casino gaming activity (in terms of both visit frequency and total spend) after starting iGaming. In fact, more consumers report that they have *increased* their Land-based casino visit frequency and total spend than have decreased it.

Among the 889 AG State Gambling Survey respondents who indicated that they had engaged in iGaming in the past 12 months, 27.1% said that since they started iGaming, their betting or wagering frequency at Land-based casinos has increased, compared with only 18.0% saying that it has decreased,[453] while 49.3% said that their betting frequency at Land-based casinos has stayed the same since they started iGaming. In terms of willingness to spend, 27.0% of the 889 iGaming consumers reported that since they started iGaming, the total amount of money they play with at a Land-based casino has increased, compared to only 16.8% who said that it has decreased,[454] and 51.2% reported that it stayed the same.

Similar patterns hold among both the iGaming States and the Projection States. Among the 567 iGaming consumers in the iGaming States and 322 iGaming consumers in the Projection States, 26.5% in the iGaming States and 28.3% in the Projection States said that since they started iGaming, their betting or wagering frequency at Land-based casinos has increased, compared with only 18.7% in the iGaming States and 16.8% in the Projection States saying that it has decreased; 49.4% in the iGaming States and 49.1% in the Projection States said that their betting frequency at Land-based casinos has stayed the same since they started iGaming (see Figure 44).

In terms of willingness to spend, 26.1% of iGaming consumers in the iGaming States and 28.6% in the Projection States reported that, since they had started iGaming, the total amount of money they play with at a Land-based casino has increased. Only 16.9% in the iGaming States and 16.5% in the Projection States said that their spending has decreased, with 52.2% in the iGaming States and 49.4% in the Projection States reporting that their spending has stayed the same (see Figure 45).

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[452] AG State Gambling Survey, Record #17847 (Female, 41, West Virginia, iGaming State).

[453] AG State Gambling Survey, Question B15 ("Since you started to bet or wager on online casino games, would you say that your frequency of betting or wagering on casino games at a casino has *increased*, *decreased*, or *stayed the same*?").

[454] AG State Gambling Survey, Question B16 ("Since you started to bet or wager on online casino games, would you say that the total amount of money that you play with (i.e., the maximum amount of money you are willing to risk across the entire visit) while betting or wagering on casino games at a casino has *increased*, *decreased*, or *stayed the same*?").

Figure 44: Chart of Respondents' Change in Land-based Casino Visit Frequency[455]

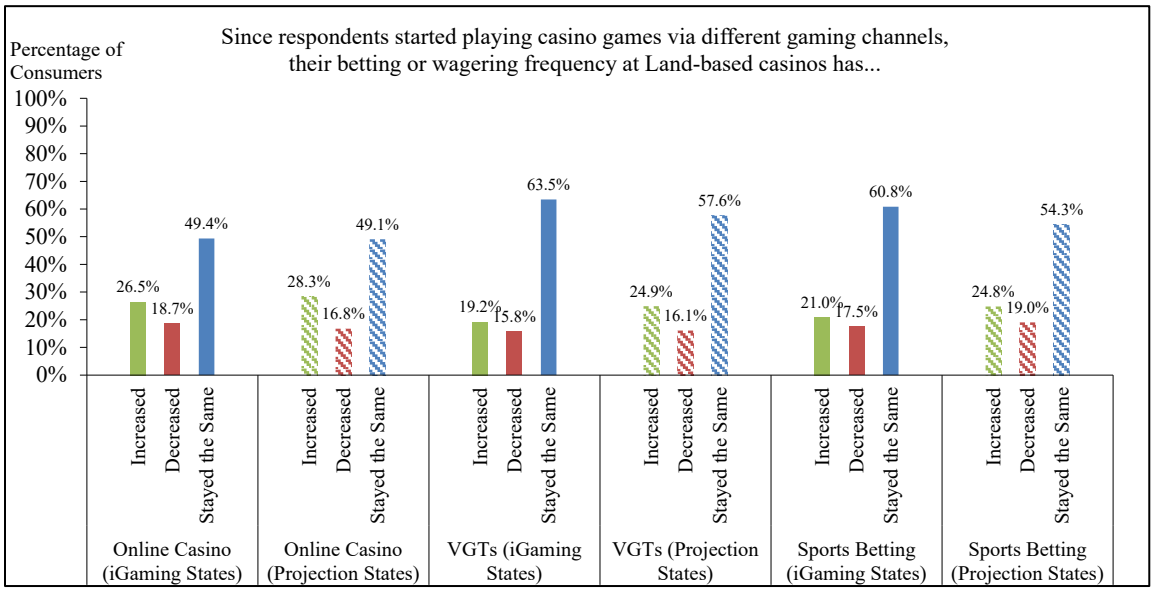
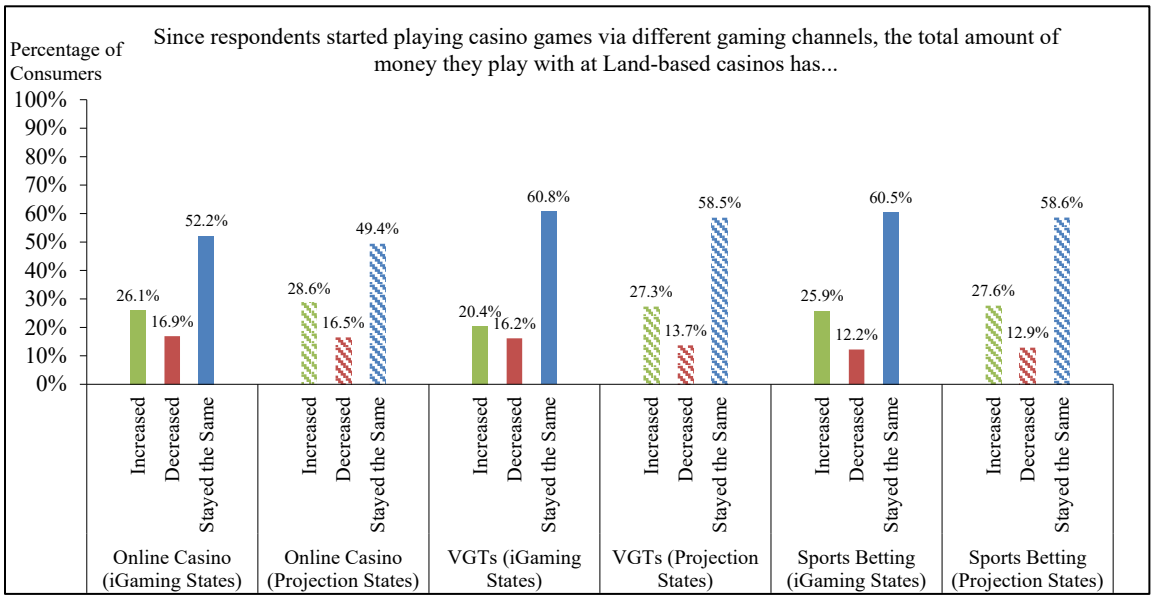


Figure 45: Chart of Respondents' Change in Land-based Casino Total Amount Played With[456]



[455] Exhibit 44.

[456] Exhibit 45.

3. Land-based Casinos Offer Experiences, Amenities, and Additional Activities That Provide Value to Visitors, Which iGaming Cannot Replicate

Consumers who visit Land-based casinos often participate in activities adjacent to gambling. Among other factors, Land-based casinos attract consumers through additional forms of entertainment and additional social events.

During the AG Consumer Research Interviews, a 54-year-old female interviewee from Illinois mentioned that she enjoyed "cocktails" and "an environment where everyone's doing the same thing" as part of the Land-based casino experience.[457] A 66-year-old female interviewee from Ohio mentioned that she goes to casinos "for entertainment and maybe I might go to their buffet since I'm a senior they have a senior deal."[458] Another interviewee, a 29-year-old male from West Virginia, stated that "[the visits] involved shows and I think there was a concert that we saw at one point. So yeah, there's a number of different things that I could spend my money on outside of just the gambling."[459] Overall, of the 979 Land-based casino consumers, 887 (or 90.6%) indicated that they also typically participate in an activity other than gambling while visiting a casino.[460] For example, 68.0% of these 979 respondents indicated that they also have a meal at a restaurant during their typical casino visit, and 57.3% indicated they also order a drink at a bar.[461]

Similar patterns hold among both the iGaming States and the Projection States. Of the 573 Land-based casino consumers in the iGaming States and 406 in the Projection States, 90.8% in the iGaming States and 90.4% in the Projection States indicated that they also typically participate in an activity other than gambling while visiting a casino;[462] 73.1% in the iGaming States and 60.8% in the Projection States indicated that they also have a meal at a restaurant during their typical casino visit, and 60.0% in the iGaming States and 53.4% in the Projection States indicated they also order a drink at a bar (see Figure 46).[463] Consumers seeking out these additional experiences when visiting Land-based casinos further

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[457] AG Consumer Research Interviews, November 30, 2023, at 4:15 p.m. (Female, 54, Illinois, Projection State).

[458] AG Consumer Research Interviews, November 30, 2023, at 10:00 a.m. (Female, 66, Ohio, Projection State).

[459] AG Consumer Research Interviews, December 6, 2023, at 6:30 p.m. (Male, 29, West Virginia, iGaming State).

[460] AG State Gambling Survey, Question A11 ("Thinking again about your most recent visit to a casino, what other types of activities, if any, did you do on or around the premises of the casino?").

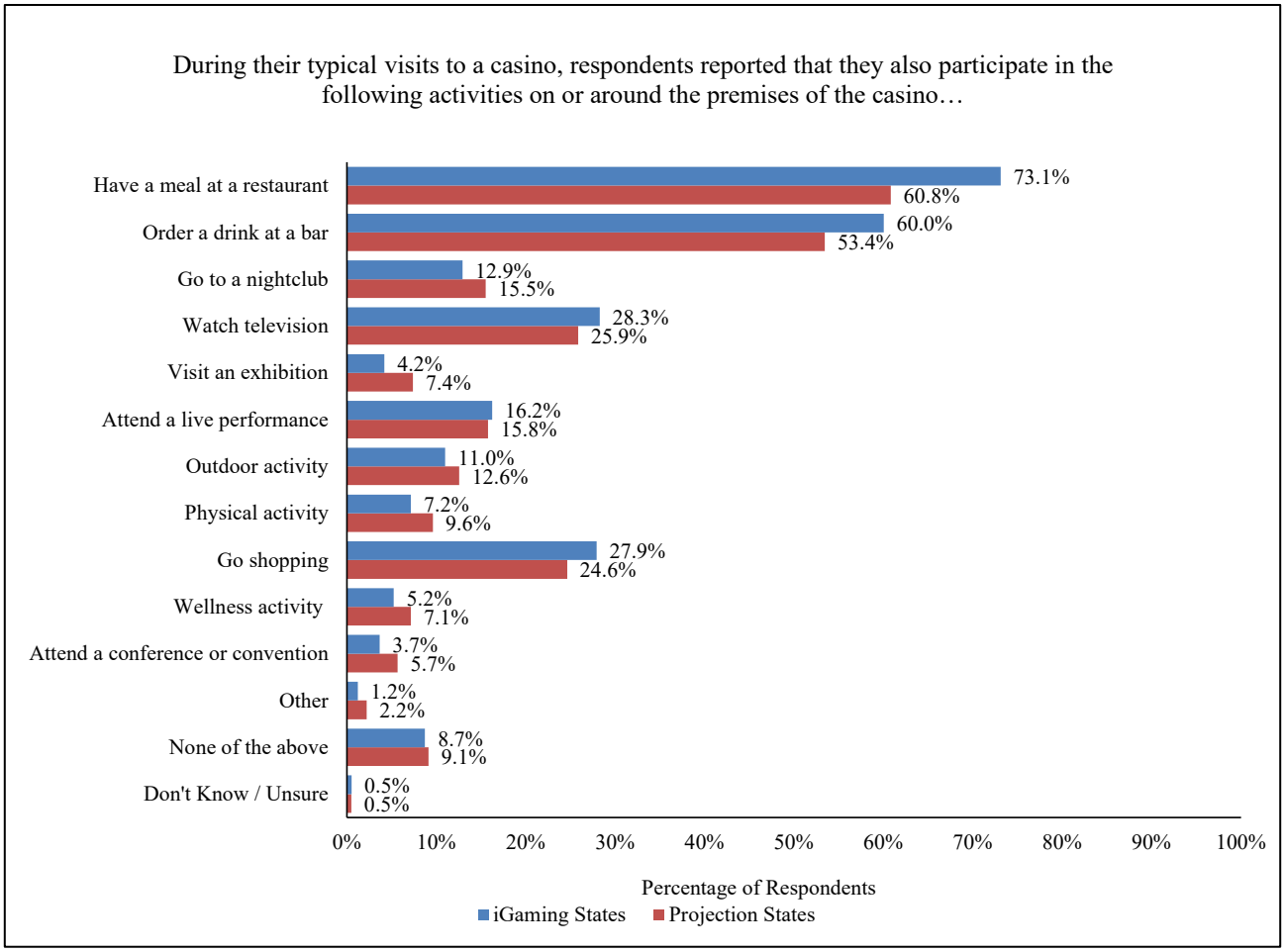
[461] Respondents could select more than one option for an activity; therefore, the percentages do not add up to 100%. "Don't know / Unsure" and "None of the above" were exclusive options and, therefore, could not be selected in combination with any of the other options. *See* AG State Gambling Survey Results.

[462] AG State Gambling Survey, Question A11.

[463] AG State Gambling Survey, Question A11. Respondents could select more than one option for an activity; therefore, the percentages do not add up to 100%. "Don't know / Unsure" and "None of the above" were exclusive options and, therefore, could not be selected in combination with any of the other options. *See* AG State Gambling Survey Results.

emphasizes the differentiation in product offerings and supports the lack of direct competition between iGaming and Land-based gaming.

Figure 46: Chart of iGaming State and Projection State Additional Activities for Land-based Casino Consumers[464]



4. iGaming and Land-based Gaming Cater to Different Audiences

iGaming can potentially attract new consumers to the overall gaming market rather than cannibalizing Land-based casino consumers because the population of consumers who engage in iGaming tends to be younger and more often male than that of Land-based casinos.

[464] Exhibit 46.

In the AG State Gambling Survey, male iGaming consumers had a mean and median age of 38.6 and 37, respectively, compared to 41.7 and 39, respectively, for male Land-based casino consumers. Female iGaming consumers had a mean and median age of 42.2 and 41, respectively, compared to 48.3 and 47, respectively, for female Land-based casino consumers.[465] iGaming consumers also skew more male than Land-based casino consumers, as 62.2% of iGaming consumers were male, compared to 58.2% of Land-based casino consumers.[466]

These differences are consistent in both the iGaming States and the Projection States. Male iGaming consumers had a mean age of 39.3 in the iGaming States and 37.6 in the Projection States, compared to 41.8 for male Land-based casino consumers in the iGaming States and 41.7 in the Projection States. The median age for male iGaming consumers was 38 in the iGaming States and 35 in the Projection States, compared to 40 for male Land-based casino consumers in the iGaming States and 37 in the Projection States.[467] Further, 58.0% of iGaming consumers in the iGaming States and 69.6% in the Projection States were male, compared to 54.5% of Land-based casino consumers in the iGaming States and 63.5% in the Projection States.[468]

5. Gaming Consumers May View iGaming and Land-based Gaming as Two Different but Complementary Products

Results from the AG Consumer Research Interviews demonstrate that consumers may view iGaming and Land-based casinos as different experiences with distinct purposes and unique benefits. Some consumers view visiting Land-based casinos as a social event or a notable experience (e.g., a vacation or a getaway with friends) and are appreciative of the exciting, in-person environment. For example, some interviewees suggested visiting in-person casinos is an in-person experience that cannot be replicated by iGaming, with some even suggesting that they view iGaming as a more casual, convenient option:

a. A 66-year-old female interviewee from Ohio noted, “it’s more fun when you’re in person. I like that better. […] just getting out and about. I don’t like sitting around, like on a computer.”[469]
b. A 28-year-old female interviewee from Virgina explained, “[…] we […] would be like out for […] a night, and then it would be like ohh, let’s stop at the casino,” and “It’s like a social aspect too, like getting to be around people.”[470]

[465] AG State Gambling Survey, Questions S3 and S8, Variable ‘hAge.’

[466] AG State Gambling Survey, Questions S3 and S8.

[467] AG State Gambling Survey, Questions S3 and S8, Variable ‘hAge.’

[468] AG State Gambling Survey, Questions S3 and S8.

[469] AG Consumer Research Interviews, November 30, 2023, at 10:00 a.m. (Female, 66, Ohio).

[470] AG Consumer Research Interviews, December 8, 2023, at 6:30 p.m. (Female, 28, Virginia, Projection State).

c. A 57-year-old female interviewee from New York said that "online, it kind of, in my opinion, it would take [that] away. […] You win money [and] you can count it right? You can feel it, [s]ee it, [t]ouch [it]. …online, [y]ou [go] see your account [and] think [o]r you have to cash it out. Not the same excitement, not the same level."[471]
d. A 59-year-old male interviewee from Illinois who said he would play online casino games was asked whether he would still visit Land-based casinos if iGaming became available. He replied, "Oh no I … I would still go in person. I mean, there's just, it's just too much fun. […] Come on. It's Vegas. You know. […] We look forward to it, and we look forward to the good weather."[472]
e. Another Illinois interviewee, a 54-year-old female, stated that she "would do online and in the casino," that Land-based casinos are "a place to have fun [and] entertain yourself," and that visiting Land-based casinos are a "[s]pecial occasion type thing […] like, you know, a night out type thing." The respondent further stated that she would play "mobile games because I could like that in my pajamas and I [d]on't have to put makeup on or [an]ything. So I think it'd be […] much more casual."[473]

Some consumers view and interact with VGTs in a similar manner to how they interact with Land-based casinos, and in a way that is different from how they interact with iGaming. Similar to Land-based casinos, VGTs are associated with an in-person experience, a convenience, and an entertainment value because of their locations, which, for some users, cannot be replicated through iGaming. Consumers who use VGTs often do so while also enjoying time at an establishment that provides food, drinks, and/or a good atmosphere. 59.4% of VGT consumers stated that they use VGTs because they enjoy the environment or because they were already regularly visiting establishments with those VGTs.[474] Responses from the AG State Gambling Survey include the following:

a. A 35-year-old female from Pennsylvania noted that her most recent visit to a casino was at a "bar or restaurant to get food[,] drinks and gamble." [475]

[471] AG Consumer Research Interviews, November 30, 2023, at 1:00 p.m. (Female, 57, New York, Projection State).

[472] AG Consumer Research Interviews, December 4, 2023, at 10:00 a.m. (Male, 59, Illinois, Projection State).

[473] AG Consumer Research Interviews, November 30, 2023, at 4:15 p.m. (Female, 54, Illinois, Projection State).

[474] AG State Gambling Survey, Question D12 ("You might have already mentioned this, but why do you bet or wager at an establishment with an electronic gambling machine? *(Select all that apply)*" … c) I enjoy the environment; d) I was already regularly visiting these establishments").

[475] AG State Gambling Survey Results, Question D2 ("Next, we would like to ask you a few questions about your most recent visit to an establishment with an electronic gambling machine. What establishment did you visit? Why there? *(Please be as specific as possible)*"), Record #9612 (Female, 35, Pennsylvania, Projection State).

b. A 30-year-old female from Illinois stated that she would "go [to a local bar or grill] to grab a drink after work sometimes and play the slot machines they have there."[476]
c. A 51-year-old male from Louisiana wrote that he "visited a bar because [he] was at happy hour with [his] friends from work and it's a great place to unwind and relax after a hard day of work."[477]

In fact, some consumers seem to view locations as similar destination, whether they offer VGTs, Land-based casinos or video-gaming style machines. For example, one respondent in the AG State Gambling Survey mentioned Rivers Casino when asked about the most recent casino visited, while another respondent mentioned Rivers Casino as the most recent *VGT* they visited.[478]

By contrast, interviewees generally perceive iGaming as being a different activity. Some interviewees indicated that they view iGaming as a more casual and convenient option when compared to Land-based casinos:

a. A 36-year-old male from New Jersey explained that "when it comes to online betting, online gambling [I] guess […] there's a little more discrepancy there. I might throw like $50 into my account. I like to do little nickel and dime bets. You know, 5 bucks here or 10 [b]ucks there […] as opposed to Atlantic City because when [I] go to a casino, I'm making a day out of it, you know? I mean, it's more of a social event."[479]
b. A 55-year-old female from New Jersey was asked about her online gaming behavior and said, "Yeah, just for fun at night sometimes. Like when we're watching TV or something, and I'm just relaxing with my iPad. I'll do a couple games just for fun."[480]
c. A 54-year-old female from Michigan stated, "I play the online ones for fun. Gives me something to do, gives me a chance at winning. But a lot of my [gambling] is in person. That's where I spend more time, [a]nd I spend more. On the online apps, I might throw, [l]ike if I'm just sitting around, you know, I might throw [a] deposit of $25, [a]nd I'll play that until it runs out, or I'll play it until it hits something, [a]nd then I'll go do something else and then maybe come back to it later on that day or maybe the next day."[481]

[476] AG State Gambling Survey Results, Question D2, Record #10908 (Female, 30, Illinois, Projection State).

[477] AG State Gambling Survey Results, Question D2, Record #9009 (Male, 51, Louisiana, Projection State).

[478] AG State Gambling Survey Results, Question A4 and Question D2, Record #11279 (Male, 32, Illinois, Projection State), #9475 (Male, 26, Illinois, Projection State).

[479] AG Consumer Research Interviews, November 30, 2023, at 3:30 p.m. (Male, 36, New Jersey, iGaming State).

[480] AG Consumer Research Interviews, December 1, 2023, at 4:15 p.m. (Female, 54, Michigan, iGaming State).

[481] AG Consumer Research Interviews, November 30, 2023, at 10:45 a.m. (Female, 54, Michigan, iGaming State).

VII. Background of Projection States

This section discusses the relevant background of the five Projection States that are contemplating legalizing iGaming. The states are discussed in approximate order from largest to smallest Land-based casino gaming markets as of 2023.[482]

A. New York

iGaming Background. iGaming is not yet legal in New York, though there have been ongoing efforts to authorize online gaming activities in the state. Recent proposed legislation has included Assembly Bill A1380, a bill before the New York State Assembly to legalize online poker, and Senate Bill S4856, a bill before the New York State Senate to authorize iGaming.[483] Neither bill advanced during the 2023 legislative session, and neither was included in the state budget for the 2023-2024 fiscal year.[484] The respective sponsors of the bills, Assemblyman J. Gary Pretlow (D-Mount Vernon) and Senator Joseph Addabbo Jr. (D-Howard Beach), have publicly stated that they intend to continue "working on legislation to authorize iGaming and iLottery in New York" and "are optimistic that [in the 2024 legislative] session, [they] can turn it into law."[485]

Senate Bill S4856 included a proposed iGaming tax rate of 30.5%, with a provision for an annual distribution of $11 million for "problem gambling education and treatment" administered in conjunction with the state's Office of Addiction Services and Supports.[486] The bill further proposed granting iGaming licenses to entities who apply to the New York State Gaming Commission and whose "direct or indirect economic interest" was at least 5% owned by "members of a minority group" as defined by New York state law.[487] Assembly Bill A1380 proposed a 15% tax on online poker gaming, with all revenues directed toward the New York Lottery, and a one-time licensing fee of $10 million per Commission-approved

[482] New York is discussed first, even though when including VGTs and Land-based casinos, total revenues in Illinois are greater than in New York.

[483] Passut, Charlie, "Lawmakers 'Optimistic' About NY Online Poker & Casino Bill," *Pokerfuse*, December 8, 2023, available at https://pokerfuse.com/news/industry/220319-lawmakers-optimistic-about-ny-online-poker-casino/.

[484] Passut, Charlie, "New York Online Poker: Q&A With Senator Joseph Addabbo Jr.," *Poker Industry Pro*, October 30, 2023, available at https://pokerindustrypro.com/news/article/220069-new-york-online-poker-q-senator-joseph-addabbo-jr.

[485] Addabbo, Joe, and Pretlow, J. Gary, "Opinion: New York Can't Afford to Turn Down $1 Billion a Year," *City & State New York*, December 5, 2023, available at https://www.cityandstateny.com/opinion/2023/12/opinion-new-york-cant-afford-turn-down-1-billion-year/392473/.

[486] Addabbo Jr., Joseph P., Senate Bill S4856, The New York State Senate, available at https://www.nysenate.gov/legislation/bills/2023/S4856.

[487] Addabbo Jr., Joseph P., Senate Bill S4856, The New York State Senate, February 15, 2023, available at https://www.nysenate.gov/legislation/bills/2023/S4856.

entity.[488] Recent industry-sponsored public opinion polling conducted by the Parkside Group on behalf of the Sports Betting Alliance found that 53% of New York voters supported allowing an online lottery, and 51% were in favor of expanding iGaming in the state, with 40% opposed.[489]

Revenue Growth Trend. According to data from the AGA, New York had nine commercial casinos in 2012, 2015, and 2016 and had 12 to 13 commercial casinos from 2017 to 2022.[490] As of 2023, New York had 13 commercial casinos, including seven "racino" properties offering electronic gaming devices and horse racing; four casino resorts with electronic gaming, table games, and sports betting; and two Land-based properties with electronic gaming.[491] In 2022, the New York State Legislature enacted a licensing process for three additional casino resorts in the New York City metropolitan area.[492] Two of the area's existing racino properties are seen as "the leading contenders" for two of the three new licenses, which would enable the properties to offer table gaming and Land-based sports betting.[493] See Section IX for projections of Land-based revenues associated with these additional casino licenses. In addition, according to the data from AGA, New York had 8 Tribal-owned casinos in 2012, 10 in 2015, 15 in 2016 to 2017, 16 in 2018 to 2019, 19 in 2020 to 2021, 18 in 2022,[494] and 21 as of 2023.[495]

Statewide, Land-based casino revenue in New York (including estimated revenues from Tribal-owned casinos) has risen over the past decade, from $2.6 billion in 2012 to $4.0 billion in 2023—an average annual growth rate of 3.8%.[496] Revenue growth has slowed in recent years, with Land-based casino revenue only increasing from $3.6 billion in 2018 to $4.0 billion in 2023—an average annual growth rate of 1.9%.[497] Commercial casinos in New York, particularly those in the broader New York City metropolitan

[488] Pretlow, J. Gary, Assembly Bill A1380, The New York State Senate, January 17, 2023, available at https://www.nysenate.gov/legislation/bills/2023/A1380.

[489] "The telephone poll of 800 registered voters was conducted from Oct. 4 to Oct. 13 with a 3 percentage point margin of error." Ngo, Emily, Reisman, Nick, and Coltin, Jeff, "The Impact of the Adult Survivors Act," *Politico New York Playbook*, November 22, 2023, available at https://www.politico.com/newsletters/new-york-playbook/2023/11/22/the-adult-survivors-act-is-expiring-00128376.

[490] See Exhibit 92.

[491] AGA State of the States 2023, at p. 87.

[492] AGA State of the States 2023, at p. 87.

[493] Hong, Nicole, Rubinstein, Dana, and Chen, Stefanos, "Where Could a Casino Be Built in New York City? What We Know," *The New York Times*, September 13, 2023, available at https://www.nytimes.com/article/nyc-casino-tracker.html.

[494] Exhibit 93.

[495] https://www.americangaming.org/state/new-york/ (accessed February 12, 2024).

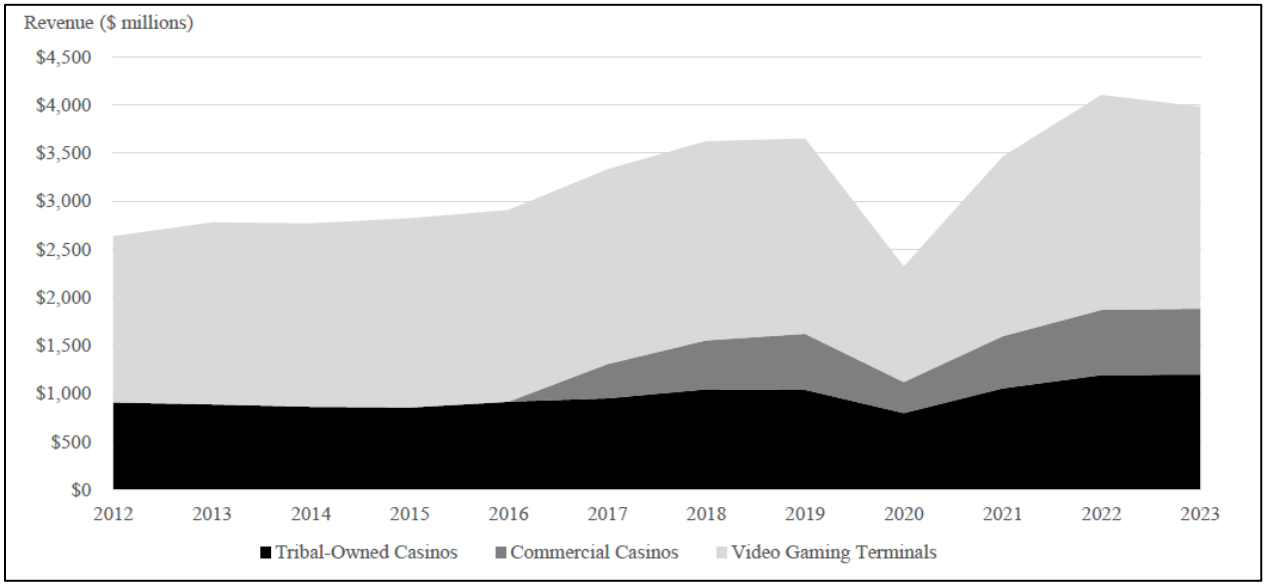
[496] Exhibit 47A. 3.8% calculated as ($3,981 million / $2,635 million) ^ (1 / 11 years) – 1 = 0.038.

[497] Exhibit 47A. 1.9% calculated as ($3,981 million / $3,623 million) ^ (1 / 5 years) – 1 = 0.019.

area that are currently limited to electronic gaming, face competition from nearby casinos in neighboring Connecticut and Pennsylvania, as well as the draw farther out of state to Atlantic City, New Jersey.[498]

New York legalized online sports betting starting January 8, 2022.[499] By the end of 2022, the state's $1.37 billion in sportsbook revenue (from both online and Land-based sources through the state's four casino resorts) made New York the largest sports betting market in the U.S.[500] The fast growth of sports betting in New York (which is excluded from Figure 47 below) indicates a large potential market for iGaming.

Figure 47: Chart of New York Gaming Revenue by Venue and Game Type[501]



[498] AGA State of the States 2023, at p. 88.

[499] https://www.cbssports.com/general/news/u-s-sports-betting-here-is-where-all-50-states-currently-stand-on-legalizing-online-sports-betting-sites/ (accessed February 12, 2024).

[500] AGA State of the States 2023, at p. 88.

[501] Exhibit 47.

B. Illinois

iGaming Background. iGaming is not currently legal in the state of Illinois; however, there have been efforts to legalize it since 2021. A series of bills have been proposed in the Illinois Legislature, including SB2064,[502] SB1656,[503] HB2239,[504] and HB2320.[505] Senator Cristina Castro proposed SB2064 on February 26, 2021, and SB1656 on February 8, 2023, in the state Senate.[506] Both acts propose the creation of the Internet Gaming Act, through which casinos or racetracks would be authorized to offer iGaming themselves or to contract with other platforms to offer iGaming.[507] The synopsis for the Act also suggests that a 15% privilege tax will be imposed on iGaming.[508] Representative Edgar Gonzalez Jr. proposed HB2239 in the Illinois House on February 8, 2023.[509] This bill has very similar terms to the ones proposed in the state Senate.[510] In addition, Representative Jonathan Carroll proposed HB2320 in the state House on February 14, 2023. Unlike the other bills, HB2320 proposes a 12% privilege tax rate and indicates that certain tax revenues from iGaming shall be distributed to the Department of Human

[502]https://www.ilga.gov/legislation/billstatus.asp?DocNum=2064&GAID=16&GA=102&DocTypeID=SB&LegID=134714&SessionID=110 (accessed December 12, 2023).

[503]https://www.ilga.gov/legislation/billstatus.asp?DocNum=1656&GAID=17&GA=103&DocTypeID=SB&LegID=146433&SessionID=112 (accessed December 12, 2023).

[504]https://www.ilga.gov/legislation/BillStatus.asp?DocNum=2239&GAID=17&DocTypeID=HB&LegId=146644&SessionID=112&GA=103 (accessed December 12, 2023).

[505]https://www.ilga.gov/legislation/BillStatus.asp?DocNum=2320&GAID=17&DocTypeID=HB&LegID=147386&SessionID=112&GA=103 (accessed December 12, 2023).

[506]https://www.ilga.gov/legislation/billstatus.asp?DocNum=2064&GAID=16&GA=102&DocTypeID=SB&LegID=134714&SessionID=110 (accessed December 12, 2023).

https://www.ilga.gov/legislation/billstatus.asp?DocNum=1656&GAID=17&GA=103&DocTypeID=SB&LegID=146433&SessionID=112 (accessed December 12, 2023).

[507]https://www.ilga.gov/legislation/billstatus.asp?DocNum=2064&GAID=16&GA=102&DocTypeID=SB&LegID=134714&SessionID=110 (accessed December 12, 2023).

https://www.ilga.gov/legislation/billstatus.asp?DocNum=1656&GAID=17&GA=103&DocTypeID=SB&LegID=146433&SessionID=112 (accessed December 12, 2023).

[508]https://www.ilga.gov/legislation/billstatus.asp?DocNum=2064&GAID=16&GA=102&DocTypeID=SB&LegID=134714&SessionID=110 (accessed December 12, 2023).

https://www.ilga.gov/legislation/billstatus.asp?DocNum=1656&GAID=17&GA=103&DocTypeID=SB&LegID=146433&SessionID=112 (accessed December 12, 2023).

[509]https://www.ilga.gov/legislation/BillStatus.asp?DocNum=2239&GAID=17&DocTypeID=HB&LegId=146644&SessionID=112&GA=103 (accessed December 12, 2023).

[510]https://www.ilga.gov/legislation/BillStatus.asp?DocNum=2239&GAID=17&DocTypeID=HB&LegId=146644&SessionID=112&GA=103 (accessed December 12, 2023).

Services for the administration of programs to treat gambling problems, the Pension Stabilization Fund, and the Education Assistance Fund.[511] No definitive actions have been taken on any of these bills yet.

Revenue Growth Trend for VGTs. VGTs are available in Illinois in bars, restaurants, truck stops, and other retail establishments, as authorized by a 2009 state law.[512] Both the number of VGTs and VGT revenues have increased substantially from 2012 through 2022.[513] In 2022, Illinois' network of over 45,000 VGTs generated $2.6 billion in revenues.[514] VGTs are allowed in most cities within Illinois; however, there are several cities that do not allow VGTs, including Chicago and 11 others.[515]

Revenue Growth Trend for Land-based Casinos. According to AGA reports, Illinois had 10 commercial casinos in 2012 and 2015 through 2020, and 11 in 2021 and 2022.[516] Illinois offers commercial casino gaming at ten riverboat casinos and one Land-based casino.[517] Overall, from 2012 through 2023, Land-based casinos (excluding VGTs) in Illinois have experienced a slight decline in revenues, falling from $1.6 billion in 2012 to $1.5 billion in 2023.[518] In 2020, they had fallen as low as $0.4 billion during the COVID-19 pandemic.[519] More recently, Land-based casino revenues have had a slight positive trend, increasing from $1.4 billion in 2018 to $1.5 billion in 2023.[520] 2023 revenues are higher than 2018 and 2019 revenues, indicating a strong recovery from the COVID-19 pandemic. In addition, four new permanent casinos are anticipated to open in Illinois over the next few years. See Section IX for revenue projections associated with these new permanent casinos. Land-based casinos in Illinois face competition from two main sources: rival properties in neighboring states and VGTs. Casinos in the Greater Chicago and East St. Louis regions face competition from casinos in northwestern Indiana and eastern Missouri, respectively.[521] In addition, the Illinois House and Senate passed legislation in June 2019 to legalize

[511] https://www.ilga.gov/legislation/BillStatus.asp?DocNum=2320&GAID=17&DocTypeID=HB&LegID=147386&SessionID=112&GA=103 (accessed December 12, 2023).

[512] AGA State of the States 2023, at p. 43.

[513] For the number of VGTs each year, see Exhibit 94. For VGT revenues each year, see Exhibit 48A.

[514] See AGA State of the States 2023, at p. 43 and Exhibit 48A, row [4].

[515] https://www.igb.illinois.gov/VideoProhibit.aspx (accessed February 12, 2024). In 2022, the total population in cities opted out of VGTs, including Chicago, was approximately 3 million, leaving the population in cities with VGTs at approximately 9 million. See Exhibit 98.

[516] See Exhibit 92.

[517] AGA State of the States 2023, at p. 42.

[518] Exhibit 48A.

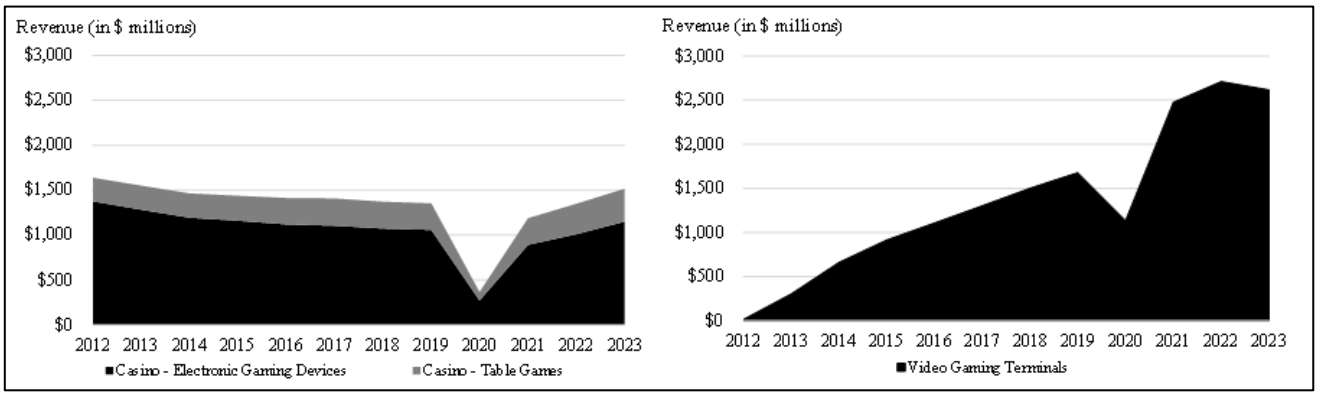
[519] Exhibit 48A.

[520] Exhibit 48A.

[521] AGA State of the States 2023, at p. 43.

sports betting both in person and online, and it launched state-licensed sports betting in March 2020.[522] Within its first full year of operations, sports betting generated $525 million.[523] While sports betting revenues are excluded from the revenue analysis and projections in this report, the fact that Illinois' gaming revenues (including VGTs) have increased substantially in the presence of sports betting revenues indicates that the revenue streams may be complements instead of substitutes.

Figure 48: Chart of Illinois Gaming Revenue by Venue and Game Type[524]



C. Louisiana

iGaming Background. Louisiana does not currently allow iGaming and has historically passed several laws that criminalize virtual forms of gambling. For example, the 1961 Interstate Wire Act was a general prohibition against any type of gambling via telephone or on the internet.[525] Since 2011, however, the Wire Act was deemed applicable to only sports betting, which was eventually legalized in 55 out of 64 parishes in January 2022.[526] Regarding internet gaming specifically, on August 15, 1997, the state prohibited gambling by computer.[527] In recent years, though, interest surrounding potential iGaming legalization in Louisiana has grown, and a state House committee was formed in 2013 to study the

[522] AGA State of the States 2020, at pp. 35-36; https://sportsbetting.legal/states/illinois/ (accessed February 12, 2024).

[523] AGA State of the States 2022, at p. 47.

[524] Exhibit 48.

[525] https://www.mcglinchey.com/insights/online-gaming-in-louisiana-history-and-prospects-for-the-future/ (accessed February 14, 2023).

[526] https://www.theadvocate.com/baton_rouge/news/politics/louisiana-parishes-embrace-sports-betting-so-when-might-it-start/article_6fa17fbc-1e3e-11eb-816b-2ba060227739.html (accessed February 14, 2023).

[527] https://www.mcglinchey.com/insights/online-gaming-in-louisiana-history-and-prospects-for-the-future/ (accessed February 14, 2023).

issue.[528] While actual legislative action up until now has been limited, many consider Louisiana a strong candidate for iGaming going forward due to the state's considerable existing casino presence and strong propensity for gambling.[529]

Revenue Growth Trend. According to AGA data, Louisiana had 18 commercial casinos in 2012, 20 in 2015 through 2019, and then 19 in 2020 through 2022.[530] As of 2023, Louisiana offers commercial casino gaming at 14 riverboat casinos, four racinos, and one Land-based casino, each of which operates table games and VGTs.[531] In addition, Louisiana had three Tribal-owned casinos in 2012, four in 2015 and 2016, and five from 2017 through 2022.[532] Louisiana has been experiencing essentially flat Land-based revenues (including all these revenue sources but excluding sports betting) for the decade leading up to 2023 (i.e., neither increasing nor decreasing). From 2012 to 2023, total Land-based revenues stayed approximately the same: revenues were $3.6 billion in 2012 and $3.5 billion in 2023.[533]

Commercial casinos in southeastern Louisiana compete with those in the Gulf Coast region of Mississippi that have historically attracted a portion of patrons from Louisiana.[534] Casinos in the Lake Charles and Shreveport/Bossier regions have traditionally competed with Oklahoma for patrons from Texas.[535] In addition, sports betting was approved by state voters in November 2020, and the first legal bets on sports were placed in early October 2021.[536] Following this, mobile sports wagering was launched in mid-January 2022. In 2022, sports betting generated over $214 million.[537]

[528] https://www.mcglinchey.com/insights/online-gaming-in-louisiana-history-and-prospects-for-the-future/ (accessed February 14, 2023).

[529] https://www.mcglinchey.com/insights/online-gaming-in-louisiana-history-and-prospects-for-the-future/ (accessed February 14, 2023).

[530] Exhibit 92.

[531] AGA State of the States 2023, at p. 54.

[532] Exhibit 93.

[533] Exhibit 49A.

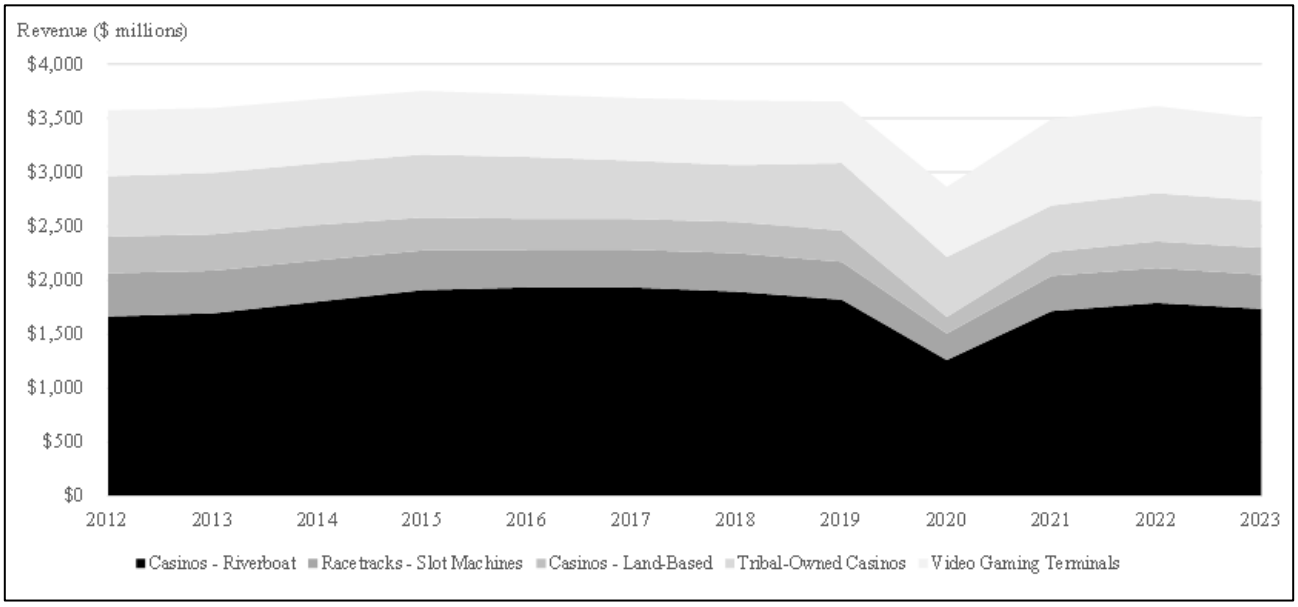
[534] AGA State of the States 2023, at p. 55.

[535] AGA State of the States 2023, at p. 55.

[536] AGA State of the States 2022, at p. 61.

[537] AGA State of the States 2023, at p. 55.

Figure 49: Chart of Louisiana Gaming Revenue by Venue and Game Type[538]



D. Maryland

iGaming Background. iGaming is not currently legal in Maryland, although there are ongoing efforts within the state legislature to authorize iGaming. In February 2023, Maryland state Senators Ron Watson and Nancy J. King proposed Senate Bill 267, a measure that would provide voters the opportunity to legalize iGaming through a majority vote referendum.[539] In January 2024 this bill was modified and re-proposed as SB 603 for potential consideration on the 2024 state ballot.[540] In both forms, the bill would extend iGaming licenses to Maryland's six existing brick-and-mortar casinos.[541] This "tethering" practice is consistent with the licensing precedent established in all other states that have already legalized iGaming.[542]

Tax revenues under SB 603 would be primarily disbursed to the Blueprint for Maryland's Future, an education reform initiative that aims to address achievement gaps and provide improvement opportunities

[538] Exhibit 49.

[539] https://publicgaming.com/news-categories/politics/10753-maryland-igaming-bill-would-ask-state-voters-if-they-want-online-casinos (accessed December 12, 2023).

[540] https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/sb0603?ys=2024RS

[541] https://publicgaming.com/news-categories/politics/10753-maryland-igaming-bill-would-ask-state-voters-if-they-want-online-casinos (accessed December 12, 2023).

[542] "iGaming in Maryland," The Innovation Group (2023), at p. 15.

for students in pre-K through middle school.[543] These tax benefits, even at relatively conservative rates, would generate substantial revenues for the state. A recent poll by MDBetting.com shows that 75% of Maryland voters would be in favor of legalizing iGaming if it makes it to the 2024 ballot.[544]

Revenue Growth Trend. Maryland legalized casinos in 2008, and its first Land-based casino, Hollywood Casino Perryville, opened in 2010.[545] Following this, live table games were legalized in Maryland in 2012.[546] According to data from the AGA, Maryland had three commercial casinos in 2012, five in 2015, and six from 2016 through 2022.[547] Maryland's gaming revenues have increased considerably in recent years. From 2012 through 2023, Land-based casino revenues in Maryland increased from $378 million in 2012 to $2 billion in 2023—an average annual growth rate of 16.2%.[548] A large part of this increase is due to the December 2016 opening of a brand-new gambling establishment: MGM National Harbor. MGM National Harbor quickly surpassed Maryland's five existing brick-and-mortar institutions to become the top-grossing gaming establishment in the state.[549] By 2022, the facility had become the national leader for gross gaming revenue across all commercial casinos outside of Nevada, generating 43.1% of all gaming revenue in Maryland.[550] In addition, sports betting was approved by state voters in 2020, and it launched in person in late 2021 and via mobile devices in November 2022.[551] Within its first full year of operations, sports betting generated over $149 million.[552] While sports betting revenues are excluded from the revenue analysis and projections in this report, the fact that Maryland's gaming revenues have increased substantially in the presence of sports betting revenues indicates that the two sources of revenues may be complements rather than substitutes.

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[543] https://www.playmaryland.com/crossover-day-maryland-online-casino/ (accessed December 12, 2023).

[544] https://thebaynet.com/could-online-casino-gambling-become-a-reality-in-maryland/ (accessed December 12, 2023).

[545] https://www.roulettesites.org/blog/local-casinos/casinos-in-maryland.php (accessed February 12, 2024).

[546] https://www.eyeonannapolis.net/2023/04/marylands-long-history-with-legalized-gaming-has-had-its-ups-and-downs/ (accessed February 12, 2024).

[547] Exhibit 92.

[548] Exhibit 50A. 16.2% calculated as ($1,976 million / $378 million) / (1 / 11 years) – 1 = 0.162.

[549] https://wtop.com/business-finance/2023/08/mgm-national-harbor-no-2-casino-outside-of-nevada/ (accessed December 12, 2023).

[550] https://www.casino.org/news/mgm-national-harbor-leads-regional-casino-revenue-in-2022/ (accessed January 19, 2024).

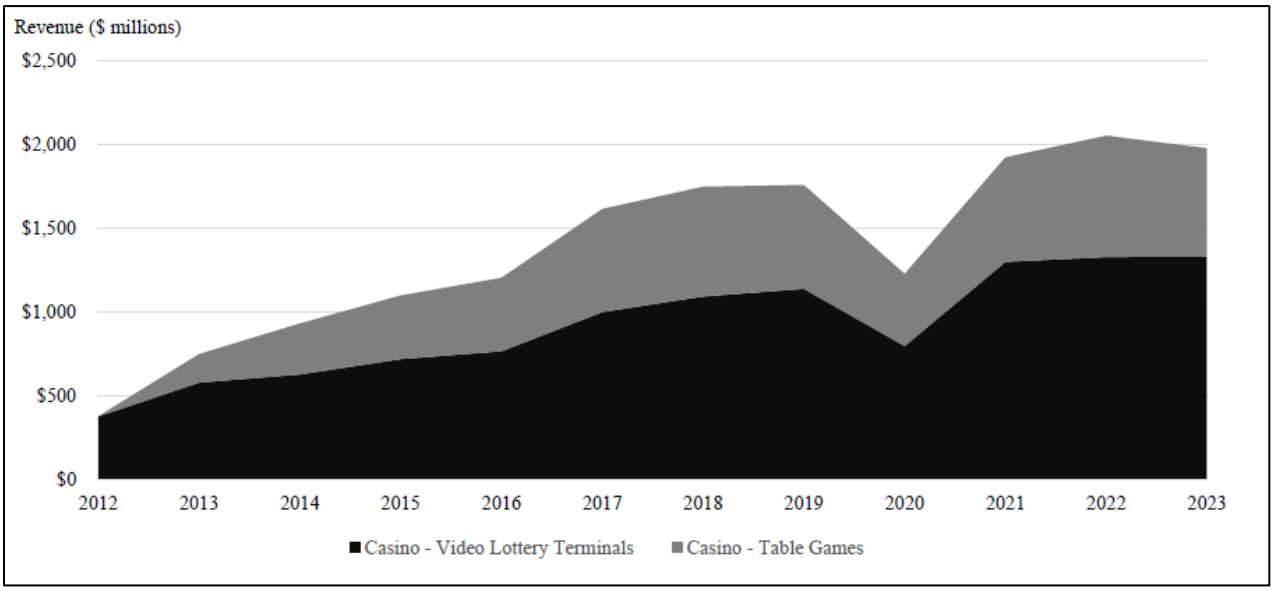
https://wtop.com/business-finance/2023/08/mgm-national-harbor-no-2-casino-outside-of-nevada/ (accessed December 12, 2023).

[551] AGA State of the States 2023, at p. 62.

[552] AGA State of the States 2023, at p. 61.

After the period of high growth from 2012 through 2018, growth has been slower from 2018 through 2023. During the period from 2018 to 2023, Maryland's casino revenues (excluding sports betting) grew from $1.7 billion to $2 billion—an average annual growth rate of 2.5%.[553] See Figure 50.

Figure 50: Chart of Maryland Gaming Revenue by Venue and Game Type[554]



[553] Exhibit 50A. 2.5% calculated as ($1,976 million / $1,746 million) / (1 ^ 5 years) – 1 = 0.025.

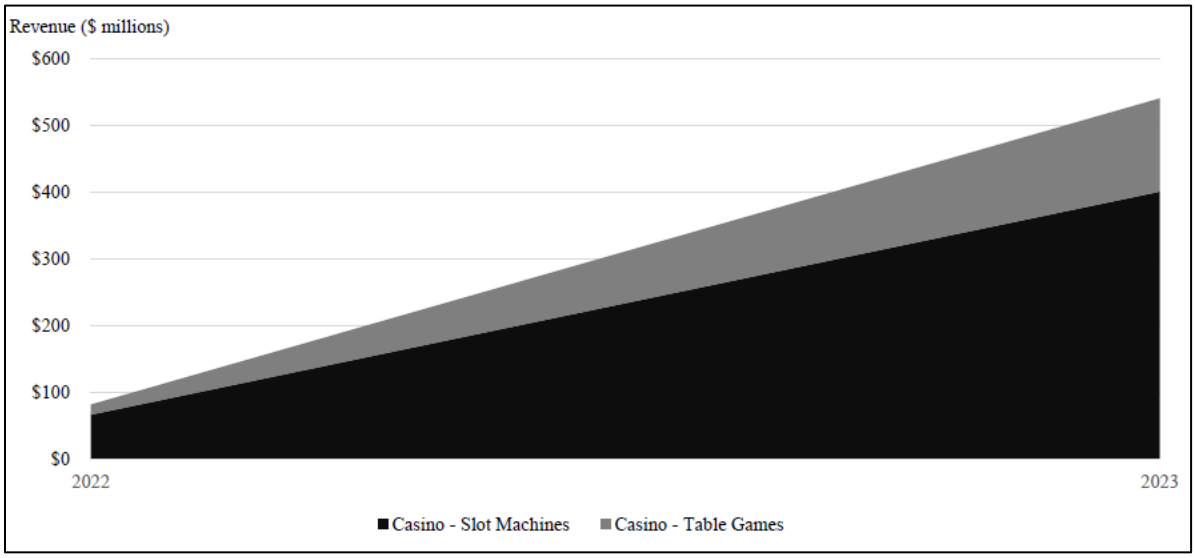
[554] Exhibit 50.

E. Virginia

iGaming Background. iGaming is not currently legal in Virginia, although the state has recently legalized online sports betting.[555] Indeed, in March 2019, Governor Ralph Northam signed Senate Bill SB-1126, allowing the Virginia Lottery System to expand gambling in the state based upon a voter referendum.[556]

Revenue Growth Trend. The casino market in Virginia is nascent, so Land-based revenues have grown very quickly. On Sunday, March 8, 2020, HB4 was passed in the Virginia General Assembly, allowing gambling operations and casinos under the supervision of the Virginia Lottery Board.[557] The first sports betting sites in the state launched in 2021.[558] The Hard Rock Hotel and Casino was the first casino to open in the state when it was awarded an operator's license on April 27, 2022.[559] Land-based revenues in Virginia (excluding sports betting) were $82 million in 2022 and $534 million in 2023.[560]

Figure 51: Chart of Virginia Gaming Revenue by Venue and Game Type[561]



[555] https://www.betvirginia.com/casinos (accessed December 19, 2023).

[556] https://www.usatoday.com/story/sports/sports-betting/2020/04/04/virginia-sports-betting-is-legal-sports-betting-available-in-virginia/41561243/ (accessed December 19, 2023).

[557] https://www.betvirginia.com/casinos (accessed December 19, 2023).

[558] https://www.betvirginia.com/casinos (accessed December 19, 2023).

[559] https://www.500nations.com/Virginia_Casinos.asp (accessed December 21, 2023).

[560] Exhibit 51A.

[561] Exhibit 51.

VIII. Projecting Land-based Revenues for Projection States

Overview. The first category of revenues modeled are the revenues from existing Land-based casinos (including commercial casinos, Tribal casinos, racinos, and riverboat casinos, when applicable) and VGTs (collectively, Land-based revenues). To do so, existing trends are analyzed in each of the five Projection States to establish the relevant baseline CAGR for each Projection State. Then, the observed change in the Land-based revenues associated with iGaming from the iGaming States, i.e., the Land-based Treatment Effect, is applied to each of the five Projection States.

Time periods for baseline CAGRs. The period used to estimate the baseline CAGR of Land-based revenues is carefully chosen to be indicative of a reasonable projected five-year CAGR going forward.[562] Depending on the specific circumstances of each Projection State, periods with relatively stable growth rates are chosen. For New York, Illinois, and Maryland, the CAGR between 2018 and 2023 is selected as the baseline period for the CAGR of the existing Land-based revenues before iGaming. For Louisiana, a longer period from 2012 to 2023 is selected, as Louisiana experienced essentially no growth in Land-based revenues during this time.[563] In Virginia, Land-based casinos started operating in 2022, so using Virginia's data would not yield a reliable estimate of the CAGR of Land-based revenues going forward. Therefore, the study utilizes Maryland's data between 2012 and 2022 as a reasonable comparative state to project Virginia's baseline growth path of Land-based revenues.

Land-based Treatment Effect. As discussed in Section V, the results from the ITS approach indicate that the increase in CAGR of the existing Land-based revenues and/or VGTs, i.e., the aggregate Land-based Treatment Effect after the legalization of iGaming, is 1.9 percentage points. In addition, as discussed in Section VI, consumer research supports a positive Land-based Treatment Effect. For the purposes of this study, there is not sufficient evidence to reliably estimate precise different Land-based Treatment Effects across each of the five Projection States, so the average Land-based Treatment Effect is projected to be the same for all the Projection States. While it might be plausible that the CAGRs of the revenues from the existing Land-based casinos would change differently for different Projection States, the application of a consistent Land-based Treatment Effect across all five Projection States is supported by data from the AG State Gambling Survey.[564] In addition, due to the similarities between Land-based casinos and VGTs (discussed, for example, in Section VI), the average Land-based Treatment Effect of 1.9 percentage points is also applied to VGT revenues in Illinois.

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[562] As discussed below, Virginia is a special case with only two years of available data because Virginia legalized Land-based casinos in 2022.

[563] Because Louisiana's revenues were essentially flat from 2012 through 2023, using a different period for baseline growth with a start year of 2018 would not materially change the results of the projections.

[564] See Figures 9 and 10, as well as the discussion in the Executive Summary.

Time periods for projections. This study uses 2025 as the year in which iGaming will become operational in all five Projection States. Casino revenues are then projected for the first five years after iGaming legalization, i.e., through 2029.

A. New York

The period chosen to estimate the projected CAGR of Land-based revenues is 2018 to 2023. As discussed in Section VII.A, New York experienced growth in Land-based revenues over the past decade, with slower growth from 2018 onward. Land-based revenues grew from $3.6 billion in 2018 to $4 billion in 2023, at a CAGR of 1.9%.[565] In the absence of iGaming, Land-based revenues are projected to continue to grow at a CAGR of 1.9% from 2024 through 2029, to reach a total of $4.5 billion in 2029.[566]

After adding the Land-based Treatment Effect of 1.9 percentage points, Land-based revenues are projected to grow at a CAGR of 3.8% after the legalization of iGaming. Thus, while Land-based revenues would have grown to $4.5 billion in 2029, this study projects them to grow to $4.9 billion in 2029, a 9.8% increase over the scenario without iGaming.[567]

Figure 52: New York – Projection of Existing Land-based Revenues (in $ Millions)[568]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$4,057	$4,057	$4,057	$4,057	$4,057	**$20,285**
[2]	Projected Revenues (pre-iGaming 1.9% CAGR)	$4,134	$4,213	$4,293	$4,375	$4,459	**$21,474**
[3]	Projected Revenues (with iGaming 3.8% CAGR)	$4,212	$4,374	$4,541	$4,715	$4,896	**$22,739**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming 3.8% CAGR)	*3.8%*	*7.8%*	*11.9%*	*16.2%*	*20.7%*	*12.1%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (pre-iGaming 1.9% CAGR)	*1.9%*	*3.8%*	*5.8%*	*7.8%*	*9.8%*	*5.9%*

[565] Exhibit 52.

[566] Figure 52.

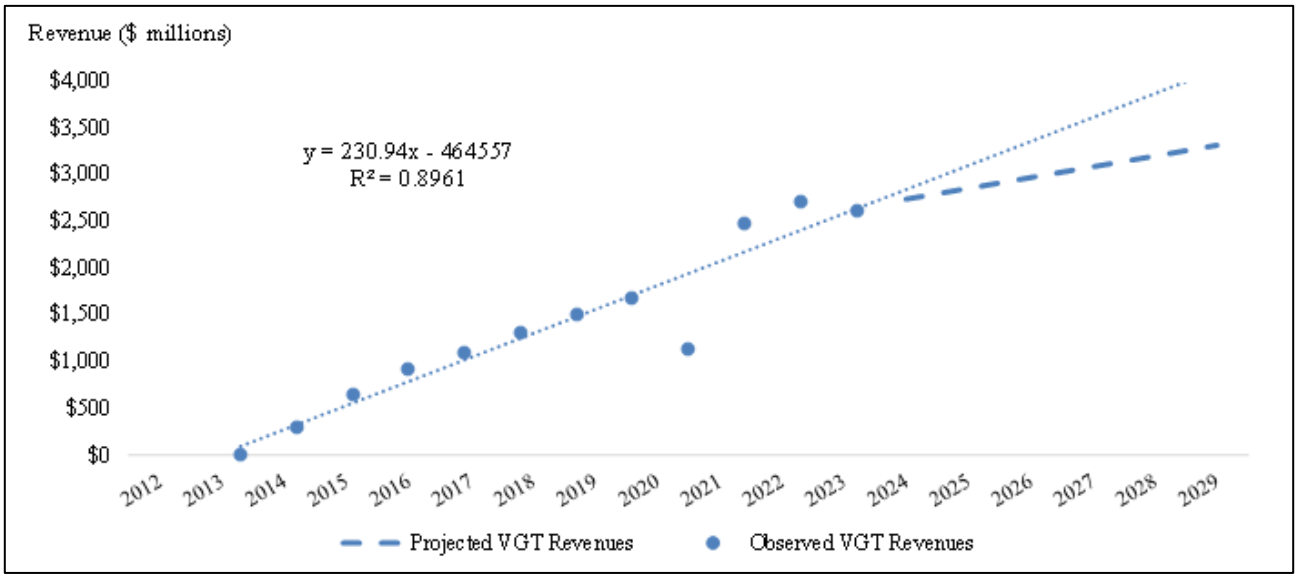
[567] Figure 52.

[568] Exhibit 52.

B. Illinois

VGTs. VGT revenues in Illinois from 2025 through 2029 are projected based on an analysis of the historical growth of VGT revenues and considering a more conservative projection going forward. As discussed in Section VII.B, most cities in Illinois currently allow VGTs. In 2022, there were 45,000 VGTs throughout the state, and they generated $2.6 billion in revenue. [569] VGT revenues have grown linearly from 2012 through 2023. On average, VGT revenues have grown by $231 million per year each year from 2012 through 2023. While this trend has continued linearly for the past 10 years, the growth rate was flatter from 2021 through 2023. To account for both scenarios of potential continued growth at the same linear rate and a flatter trend going forward, the revenues from 2025 through 2029 are projected as the average of the trend from 2012 through 2023 and a flat trend based on constant revenues going forward at the 2023 level. The dashed line in Figure 53 below shows this average, which is used as the projected VGT revenues in this study.

Figure 53: Illinois – Projected VGT Revenues Without iGaming, Using the Average of Estimates Based on the Historical Growth Rate and Constant 2023 Revenues [570]



[569] See AGA State of the States 2023, at p. 43 and Exhibit 48A.

[570] Exhibit 53.

Figure 54: Illinois – Projected VGT Revenues Without iGaming (in $ Millions)[571]

Index	Description	2024	2025	2026	2027	2028	2029
[1]	Projected Revenues for VGTs (using historical growth rate)	$2,866	$3,097	$3,327	$3,558	$3,789	$4,020
[2]	Projected Revenues for VGTs (assuming constant 2023 values)	$2,617	$2,617	$2,617	$2,617	$2,617	$2,617
[3] = ([1] + [2]) / 2	Average Projected VGT Revenues	$2,741	$2,857	$2,972	$3,088	$3,203	$3,318

In the absence of iGaming, VGT revenues are projected to grow from $2.7 billion in 2024 to $3.3 billion in 2029, at a CAGR of 3.9%.[572] After adding the Land-based Treatment Effect of 1.9 percentage points, VGT revenues were projected to grow at a CAGR of 5.8% instead, after the legalization of iGaming. [573] Thus, while VGT revenues would have grown to $3.3 billion in 2029, this study projects them to grow to $3.7 billion in 2029, a 10% increase over the scenario without iGaming.[574]

Figure 55: Illinois – Projection of Existing VGT Revenues (in $ Millions)[575]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$2,741	$2,741	$2,741	$2,741	$2,741	**$13,706**
[2]	Projected Revenues (pre-iGaming 3.9% CAGR)	$2,857	$2,972	$3,088	$3,203	$3,318	**$15,438**
[3]	Projected Revenues (with iGaming 5.8% CAGR)	$2,912	$3,088	$3,269	$3,457	$3,651	**$16,376**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming 5.8% CAGR)	*6.2%*	*12.6%*	*19.3%*	*26.1%*	*33.2%*	*19.5%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (pre-iGaming 3.9% CAGR)	*1.9%*	*3.9%*	*5.9%*	*7.9%*	*10.0%*	*6.1%*

[571] Exhibit 53.

[572] Figure 55.

[573] Figure 55.

[574] Figure 55.

[575] Exhibit 54.

Land-based casino revenues. The period chosen to estimate the projected CAGR of Land-based revenues is 2018 to 2023. As discussed in Section VII.B, Land-based casino revenues in Illinois had a slight positive trend over this five-year period, increasing from $1.4 billion in 2018 to $1.5 billion in 2023, at a CAGR of 2%.[576] In the absence of iGaming, this study projects that the revenues from the existing Land-based casinos would have continued to grow at a CAGR of 2%.

After adding the Land-based Treatment Effect of 1.9 percentage points, Land-based revenues are projected to grow at a CAGR of 3.9% after the legalization of iGaming.[577] Thus, while the revenues from Land-based casinos would have grown from $1.5 billion in 2024 to $1.7 billion in 2029, they are projected to grow to $1.9 billion in 2029, a 9.8% increase over the scenario without iGaming.[578]

Figure 56: Illinois – Projection of Existing Land-based Casino Revenues (in $ Millions)[579]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$1,546	$1,546	$1,546	$1,546	$1,546	**$7,729**
[2]	Projected Revenues (pre-iGaming 2.0% CAGR)	$1,577	$1,608	$1,640	$1,673	$1,706	**$8,204**
[3]	Projected Revenues (with iGaming 3.9% CAGR)	$1,606	$1,669	$1,735	$1,803	$1,873	**$8,687**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming 3.9% CAGR)	*3.9%*	*8.0%*	*12.2%*	*16.6%*	*21.2%*	*12.4%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (pre-iGaming 2.0% CAGR)	*1.9%*	*3.8%*	*5.8%*	*7.8%*	*9.8%*	*5.9%*

[576] Exhibit 54.

[577] Figure 56.

[578] Figure 56.

[579] Exhibit 54.

Adding up VGTs and Land-based casinos, Illinois experienced growth from $2.9 billion in 2018 to $4.1 billion in 2023.[580] After adding the Land-based Treatment Effect of 1.9 percentage points, total Land-based revenues are projected to grow at an implied CAGR of 5.4% instead, after the legalization of iGaming.[581] Thus, while the revenues from total Land-based casinos and VGTs would have grown to $5 billion in 2029, they are projected to grow to $5.5 billion in 2029, a 9.9% increase over the scenario without iGaming. [582]

Figure 57: Illinois – Projection of Existing Total Land-based Revenues (in $ Millions)[583]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$4,287	$4,287	$4,287	$4,287	$4,287	**$21,435**
[2]	Projected Revenues (without iGaming)	$4,433	$4,580	$4,728	$4,876	$5,024	**$23,641**
[3]	Projected Revenues (with iGaming)	$4,518	$4,757	$5,004	$5,260	$5,524	**$25,063**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming)	*5.4%*	*11.0%*	*16.7%*	*22.7%*	*28.9%*	*16.9%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (with iGaming)	*1.9%*	*3.9%*	*5.8%*	*7.9%*	*9.9%*	*6.0%*

[580] Exhibit 48A.

[581] Figure 57.

[582] Figure 57.

[583] Exhibit 55.

C. Louisiana

The period chosen to estimate the projected CAGR of Land-based revenues is 2012 to 2023. As discussed in Section VII.C, Louisiana experienced essentially no growth in the Land-based revenues over the past decade. Therefore, a longer period of over a decade, as compared to a shorter period of five years only, is selected to be indicative of the long-run CAGR of Land-based revenues in the absence of iGaming. In Louisiana, Land-based revenues declined from $3.6 billion in 2012 to $3.5 billion in 2023, at a CAGR of -0.2%.[584] In the absence of iGaming, Land-based revenues are projected to decline at a CAGR of -0.2%.

After adding the Land-based Treatment Effect of 1.9 percentage points, Land-based revenues are projected to grow at a CAGR of 1.7% after the legalization of iGaming.[585] Thus, while Land-based revenues would have remained at around $3.5 billion from 2024 to 2029 in the absence of iGaming, they are projected to grow to $3.8 billion in 2029, a 10% increase over the scenario without iGaming.[586]

Figure 58: Louisiana – Projection of Existing Land-based Revenues (in $ Millions)[587]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$3,490	$3,490	$3,490	$3,490	$3,490	**$17,449**
[2]	Projected Revenues (pre-iGaming -0.2% CAGR)	$3,483	$3,476	$3,469	$3,463	$3,456	**$17,347**
[3]	Projected Revenues (with iGaming 1.7% CAGR)	$3,550	$3,612	$3,674	$3,738	$3,802	**$18,376**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming -0.2% CAGR)	*1.7%*	*3.5%*	*5.3%*	*7.1%*	*9.0%*	*5.3%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (pre-iGaming 1.7% CAGR)	*1.9%*	*3.9%*	*5.9%*	*7.9%*	*10.0%*	*5.9%*

[584] Exhibit 55.

[585] Figure 58.

[586] Figure 58.

[587] Exhibit 55.

D. Maryland

The period chosen to estimate the projected CAGR of Land-based revenues is 2018 to 2023. As discussed in Section VII.D, Maryland experienced growth in the Land-based revenues over the past decade, growing at a slower rate from 2018 onward. Land-based revenues grew from $1.7 billion in 2018 to $2 billion in 2023, at a CAGR of 2.5%.[588] In the absence of iGaming, Land-based revenues are projected to grow at a CAGR of 2.5%.

After adding the Land-based Treatment Effect of 1.9 percentage points, Land-based revenues are projected to grow at a CAGR of 4.4% after the legalization of iGaming.[589] Thus, while Land-based revenues would have grown from $2 billion in 2024 to $2.3 billion in 2029 in the absence of iGaming, this study projects them to grow to $2.5 billion in 2029, a 9.8% increase over the scenario without iGaming.[590]

Figure 59: Maryland – Projection of Existing Land-based Revenues (in $ Millions)[591]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$2,025	$2,025	$2,025	$2,025	$2,025	**$10,126**
[2]	Projected Revenues (pre-iGaming 2.5% CAGR)	$2,076	$2,128	$2,181	$2,235	$2,291	**$10,910**
[3]	Projected Revenues (with iGaming 4.4% CAGR)	$2,115	$2,208	$2,306	$2,408	$2,515	**$11,552**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming 2.5% CAGR)	*4.4%*	*9.0%*	*13.9%*	*18.9%*	*24.2%*	*14.1%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (pre-iGaming 4.4% CAGR)	*1.9%*	*3.8%*	*5.7%*	*7.7%*	*9.8%*	*5.9%*

[588] Exhibit 55.

[589] Figure 59.

[590] Figure 59.

[591] Exhibit 56.

E. Virginia

As discussed in Section VII.E, Land-based casinos became operational in Virginia starting in 2022. Therefore, analyzing Virginia data alone would not yield a reliable estimate of the projected growth rate between 2024 and 2029 in the absence of iGaming. This study uses data from Maryland, a neighboring state where casinos became fully operational with both slots and table games starting in 2012, to project the CAGR of Virginia's Land-based revenues between 2025 and 2029. Maryland represents a good comparison state for Virginia because of its close proximity and Maryland's substantial growth over the past decade, starting with its first casinos in 2010, first table games in 2012, and the opening of the MGM National Harbor in 2016.

Maryland's data, starting in 2012 when table games were introduced, indicate that Land-based revenues grew from $378 million in 2012 to $2.1 billion in 2022, at a CAGR of 18.4%.[592] This 10-year period is used to provide a more conservative estimate for Virginia. A five-year period of 2012 through 2017 would provide an even higher growth rate.[593] In the absence of iGaming, Virginia's Land-based revenues are projected to grow at this CAGR of 18.4%, with the Land-based revenues growing from $632 million in 2024 to $1.5 billion in 2029.[594]

After adding the Land-based Treatment Effect of 1.9 percentage points, this study projects Land-based revenues to grow at a CAGR of 20.4% after the legalization of iGaming.[595] Thus, while the revenues from Land-based casinos are projected to grow to $1.5 billion in 2029, this study projects them to grow to $1.6 billion in 2029, an 8.4% increase over the scenario without iGaming.[596]

[592] Exhibit 56.

[593] Maryland's CAGR of Land-based revenues from 2012 to 2017 is 33.7%. Calculated as ($1,614 million / $378 million) ^ (1 / 5 years) – 1 = 0.337. See Exhibit 50A.

[594] Figure 60.

[595] Figure 60.

[596] Figure 60.

Figure 60: Virginia – Projection of Existing Land-based Revenues (In $ Millions)[597]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$632	$632	$632	$632	$632	**$3,162**
[2]	Projected Revenues (pre-iGaming 18.4% CAGR)	$749	$887	$1,051	$1,244	$1,473	**$5,404**
[3]	Projected Revenues (with iGaming 20.4% CAGR)	$761	$916	$1,103	$1,327	$1,597	**$5,704**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming 18.4% CAGR)	*20.4%*	*44.9%*	*74.4%*	*109.9%*	*152.6%*	*80.4%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (pre-iGaming 20.4% CAGR)	*1.6%*	*3.3%*	*5.0%*	*6.7%*	*8.4%*	*5.6%*

[597] Exhibit 57.

F. Overall Results

Across the five Projection States, based on the projected growth rates without iGaming, Land-based revenue would be projected to grow from $14.5 billion in 2024 to $16.7 billion in 2029, at a CAGR of 2.9%.[598] After adding the Land-based Treatment Effect of 1.9 percentage points associated with the introduction of iGaming, projected revenue from Land-based casinos and VGTs across the five states is $18.3 billion in 2029, with a CAGR of 4.8%.[599] In total over five years from 2024 to 2029, Land-based revenues are projected to grow by 26.5% compared to the baseline and 9.8% compared to the projections without iGaming.[600]

Figure 61: Projection States – Projection of Existing Land-based Revenues (in $ Millions)[601]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$14,491	$14,491	$14,491	$14,491	$14,491	**$72,456**
[2]	Projected Revenues (pre-iGaming 2.9% CAGR)	$14,875	$15,284	$15,722	$16,193	$16,703	**$78,777**
[3]	Projected Revenues (with iGaming 4.8% CAGR)	$15,156	$15,867	$16,628	$17,448	$18,334	**$83,434**
[4] = ([3] – [1]) / [1]	Percent Increase From Baseline (with iGaming 2.9% CAGR)	*4.6%*	*9.5%*	*14.7%*	*20.4%*	*26.5%*	*15.2%*
[5] = ([3] – [2]) / [2]	Percent Increase From Projected Revenues (pre-iGaming 4.8% CAGR)	*1.9%*	*3.8%*	*5.8%*	*7.8%*	*9.8%*	*5.9%*

[598] Figure 61.

[599] Figure 61.

[600] Figure 61.

[601] Exhibit 58.

IX. Revenue Projections for New Casinos in New York and Illinois

A. Three New Casino Licenses in New York

Background. In April 2023, elected officials in Albany authorized up to three additional commercial casino licenses for downstate New York.[602] This action will allow all seven commercial casino licenses in the state to be fulfilled, as four casinos have already been established upstate.[603]

While the approval process for the new casino licenses is not yet finalized, many stakeholders believe that the companies who own Empire City Casino in Yonkers ("Empire City") and Resorts World New York City in Queens ("Resorts World") are the front-runners to get two of the three approved licenses.[604] Various articles discussing these casino licenses indicate it is likely that these casino licenses will be granted in or around New York City, the largest metro area in the U.S. and a major tourist destination. To the extent that these expansions (as well as the third brand-new casino) are granted in or around New York City, they are expected to lead to a significant increase in Land-based revenues within the state of New York.

Projection Methodology. Two of the three sites are modeled as expansions of the existing gaming locations: Empire City and Resorts World.[605] These are already high-grossing gaming locations that have

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[602] https://www.nytimes.com/article/nyc-casino-tracker.html (accessed January 24, 2024).

[603] https://www.nydailynews.com/2023/05/08/competition-is-fierce-for-new-nyc-casino-license-here-are-proposals-so-far/ (accessed January 24, 2024).

[604] Given that Empire City and Resorts World currently only operate video lottery terminal machines and are seeking to expand to full-scale commercial casinos with table games and sports betting, many stakeholders consider these two locations to be the front-runners to win two of the three approved licenses.

In November 2023, MGM Resorts International unveiled a plan to transition its Yonkers Empire City casino into a world-class entertainment destination called MGM Empire City. The first phase of this facility is designed to include a comprehensive casino floor redevelopment, a 5,000-person entertainment venue, a state-of-the-art BetMGM sportsbook, a food and beverage outlet by renowned chefs, cocktail bars and lounges, and state-of-the-art meeting spaces. As MGM is the third-largest seller for live performances in the U.S. and has the capacity to seat more than 100,000 people a night across its venues worldwide, the Empire City project is expected to boost the local economy.

https://newsroom.mgmresorts.com/mgm-resorts-unveils-vision-for-mgm-empire-city.htm (accessed December 16, 2023).

The Empire City facility is one of the largest gaming floors in the U.S. and is the largest casino floor of MGM's U.S. properties, at 160,000 square feet and 4,671 slot machines (as of 2019).

https://newsroom.mgmresorts.com/mgm-resorts-unveils-vision-for-mgm-empire-city.htm (accessed December 16, 2023); MGM Resorts International, Form 10-K for the fiscal year ended December 31, 2019, at p. 4.

[605] As discussed, many stakeholders consider these two locations to be the front-runners to win two of the three approved licenses.

video lottery terminal machines (VLTs). If they were to get the licenses, they would be converting to full-scale casinos, including table games. For the third casino, the known candidates at the time of the publication of this study (arranged by borough and county) include:

1. Manhattan:
   a. Wynn Resorts/Related Properties (Hudson Yards)
   b. Caesars Entertainment/SL Green Realty Corp. (Times Square)
   c. Hudson's Bay Company (Midtown East)
   d. Mohegan/Soloviev Group (Midtown East)
   e. Parx/Silverstein Properties (Midtown West)
2. Bronx: Bally's Corp (Throggs Neck)
3. Queens: Hard Rock/Steve Cohen (Willets Point)
4. Brooklyn: Saratoga Casino Holdings & Chickasaw Nation/Thor Equities Group (Coney Island)
5. Nassau County: Las Vegas Sands/RXR (Hempstead)

The schedule for the new casino licenses is not yet finalized and is subject to change based on New York's application process.[606] For the purposes of this analysis, a timeline of mid-2024 is utilized for when the licenses would be granted. The expansions of the two existing locations are estimated to take approximately 1.5 years to complete, opening in January 2026. Therefore, the first five years for these new casino licenses are 2026 through 2030. Construction of the third new casino project is estimated to take 3-4 years, opening in January 2028. If these dates change, the projections can be updated accordingly by shifting the start dates and revenue forecasts.

To estimate year-by-year revenue projections in the first five years after opening, the revenues and growth trajectory of the MGM National Harbor in Maryland are utilized. The MGM National Harbor is comparable to the New York casino locations for multiple reasons, including at least the following: (1) in 2022, MGM National Harbor was the highest-grossing casino in the U.S. outside of Nevada, followed by Resorts World in Queens;[607] (2) MGM National Harbor is in a major metropolitan area on the East Coast (Washington, D.C., metro area); (3) MGM National Harbor is operated by MGM, the largest casino operator in the U.S., which is also the operator of Empire City in Yonkers; (4) MGM National Harbor opened during a period relevant to making five-year projections as of 2024—relatively recently, at the end of 2016, but also sufficiently long that it has over five years of data from which to project revenues

[606] The timeline estimates within this section are based on discussions with a casino operator.

[607] https://www.casino.org/news/mgm-national-harbor-leads-regional-casino-revenue-in-2022/ (accessed January 19, 2024).

for the next five years for the New York casinos; and (5) MGM National Harbor is relatively as close to Atlantic City (another large gaming market) as New York City.[608]

Projections for Empire City and Resorts World. The projections are calculated as follows:

1. Existing data are used to project VLT revenues through 2030 by holding them constant at their 2023 levels for each property. It is reasonable that VLT revenues will be constant going forward, considering they have been relatively constant (aside from during the COVID-19 pandemic) for the past few years. For Empire City, other than 2020, which was impacted negatively by the COVID-19 pandemic, VLT revenues have remained constant at around $600 million per year from 2016 through 2023; and for Resorts World, VLT revenues were $826 million in 2016, declined to $702 million in 2017, and fell substantially during the COVID-19 pandemic but have trended back up to an estimated $679 million in 2023 (equal to its 2019 level).[609] Holding VLT revenues flat and expecting no growth in the future is likely conservative because (1) if both these properties are converted into full-scale casinos with table games, guest rooms, and additional amenities, it is reasonable to expect more customers, and potentially customers with higher gaming budgets, to be drawn to these locations, which could lead to increased VLT revenues. Further, based on New York's low value of Land-based revenue per adult in 2023 compared to other nearby states,[610] New York has substantial room to grow.
2. Projected table games revenues in Year 5 (i.e., 2030) at Empire City and Resorts World are based on using MGM National Harbor as a benchmark. The ratio of table games to slots revenue is calculated for MGM National Harbor each year. In 2022 (i.e., the fifth full year (excluding 2020) after the opening of MGM National Harbor),[611] this ratio was 85.4%.[612] Projected table games revenue in Year 5 for Empire City and Resorts World is calculated by applying this ratio to each location's projected VLT revenues in Year 5. Doing so results in projected table games revenues in 2030 of $513 million for Empire City and $580 million for Resorts World.[613]

[608] With no traffic, National Harbor is approximately a three-hour drive to Atlantic City, and New York City is approximately a two-hour drive to Atlantic City.

[609] Exhibit 59.

[610] In 2023, New York's Land-based revenues per adult were $262 as compared to New Jersey's $411, Pennsylvania's $358, and Maryland's $432. See Exhibit 75.

[611] MGM National Harbor opened in 2016, so the fifth full year after its opening was 2021. However, 2020 was negatively affected by the COVID-19 pandemic, so 2020 is not considered for the purposes of modeling Empire City and Resorts World. Therefore, 2022 is the fifth full year (excluding 2020) after the opening of MGM National Harbor for the purposes of a benchmark in this analysis.

[612] Figure 62.

[613] Figure 63.

3. Projected table games revenues in Years 1 through 4 are calculated by using projected Year 5 revenues and then apportioning down each year to follow MGM National Harbor's growth path. For example, as depicted below in Figure 62, MGM National Harbor's total casino revenues in 2017 (i.e., the first year considered as a benchmark for Empire City and Resorts World) were 68.8% of its 2022 revenues. Applying this ratio results in projected table games revenues in Year 1 (2026) of $353 million for Empire City and $399 million for Resorts World.[614]

Figure 62: MGM National Harbor Revenues (in $ Millions) (2016–2023)[615]

Index		2016	2017	2018	2019	2020	2021	2022	2023
[1]	**Benchmark Year Considered**		**1**	**2**	**3**		**4**	**5**	
[2]	Revenue – VLTs	$24	$319	$368	$392	$263	$449	$477	$485
[3]	Revenue – Table Games	$18	$290	$337	$315	$221	$321	$407	$349
[4] = [2] + [3]	**Casino Revenue – Total**	**$42**	**$609**	**$705**	**$707**	**$484**	**$770**	**$884**	**$834**
[5] = [3] / [2]	Ratio of Table Games to VLTs	*72.1%*	*91.0%*	*91.5%*	*80.2%*	*83.8%*	*71.4%*	*85.4%*	*81.9%*
[6] = [4] / [4] for 2022	Share of 2022 Casino Revenue – Total	*4.7%*	*68.8%*	*79.7%*	*79.9%*	*54.7%*	*87.0%*	*100.0%*	*n/a*

[614] Figure 63. $353 million = 68.8% x $513 million for Empire City; $399 million = 68.8% x $580 million for Resorts World.

[615] Exhibit 59.

Figure 63: Projected Revenues for New Casinos in New York (2026–2030)[616]

Index		2026	2027	2028	2029	2030
	Empire City					
[1]	Casino Revenue – VLTs	$600	$600	$600	$600	$600
[2]	Casino Revenue – Table Games	$353	$409	$410	$446	$513
[3] = [1] + [2]	**Casino Revenue – Total**	**$953**	**$1,009**	**$1,010**	**$1,046**	**$1,113**
	Resorts World					
[4]	Casino Revenue – VLTs	$679	$679	$679	$679	$679
[5]	Casino Revenue – Table Games	$399	$462	$464	$505	$580
[6] = [4] + [5]	**Casino Revenue – Total**	**$1,079**	**$1,142**	**$1,143**	**$1,184**	**$1,260**

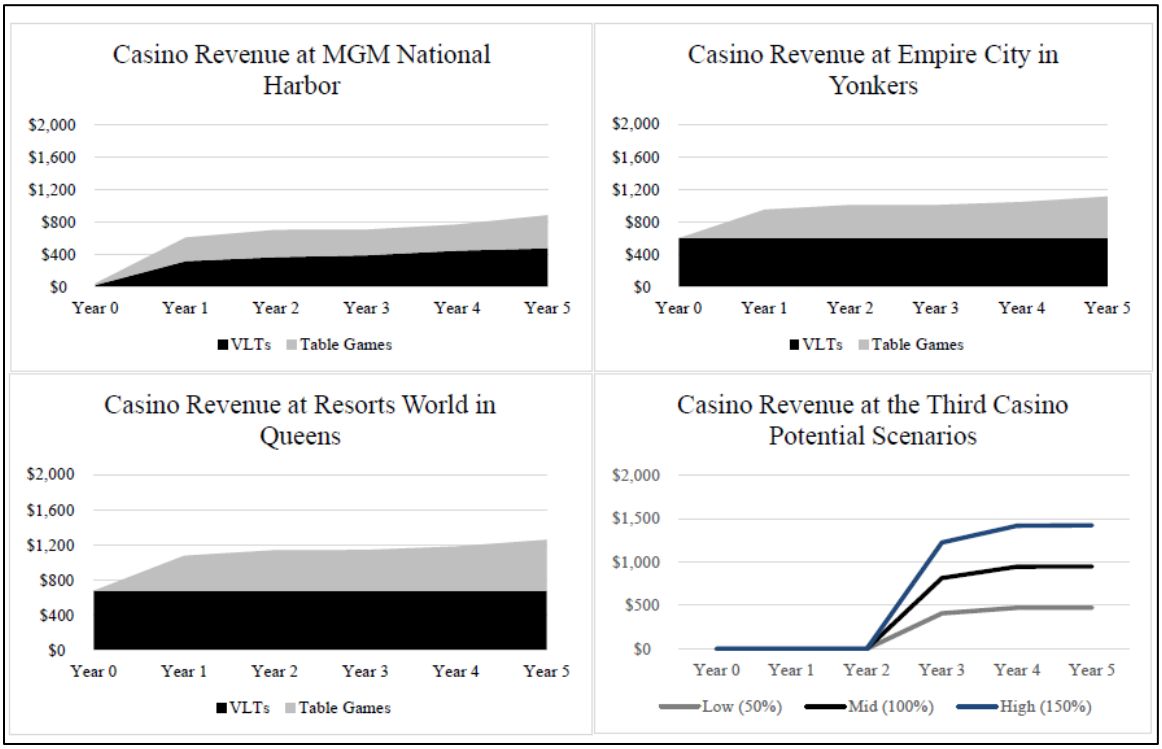
Projections for the New Casino. Three projections (Low, Mid, and High) are calculated as follows:

1. This casino is expected to open two years after the two existing casino expansions. Revenue for 2032, the fifth year after the full operation of this casino, is calculated based on three scenarios: (1) a Low scenario using 50% of the average of Empire City and Resorts World revenues in 2030, i.e., the fifth year after their openings; (2) a Mid scenario using 100% of the average of Empire City and Resorts World revenues in 2030; and (3) a High scenario using 150% of the average of Empire City and Resorts World revenues in 2030. In this way, the projections allow for the third casino to be either smaller than, equal to, or larger than the two other casinos, with a growth path shifted by two years after the two other casinos.
2. After projecting 2032 revenues, revenues for 2028 through 2031 are projected by following the growth path of MGM National Harbor using a similar methodology as discussed above. For example, MGM National Harbor's share from Year 1 (2017) is applied to the projected new casino revenues for Year 5 (2032) to scale the revenues down to Year 1 (2028) such that it follows the same proportional growth path as MGM National Harbor, which would lead to its eventual projected 2032 size.

[616] Exhibit 59.

Figure 64 shows the projected growth for each of the three casinos, compared to National Harbor.

Figure 64: Chart of Projected Revenues for New Casinos in New York[617]



[617] Exhibit 60.

Figure 65 shows the total projected Land-based casino revenues from both existing and new casinos in New York from 2025 through 2029. In general, the five-year projections throughout this report are focused on the period from 2025 through 2029. The projected incremental revenues from the three new casino licenses begin in 2026, with the third casino projected to generate revenues starting in 2028.

Figure 65: Projected Casino Revenues With New Casinos Included in New York[618]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline	$4,057	$4,057	$4,057	$4,057	$4,057	$20,285
[2]	Projected Land-based Revenues (with iGaming, before new casinos)	$4,212	$4,374	$4,541	$4,715	$4,896	$22,739
[3]	Projected Incremental Land-based Revenues From New Casinos	-	$752	$871	$1,690	$1,897	$5,210
[4]	Projected Land-based Revenues (with new casinos and iGaming)	$4,212	$5,126	$5,413	$6,405	$6,793	$27,949
[5] = ([7] – [1]) / [7]	Percent Increase in Land-based Revenues From Baseline	*3.8%*	*26.3%*	*33.4%*	*57.9%*	*67.4%*	*37.8%*

Conclusion. Considering all three new casino licenses, an additional $752 million in incremental Land-based revenues is projected from new casinos in 2026, and that is projected to grow to $1.9 billion by 2029. Even with the additional revenues from the new casinos, New York's Land-based casino revenue per adult is within the range of other large nearby states (New Jersey, Maryland, and Pennsylvania), confirming that these projections are within a reasonable range. By 2029, New York's projected Land-based casino revenue per adult is $431,[619] compared to the 2023 values for New Jersey ($411), Pennsylvania ($358), and Maryland ($432).[620] Further, by 2029, these values in other states may grow due to inflation and/or new casino openings or expansions, making New York's projected revenues even more reasonable relative to other states.

[618] Exhibit 52.

[619] See Figure 66.

[620] Exhibit 75.

Figure 66: Projected Land-based Revenue With New Casinos per Adult in New York[621]

Index	Description	2023	2024	2025	2026	2027	2028	2029
[1]	Projected Land-based Revenues With iGaming and New Casinos (in $ millions)	$3,981	$4,057	$4,212	$5,126	$5,413	$6,405	$6,793
[2]	Projected Adult Population in New York (in thousands)	15,215	15,303	15,392	15,571	15,571	15,662	15,753
[3]	Projected Land-based Revenues With New Casinos per Adult	$262	$265	$274	$331	$348	$409	$431

[621] See Exhibit 52 and Exhibit 104.

B. Four New Casinos in Illinois

Background. Illinois is expected to have four new permanent casinos in the Chicago metropolitan area. The new casinos are in Chicago, Rockford, and Waukegan and are anticipated to be operational at full capacity between 2024 and 2026. Once operational, they would be expected to lead to a substantial increase in casino revenues and tax revenues for the state of Illinois. While the opening dates are not finalized and subject to change, these four casinos are expected to open between late 2024 and 2026. Currently, some operators are running temporary casinos, including Bally's Chicago, Hard Rock Rockford, and Waukegan Casino, which will remain operational until the transition to their permanent casinos is complete.

Figure 67: Information on the Four New Casinos Opening in Illinois[622]

Index	Casino	Open Year	Square Footage	# of Slot Machines	# of Table Games	Other Facilities
[1]	Wind Creek Chicago Southland Casino	Summer 2024	73,000	1,300	56	3 Restaurants; 2 Bars
[2]	Hard Rock Rockford	August 2024	189,000	1,300	44	Live Concert; Restaurants
[3]	Bally's Chicago	2026	168,000	3,400	173	6 Restaurants
[4]	Waukegan Chicago	2025	n/a	1,640	100	Hotels and Event Center

Projection for Market Potential. Because the goal of this analysis is to project total potential revenues for the state of Illinois, revenues are projected using a top-down approach for all four casinos combined rather than for each casino individually. While the casinos are scheduled to open at different times, their anticipated launch dates are all within two years, resulting in a relatively simultaneous ramp-up of revenues.

Revenues for the four new casinos in the Chicago metro area are projected based on the estimated market potential for the area. Projected revenues by Year 5 (i.e., 2029, giving the four new casinos approximately five years to reach their market potential) are calculated as follows:

1. First, the market potential for the Chicago metro area is estimated by considering its current share of a larger relevant geographical area—the entire states of both Illinois and Indiana combined. Indiana

[622] Exhibit 61.

and Illinois are both relevant for at least two reasons. First, the Chicago metro area includes populations in both Illinois and Indiana. Second, there are already several established casinos in Illinois and Indiana, with both states having casinos that generate substantial revenues located within the Chicago metro area.[623] Considering the combined figures for Illinois and Indiana as of 2022, the population across the two states was approximately 19 million people, and the total combined casino revenue was $3.9 billion across about 27 commercial casinos.[624] The casino revenue per capita, which is $200.93, is calculated as the total population divided by the total casino revenue across Illinois and Indiana.[625]

2. Second, the casinos in the Illinois portion of the Chicago metro area ("Chicago metro (IL)") are compared to those in the Indiana portion of the Chicago metro area ("Chicago metro (IN)"). Considering the distribution of populations in the two states and the current level of casino revenues within the Chicago metro area relative to those outside the metro area, the casino revenue per capita in Chicago metro (IL) is only $135.83, compared to the casino revenue per capita in Chicago metro (IN), which is $1,377.50.[626] Put another way, while Chicago metro (IL) had 8.7 million people and generated $1.2 billion in casino revenue in 2022, Chicago metro (IN) generated similar revenues ($991 million) with less than 10% of the population (719,700).[627] This large difference between Chicago metro (IL) relative to Chicago metro (IN) is consistent with a substantial number of Illinois residents visiting the Indiana casinos rather than the Illinois casinos. Further, evidence from the AG State Gambling Survey shows that Illinois residents visit casinos in other states, including Indiana.[628]

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[623] There are eight casinos in Chicago metro (IL): Bally's Chicago, River's Chicago, Hollywood Casino Joliet, Hollywood Casino Aurora, Hard Rock Rockford, Grand Victoria Casino, Harrah's Joliet, and American Place (Waukegan casino).

There are four casinos in Chicago metro (IN): Ameristar Casino, Horseshoe Hammond, Hard Rock Casino Northern Indiana, and Blue Chip Casino.

[624] See Exhibit 62.

[625] See Exhibit 62.

[626] See Exhibit 62. Chicago metro (IL) also underperforms the Indiana casinos outside Chicago metro (IN), which generated $228.03 casino revenue per capita in 2022.

[627] See Exhibit 62.

[628] Out of the 76 Illinois respondents in the AG State Gambling Survey who indicated that they had engaged in Land-based gambling in the past 12 months, 34 respondents (or 45%) indicated that their typical casino visit was in a different U.S. state or territory, in a different country, or aboard a cruise ship. Out of these 34 respondents, 21 respondents (or 62%) indicated that their typical casino visit was in a U.S. state or territory outside of Illinois, with *at least* five respondents listing their most recent casino visit being at a casino in Indiana. A 32-year-old female respondent indicated that she went to "Horse[shoe] Casino" (a casino in Indiana) because "it's close to [her]," while another 55-year-old male respondent went to "Hard Rock Gary Indiana" because it is "not a bad drive."

See AG State Gambling Survey, Question S8; Question A6 ("Which of the following best describes the location of your most recent visit to a casino? a) My most recent visit to a casino was in my home state; b) My most recent visit to a casino was in a different U.S. state or territory; c) My most recent visit to a casino was in another country; d) My most recent visit to a casino was aboard a cruise ship"); Question A12 ("Thinking again about your most recent visit to a casino, in your opinion, was this visit *similar to* or *different from* your typical visit to a casino? *(Select only one option)*"); Question A15

To the extent additional permanent casinos can attract casino revenues in Chicago metro (IL), this large difference is also indicative of substantial potential for growth in terms of revenue per capita in Chicago metro (IL).

Figure 68: Casino Revenues per Capita in Chicago Metro Area[629]

Index	Description	Population (2022)	Number of Commercial Casinos	Casino Revenues (in $ Millions)	Casino Revenues per Capita
[1]	Chicago Metro (IL)	8,722,257	8	$1,185	**$135.83**
[2]	Illinois Outside Chicago Metro Area	3,859,775	7	$331	$85.74
[3] = [1] + [2]	Illinois – Entire State	12,582,032	15	$1,516	$120.47
[4]	Chicago Metro (IN)	719,700	4	$991	**$1,377.5**
[5]	Indiana Outside Chicago Metro Area	6,113,337	8	$1,394	$228.03
[6] = [4] + [5]	Indiana – Entire State	6,833,037	12	$2,385	$349.1
[7] = [3] + [6]	Illinois and Indiana Combined	19,415,069	27	$3,901	**$200.93**

3. For the purposes of this report, the additional market potential of Chicago metro (IL) is calculated as the additional revenue required for Chicago metro (IL) to reach the current average level of the entire region of Illinois and Indiana. The additional revenue per capita in Chicago metro (IL) is $65.10,[630] which is then multiplied by the population in Chicago metro (IL) to obtain the market potential for the four new casinos opening in Illinois. The market potential for the four new casinos in Chicago metro (IL) in Year 5 (i.e., 2029) is projected to be $568 million.[631]

("Which of the following best describes the location of your typical visit to a casino? *(Select only one option)* a) My typical visit to a casino is in my home state; b) My typical visit to a casino is in a different U.S. state or territory; c) My typical visit to a casino is in another country; d) My typical visit to a casino is aboard a cruise ship"); and Question A4 ("Next, we would like to ask you a few questions about your most recent visit to a casino. Where did you go? Why there? *(Please be as specific as possible)*"), Record #10847 and Record #10803.

[629] Exhibit 62.

[630] See Exhibit 62.

[631] See Exhibit 62.

Figure 69: Projected Market Potential for New Chicago Casinos in Year 5 (2029)[632]

Index	Description	Value
[1]	Casino Revenues per Capita (Illinois and Indiana Combined)	$200.93
[2]	Casino Revenues per Capita in Chicago Metro (IL)	$135.83
[3] = [1] – [2]	Additional Revenue per Capita in Chicago Metro (IL)	$65.10
[4]	Population in Chicago Metro (IL)	8,722,257
[5] = [3] * [4]	Market Potential for the Four New Casinos in Illinois (in $ millions)	$567.83

Comparison of Chicago metro (IL) to other metro areas. As a robustness check, a second method is considered to estimate the market potential of Chicago metro (IL) compared to other cities, as follows:

1. The casino revenues in four comparable metropolitan areas are collected: Philadelphia,[633] Washington, D.C.,[634] Detroit,[635] and New York City.[636] These four metro areas are comparable to Chicago because all five cities have large populations, they are located in the northern and/or eastern parts of the U.S., and they have flat or slightly declining population growth rates.[637] Further, Detroit is close to Chicago, only approximately a four-hour drive.
2. The casino revenue per capita in each of the metro areas is calculated as the revenues from casinos in the metro area divided by the population of the metro area. These figures are all substantially greater than the value of $135.38 from Chicago metro (IL): $227 in Philadelphia, $242 in Washington,

[632] Exhibit 62.

[633] To determine which casinos are located within the metro areas, the home state and the driving distance are both used to filter casinos. Casinos that are in Pennsylvania and within one hour driving distance are considered in the metropolitan area. For example, in Pennsylvania, there were 17 casinos in 2023. But only (1) Parx Casino, (2) Harrah's Philadelphia, (3) Rivers Philadelphia, (4) Valley Forge, (5) Live! Casino Philadelphia, and (6) Hollywood Casino Morgantown are located in the Philadelphia metropolitan area.

[634] Revenues for (1) MGM National Harbor and (2) Live! Casino & Hotel in 2023 are included in the casino revenues in the Washington, D.C., metro area.

[635] Revenues for (1) MGM Grand Detroit, (2) MotorCity Casino, and (3) Greektown Casino in 2023 are included in the casino revenues in the Detroit metro area.

[636] Revenues for the New York City metro area in 2030 include revenues from the three anticipated casinos in Year 5 (2030) and Jake's 58 casino located in Islandia. Projected revenues for Jake's 58 are held constant from 2023 to 2030.

[637] From 2020 through 2022, the CAGRs for each were as follows: Philadelphia: 0%; Washington, D.C.: 0.1%; Detroit: -0.4%; New York: -1.1%; and Chicago: -0.8%.

D.C., $283 in Detroit, and $200 in New York City.[638] Notably, Detroit has the highest casino revenue per capita among these cities, which could be because it faces limited competition from other nearby cities. By contrast, Philadelphia, Washington, D.C., and New York are all close to each other, and they are all close to Atlantic City, New Jersey. Chicago metro (IL) has some similarities to each region because it is closer to Detroit geographically, yet it faces competition from Chicago metro (IN). Therefore, for the purposes of this analysis, the average across all four areas of $238 is used as an estimate for this alternate projection.

3. The projected population of Chicago metro (IL) in 2029 is multiplied by the revenue per capita figure of $238, resulting in an estimated market potential of $2.1 billion by 2029. The projected existing casino revenues of $1.3 billion in 2029 are subtracted from the market potential to yield the estimated potential incremental revenues from the four new permanent casinos, resulting in an estimate of $741 million. This is greater than the estimate from the model using Indiana and Illinois of $568 million, indicating that, if anything, the projection from the model using Indiana and Illinois is conservative.

[638] For New York City, the figures used are not the current levels of revenue; they are the figures projected by Analysis Group's study after the three anticipated New York City casinos are operating at their full capacity, in addition to the revenues for Jake's 58.

Figure 70: Alternate Projection of Market Potential in Chicago Metro (IL)[639]

Index	Description	Philadelphia (2023)	DC (2023)	Detroit (2023)	New York (Year 5)	Chicago Metro (IL) (Estimate)[640]
[1]	Casino Revenues (in $ millions)	$1,414	$1,544	$1,223	$3,594	n/a
[2]	Population in Metro Area	6,240,976	6,377,297	4,326,453	17,984,492	8,722,257[641]
[3] = [1] / [2]	Casino Revenue per Capita in Metro Area	$227	$242	$283	$200	$238[642]
[4] = [2] x [3]	Projected Revenue for Chicago Metro (IL) (in $ millions)	*n/a*	*n/a*	*n/a*	*n/a*	$2,074
[5]	Projected Revenue in Chicago Metro (IL) Attributable to Existing Casinos (in $ millions)	*n/a*	*n/a*	*n/a*	*n/a*	$1,334[643]
[6] = [4] – [5]	Projected Revenue in 2029 Attributable to New Casinos (in $ millions)	*n/a*	*n/a*	*n/a*	*n/a*	$741

Projection for Year-by-Year Revenues. Year-by-year revenue projections for these four casinos in the first five years are calculated based on the projected value in Year 5 and the growth trajectory of the MGM National Harbor in Maryland, similar to the method for projecting the revenues for the new casino licenses

[639] Exhibit 63.

[640] Numbers are for the Illinois portion in the Chicago metro area in Year 5.

[641] The population in 2022 in Chicago metro (IL) is used here as the best approximation to calculate the market potential in 2029 because casino revenue per capita in Philadelphia, D.C., and Detroit is calculated using the most recent revenues. The market potential in five years is a function of both population and inflation, which have opposite effects. While the population has been declining in the Chicago metro area and may continue to decline through 2029, casino revenues per capita would also be expected to grow due to inflation. For the purposes of this report, using the current population with the current casino revenues is considered the best estimate.

[642] Calculated as the average of casino revenue per capita in Philadelphia, D.C., Detroit, and New York.

[643] The casino revenue in Chicago metro (IL) is $1.185 billion in 2023. See Exhibit 62. It is estimated to grow to $1.334 billion at a CAGR of 2%, as discussed in Section VIII, based on the CAGR of Land-based revenues before iGaming.

in New York from Section IX.A.[644] MGM National Harbor's growth path from Year 1 through Year 4 is modeled by dividing its revenues each year by its Year 5 revenues. 2020 is skipped because of COVID-19.[645]

Casino revenues for the four Illinois casinos in Years 1 through 4 are projected following MGM National Harbor's growth path. For each of Years 1 through 4, projected casino revenue in that year is calculated as the Year 5 (i.e., 2029) projected revenue multiplied by the "MGM National Harbor Share of Year 5 Revenue" figure.

Figure 71: Projected Revenues for Four New Casinos in Chicago[646]

Index	Description	2025	2026	2027	2028	2029
[1]	MGM National Harbor Share of Year 5 Revenue	68.8%	79.7%	79.9%	87.0%	100.0%
[2]	Projected Casino Revenues for New Casinos in Chicago (in $ millions)	$390.74	$452.53	$453.89	$494.19	$567.83

If anything, these projected annual revenues are conservative given that Illinois has substantial room to grow based on its relatively low Land-based casino revenue per adult in 2023 ($160)[647] compared to other states (New Jersey = $411, Pennsylvania = $358, Maryland = $432).[648] While Illinois VGT revenue per adult ($277)[649] partially explains this disparity, evidence indicates that both casinos and VGTs in Illinois have room to grow compared to some states. For example, total Land-based revenues per adult

[644] The MGM National Harbor is comparable to the Chicago casino locations for multiple reasons, including at least the following. First, MGM National Harbor is in a major metropolitan area in the northern/eastern part of the U.S. (Washington, D.C., metro area), which is comparable to the Chicago metro area. Second, MGM National Harbor opened during a period relevant to making five-year projections as of 2024: relatively recently at the end of 2016, and it also has over five years of data from which to project revenues for the next five years for the Illinois casinos. Third, MGM National Harbor's square footage is comparable to the average square footage of the four new casinos. MGM National Harbor's casino square footage in 2023 was 147,000. See MGM Resort International, Form 10-K, for the fiscal year ended December 31, 2023, at p. 28. The average square footage across the three new casinos with available data is estimated to be 143,333, calculated as (73,000 + 189,000 + 168,000) / 3. See Figure 67.

[645] See Figure 71 and Exhibit 59.

[646] Exhibit 62.

[647] Exhibit 48A and Exhibit 104. Calculated as $1,516 million / 9,445,887.

[648] Exhibit 75.

[649] Exhibit 48A and Exhibit 104. Calculated as $2,617 million / 9,445,887.

in 2022 were $741 in West Virginia, and they were $1,074 in Louisiana in 2023.[650] The growth potential is consistent with results from consumer research, which indicate that while casinos and VGTs in Illinois have some similarities, VGTs generally offer additional gambling opportunities rather than being associated with decreased commercial casino revenues. In Illinois, among respondents who have played casino games using VGTs, after they started to use VGTs, 7.5% of users increased their frequency of visiting Land-based casinos, 75% stayed the same, and only 15% decreased.[651] Further, among these respondents, 20% of users increased the amount of money they play with at Land-based casinos, 70% stayed the same, and only 10% decreased.[652]

X. Projecting iGaming Revenues in the Projection States

A. Overview

iGaming revenues are projected in this study based on two key inputs: (1) a single-year estimate of iGaming revenue per adult tailored to each Projection State from the model based on sports betting revenues and (2) the observed weighted average growth rates of iGaming revenues per adult from 2021-2022 and 2022-2023 in the iGaming States. Once obtained, these metrics are multiplied by the projected adult populations in each Projection State to estimate iGaming revenues from 2025 to 2029.

B. Model Based on Sports Betting Revenues

The observed correlation between sports betting revenues per adult and iGaming revenues per adult in the iGaming States is utilized to project iGaming revenues per adult in the Projection States. As discussed in Section I, there are multiple reasons for using sports betting revenues to project iGaming revenues, including the following: (1) there are notable similarities between the markets for sports betting and iGaming; (2) sports betting revenues per adult are in fact highly correlated with iGaming revenues per adult in the iGaming States; and (3) the Projection States have available data on sports betting revenues per adult that are within the range of the values from the iGaming States.[653]

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[650] Exhibit 75.

[651] AG State Gambling Survey, Question D13 ("Since you started to bet or wager on casino games using an electronic gambling machine, would you say that your frequency of betting or wagering on casino games at a casino has *increased*, *decreased*, or *stayed the same*? *(Select only one option)*").

[652] AG State Gambling Survey, Question D14 ("Since you started to bet or wager on casino games using an electronic gambling machine, would you say that the total amount of money that you play with (i.e., the maximum amount of money you are willing to risk across the entire visit) while betting or wagering on casino games at a casino has *increased*, *decreased*, or *stayed the same*? *(Select only one option)*").

[653] See the additional discussion in Section I.

There are two years of data available (2022 and 2023) with a sufficient number of observations, and two separate regression models are utilized to model this relationship so that each observation within the regression represents a unique state. Each of the regression models uses data available from four of the six iGaming States.[654]

To present results that are concise to interpret, the regression models are estimated by restricting the intercepts to be zero. Models without the intercepts restricted to zero are also considered, and the projection results do not differ substantially.[655] In addition, models that include income per capita as an additional explanatory variable for iGaming revenue per adult are also considered, and the projection results do not differ substantially.[656]

[654] Delaware is excluded in both models due to iGaming's disproportionately poor performance in the state (which is partially attributable to the fact that Delaware's iGaming landscape consists of a single operator and is not a competitive market). See, e.g., Sections II.A and II.B.2.

See also https://www.delawareonline.com/story/money/business/2024/01/16/delaware-adds-mobile-sports-betting-how-we-got-here/72111044007/ (accessed January 22, 2024).

Michigan is conservatively excluded from the 2022 model because it is an outlier for that year compared to other states and thus does not appear like it would be a good predictor for the Projection States. iGaming revenues in Michigan vastly outperformed sports betting revenues in 2022, so including Michigan in the model would increase the projected iGaming revenues in this study. The ratio of Michigan's sports betting revenues per adult to iGaming revenues per adult in 2022 was 7.2%, compared to New Jersey (45.9%), Pennsylvania (43.2%), Connecticut (60.1%), and West Virgina (44.6%). See Exhibit 64-65D. This is partially because iGaming substantially exceeded revenue expectations in the years immediately following its launch in Michigan. See https://www.vixio.com/insights/gc-major-market-michigan-exceeding-expectations-igaming (accessed February 15, 2024).

West Virginia is excluded from the 2023 model because 2023 iGaming revenue data are not available.

[655] With a non-zero intercept, projected iGaming revenues per capita in Year 3 across the five Projection States is $218.96, compared to $218.42, the value used in the final projections in this report. This represents only a 0.2% overall difference. See Exhibit 66-67B for this comparison and the values for each Projection State.

The regression results with a non-zero intercept are as follows.

2022 model: iGaming revenue per adult = 2.27 × sports betting revenue per adult – 9.73.

2023 model: iGaming revenue per adult = 1.28 × sports betting revenue per adult + 86.94.

The R-squared values are about 96% and 64% for these two models, respectively. See Exhibit 64-65A.

[656] With income per capita as an additional explanatory variable, projected iGaming revenues per capita in Year 3 across the five Projection States is $207.88, compared to $218.42, the value used in the final projections in this report. This represents a 4.8% overall difference. See Exhibit 64-65C for this comparison and the values for each Projection State.

The regression results with income per capita as an additional explanatory variable are as follows:

2022 model: iGaming revenue per adult = 2.49 × sports betting revenue per adult – 0.000370 × income per capita.

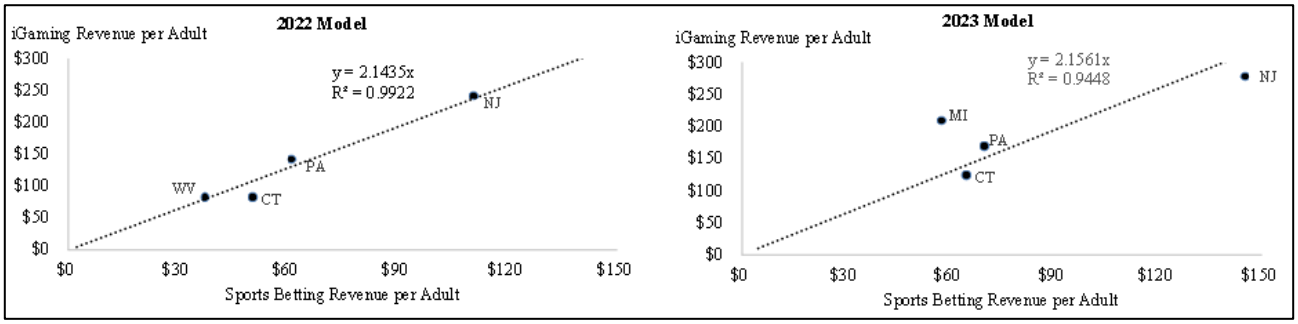
2023 model: iGaming revenue per adult = 0.39 × sports betting revenue per adult + 0.002133 × income per capita.

The R-squared values are about 99% and 90% for these two models, respectively. See Exhibit 64-65C.

The regression results are presented in Figure 72 below. The results indicate that every $1 in sports betting revenue per adult is associated with $2.14 in iGaming revenue per adult based on the 2022 model and $2.16 in iGaming revenue per adult based on the 2023 model.

As shown in Figure 72, there is a strong correlation between sports betting revenue per adult and iGaming revenue per adult within the iGaming States. The R-squared values indicate that about 99% of the variation in iGaming revenues per adult is accounted for by the variation in sports betting revenues per adult in the 2022 model, and about 94% of this variation is accounted for in the 2023 model.[657] Sports betting revenues per adult explain a significant portion of the variation in iGaming revenues per adult in the iGaming States and are therefore likely to exhibit a strong predictive relationship in the Projection States.

Figure 72: Correlation Between Sports Betting Revenue per Adult and iGaming Revenue per Adult in 2022 and 2023[658]



Using these two models, iGaming revenues per adult in the Projection States are projected using the observed value of sports betting revenues per adult in 2023. See Figures 73 and 74. As discussed above, sports betting is available in all the Projection States, and the revenues per adult in 2023 range from $78.18 in Virginia to $112.46 in Maryland. Therefore, iGaming revenues per adult are estimated to range from $167.58 in Virginia to $241.06 in Maryland using the 2022 model and $168.57 in Virginia to $242.48 in Maryland using the 2023 model. Using the average between the 2022 and 2023 models as the final projection, sports betting revenues per adult are estimated to range from $168.07 in Virginia to $241.77 in Maryland, as shown below in Figure 75.

[657] These regressions are conducted with a zero intercept so that both these coefficients could be interpreted as simply the ratio of iGaming revenues to sports betting revenues. For information on how R-squared is calculated in regressions with a zero intercept, see https://www.riinu.me/2014/08/why-does-linear-model-without-an-intercept-forced-through-the-origin-have-a-higher-r-squared-value-calculated-by-r/ (accessed January 1, 2024).

[658] Exhibit 64.

Figure 73: Correlation Between Sports Betting and iGaming Revenues per Adult in 2022[659]

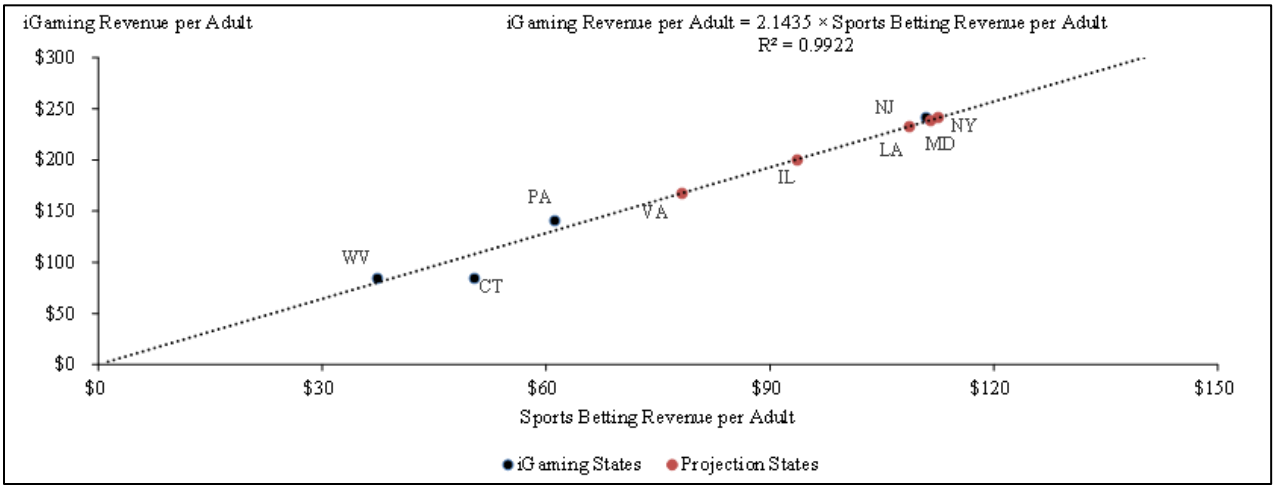
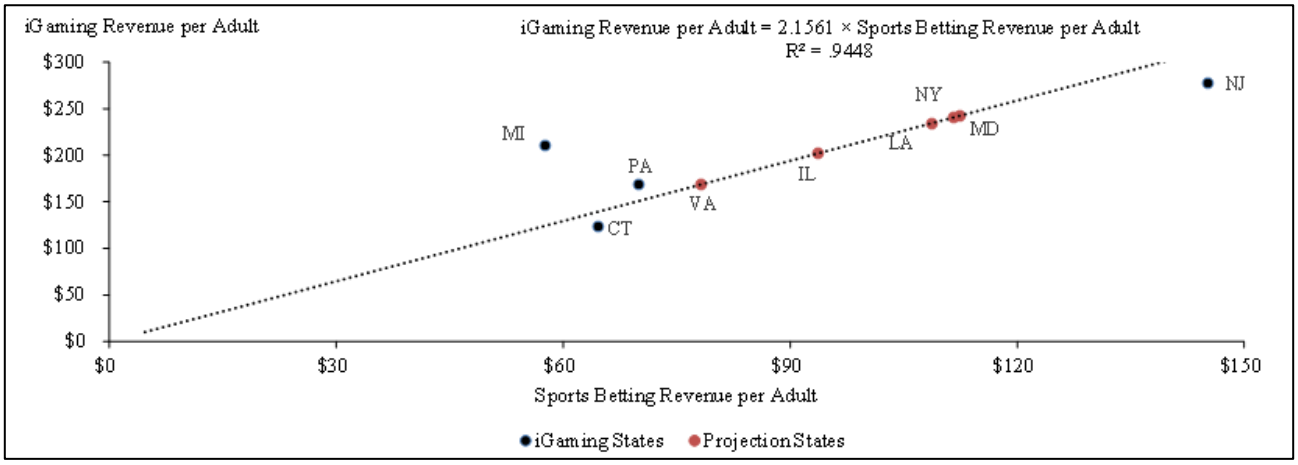


Figure 74: Correlation Between Sports Betting and iGaming Revenues per Adult in 2023[660]



[659] Exhibit 5 and Exhibit 65. In Figures 73 and 74, the regression models are based on data from four iGaming States (dots shown in blue). The red dots are the projected values for the Projected States based on the regression line.

[660] Exhibit 6 and Exhibit 65.

Figure 75: Estimated iGaming Revenue per Adult in the Projection States[661]

Index	Projection State	2022	2023	Avg
[1]	New York	$239.03	$240.44	$239.74
[2]	Illinois	$200.60	$201.78	$201.19
[3]	Louisiana	$233.03	$234.40	$233.71
[4]	Maryland	$241.06	$242.48	$241.77
[5]	Virginia	$167.58	$168.57	$168.07
[6]	Weighted Average	$217.78	$219.06	$218.42

C. Alternate Model Based on Land-based Revenues

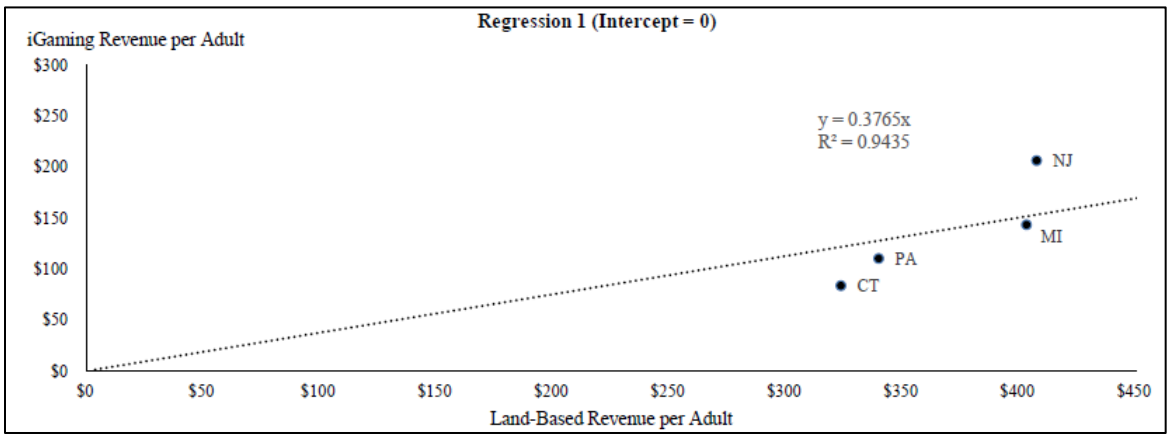
Although it is not ultimately used in the final projection analysis, this study also considers a separate model to project iGaming revenues per adult based on the current values of Land-based revenues per adult. The rationale behind this model is similar to the rationale behind the sports betting model, as it is economically reasonable that Land-based revenues per adult would be predictive of iGaming revenues per adult because, for example, they are both forms of gambling, there is overlap between the consumers, and there is overlap between the suppliers.

In the iGaming States, lagged Land-based revenues per adult (i.e., the values in the previous year) are indeed a strong predictor of iGaming revenues per adult in a given year, when restricting the sample size to exclude observations that included 2020 (the pandemic year) and that involved the first year of iGaming. Figure 76 shows the results of the model using each iGaming State's 2022 Land-based revenues to predict its 2023 iGaming revenues with a zero intercept.[662] Lagged Land-based revenue per adult and iGaming revenue per adult are highly correlated, with an R-squared of about 94%.

[661] Exhibit 5-6B and Exhibit 65. The weighted average is calculated by averaging indices [1] through [5] using each state's 2023 population as weights.

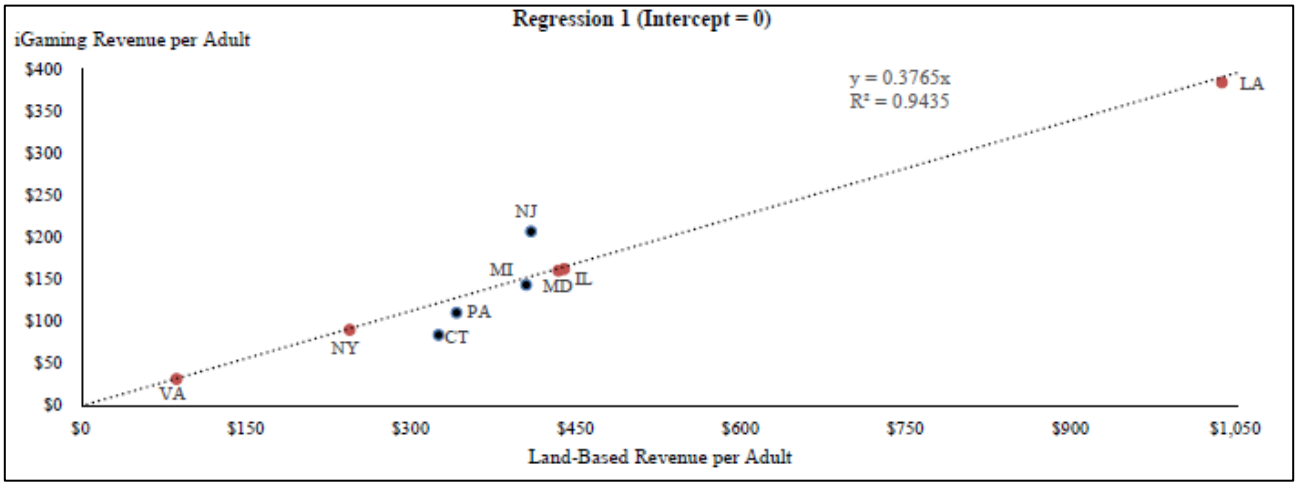
[662] Unlike the model based on sports betting revenues, however, this model changes substantially when a non-zero intercept is applied. With a non-zero intercept, the slope increases substantially, so this model does not yield usable predictions for the Projection States, with implied values for New York and Virginia that are negative.

Figure 76A: Correlation Between Land-based Revenue per Adult and iGaming Revenue per Adult[663]



This result indicates that on average, every $1 in Land-based revenues per adult in one year is associated with $0.38 in iGaming revenues per adult in the next year. This model suffers because the values of Land-based revenues per adult are very low in Virginia and New York compared to the iGaming States, and they are very high in Louisiana. Unfortunately, applying this relationship to estimate iGaming revenues per adult in Virginia, New York, and Louisiana results in unreasonable and unreliable predicted values (see Figures 76A, 76B, and 77).

Figure 76B: Chart of Estimated First-Year iGaming Revenue per Adult Using Correlation Between Land-based Revenue per Adult and iGaming Revenue per Adult[664]



[663] Exhibit 66.

[664] Exhibit 67.

Figure 77: Table of Estimated First-Year iGaming Revenue per Adult Using Correlation Between Land-based Revenue per Adult and iGaming Revenue per Adult[665]

Index	Projection State	Land-based Year (t = N - 1)	Land-based per Adult	Projected iGaming per Adult
[1]	New York	2023	$261.66	$98.52
[2]	Illinois	2023	$437.48	$164.71
[3]	Louisiana	2023	$1,035.87	$390.00
[4]	Maryland	2023	$432.21	$162.73
[5]	Virginia	2023	$84.07	$31.65

In summary, there are notable differences that make this model less reliable than the model based on sports betting revenues for the Projection States. First, they are different in that one occurs in person at a physical location, while the other occurs online. Second, the values of Land-based revenues per adult in the Projection States are outside of the range of values from the iGaming States (especially for Virginia, New York, and Louisiana), so the projected values here are not as reliable as those from the sports betting model.

D. Projected iGaming Revenues Are Applied to Year 3 (2027)

The projected iGaming revenues per adult from the model based on sports betting revenues are applied to Year 3 (2027), i.e., the third year after the anticipated legalization of iGaming. Applying the revenues to Year 1 (2025) or Year 2 (2026) would likely result in overstated projections because the sports betting model is constructed using data from at least three years after iGaming was available in the iGaming States.[666] With the additional years to ramp up, it is unlikely that Year 1 or Year 2 iGaming revenues per adult in the Projection States would be as high as those in the iGaming States as of 2022 or 2023.

On the other hand, Year 3 (2027) presents a more reasonable year than Year 4 (2028) or Year 5 (2029) because iGaming revenues per adult have ramped up more rapidly with each new state adopting iGaming, as shown below in Figure 78A, and it is reasonable that this trend of faster and more reliable adoption will continue. On the supply side, iGaming suppliers, including DraftKings, FanDuel, BetMGM, Caesars, BetRivers, Penn, and Fanatics, can learn from previous experience and be better positioned to

[665] Exhibit 67.

[666] iGaming revenues started in 2013 in New Jersey, 2019 in Pennsylvania, 2020 in West Virginia, 2021 in Michigan, and 2021 in Connecticut. Therefore, 2022 represents Year 10 in New Jersey, Year 4 in Pennsylvania, Year 3 in West Virginia, Year 2 in Michigan, and Year 2 in Connecticut. Similarly, 2023 represents Year 11 in New Jersey, Year 5 in Pennsylvania, Year 4 in West Virginia, Year 3 in Michigan, and Year 3 in Connecticut.

launch iGaming with each additional state. On the demand side, consumers are likely more familiar with iGaming than in the past, and sports betting is already available in all of the Projection States, with many active users, so it would be expected that iGaming would ramp up faster than it has in previous states.

E. Observed Growth in iGaming States

Thus far, this section has focused on projecting values for iGaming revenues per adult in Year 3 (2027). In this section, the observed growth in iGaming States is used to model the projected growth in the Projected States from Year 1 (2025) through Year 5 (2029). The analysis considers trends from all iGaming States, and it utilizes data from four out of the six states in the final projections.[667]

After considering data from all years, the data used for projections are limited to data from 2021 to 2023. This is for multiple reasons: (1) it avoids using data corresponding to 2020 during the COVID-19 pandemic, which may not be reflective of expectations from 2025-2029; (2) the iGaming landscape has improved in several aspects, such as supply and demand, compared to earlier years; (3) observed growth in iGaming revenue per adult is much more consistent across the different states during this time period (see Figure 78A below) than in earlier years; and (4) iGaming operators in recent years (and going forward) have considerably more experience and know-how. See, for example, Figure 78A below, which shows that iGaming has grown notably faster in the states that launched later (i.e., Michigan, Connecticut, West Virginia, and Pennsylvania) than it did in the early adopting states of New Jersey and Delaware.

[667] Delaware is excluded due to iGaming's disproportionately poor performance in the state (which is partially attributable to the fact that Delaware's iGaming landscape consists of a single operator and is not a competitive market). See https://www.delawareonline.com/story/money/business/2024/01/16/delaware-adds-mobile-sports-betting-how-we-got-here/72111044007/ (accessed January 22, 2024).

West Virginia is excluded due to iGaming's extremely high initial growth rate.

Figure 78A: Chart of Observed iGaming Revenues per Adult Normalized to Launch Year[668]

Considering the four states used for this model (New Jersey, Michigan, Pennsylvania, and Connecticut), the observed weighted average growth rate in iGaming revenue per adult is calculated to be 25.4% from 2021 to 2022 and 16.4% from 2022 to 2023.[669] From the first observation of the growth rate to the second, the growth rate reduced to 64.6% of its previous value.[670]

To project annual revenues for the Projection States in 2025 and 2026, the growth rates from Year 1 to Year 2 and Year 2 to Year 3 are used, respectively. For 2028 and 2029 (Years 4 and 5), the projected growth rates are reduced each year by the same ratio as the decline observed between Year 1 to Year 2 and Year 2 to Year 3 (i.e., 64.6%).[671] See Figure 78B.

Figure 78B: Projected iGaming Revenue per Capita Growth Rate From Year 1 to Year 5[672]

Index	Description	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029
[1]	Weighted Average Growth Rate of iGaming Revenues per Adult	n/a	25.4%	16.4%	10.6%	6.8%

[668] Exhibit 68.

[669] Exhibit 69.

[670] Exhibit 70. 16.4% ÷ 25.4% = 64.6%.

[671] Exhibit 70. Years 3 to 4: 16.4% × 64.6% = 10.6%. Years 4 to 5: 10.6% × 64.6% = 6.8%.

[672] Exhibit 70.

F. Five-Year Projected Growth From 2025 to 2029

In summary, recognizing the inherent uncertainty of projecting revenues for new markets, this study provides a framework and a set of projections to best enable policymakers to make informed decisions. For each of the five Projection States, iGaming revenues are projected each year from 2025 (Year 1) through 2029 (Year 5) as follows:[673]

a. First, iGaming revenues per adult in Year 3 (2027) are estimated by using the observed 2023 sports betting revenues per adult for each Projection State and applying the multiples from the two sports betting models calibrated on the 2022 and 2023 data from the iGaming States. The average of the two models is used as the final projection for each Projection State. iGaming revenues per adult in the Projection States for Year 3 after legalization are projected to range from $168 for Virginia to $242 for Maryland.
b. The average annual growth rates of iGaming revenue per adult in the iGaming States from 2021-2022 (25.4%) and 2022-2023 (16.4%) are used to project iGaming revenues per adult in Years 1 and 2, projecting backward from Year 3 to Year 2 and then from Year 2 to Year 1. This is effectively modeling the 2025-2027 growth paths for the Projection States based on the 2021-2023 growth paths of the iGaming States.
c. The reduction (64.6%) from the growth rate in 2021-2022 (25.4%) to the growth rate in 2022-2023 (16.4%)[674] is applied to the growth rate from Year 2 to Year 3 to project growth rates from Year 3 to Year 4 and Year 4 to Year 5, resulting in projected growth rates of 10.6% from Year 3 to Year 4 and 6.8% from Year 4 to Year 5.[675] This reduction is applied based on the most recent data. Once 2024 data for the current iGaming States are available, this projection could be updated from 10.6% to a potentially different number based on actual 2024 results.
d. The total adult population in each Projection State is projected based on the 10-year historical adult population growth rate. See Figure 79.
e. Total iGaming revenues are projected based on the projected adult population in each state multiplied by the projected iGaming revenues per adult. Projected iGaming revenues for each Projection State in each year are presented in Figure 79.

[673] Additional context on some of these points was previously discussed in the Section I and throughout Section X.

[674] Exhibit 70. 16.4% ÷ 25.4% = 64.6%.

[675] Exhibit 70. Years 3 to 4: 16.4% × 64.6% = 10.6%. Years 4 to 5: 10.6% × 64.6% = 6.8%.

Figure 79: Projected iGaming Revenues Using Observed Growth of iGaming Revenue per Adult and the Sports Betting Model[676]

Index	State	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029
Estimated iGaming Revenues per Adult (in $)						
[1]	New York	$164.30	$206.00	$239.74	$265.07	$283.14
[2]	Illinois	$137.89	$172.88	$201.19	$222.45	$237.62
[3]	Louisiana	$160.17	$200.82	$233.71	$258.41	$276.03
[4]	Maryland	$165.70	$207.75	$241.77	$267.32	$285.55
[5]	Virginia	$115.19	$144.42	$168.07	$185.84	$198.51
Projected Adult Population						
[6]	New York	15,391,885	15,481,298	15,571,230	15,661,684	15,752,664
[7]	Illinois	9,497,259	9,523,050	9,548,910	9,574,842	9,600,843
[8]	Louisiana	3,405,446	3,420,501	3,435,623	3,450,811	3,466,067
[9]	Maryland	4,642,956	4,679,252	4,715,831	4,752,697	4,789,851
[10]	Virginia	6,465,224	6,522,674	6,639,109	6.639.109	6,698,104
Estimated iGaming Revenues (in $ Millions)						
[11]	New York	$2,529	$3,189	$3,733	$4,151	$4,460
[12]	Illinois	$1,310	$1,646	$1,921	$2,130	$2,281
[13]	Louisiana	$545	$687	$803	$892	$957
[14]	Maryland	$769	$972	$1,140	$1,270	$1,368
[15]	Virginia	$745	$942	$1,106	$1,234	$1,330

[676] Exhibit 70.

XI. Summary of Results for Projection States

This section summarizes the analysis and results of the five Projection States, including revenue projections based on (1) the existing Land-based growth rate, (2) the Land-based Treatment Effect, (3) additional revenue from new casinos in New York and Illinois, and (4) iGaming revenues.

A. New York

As discussed in Sections VII to X, the revenue projections for New York are as follows (see Exhibit 52):

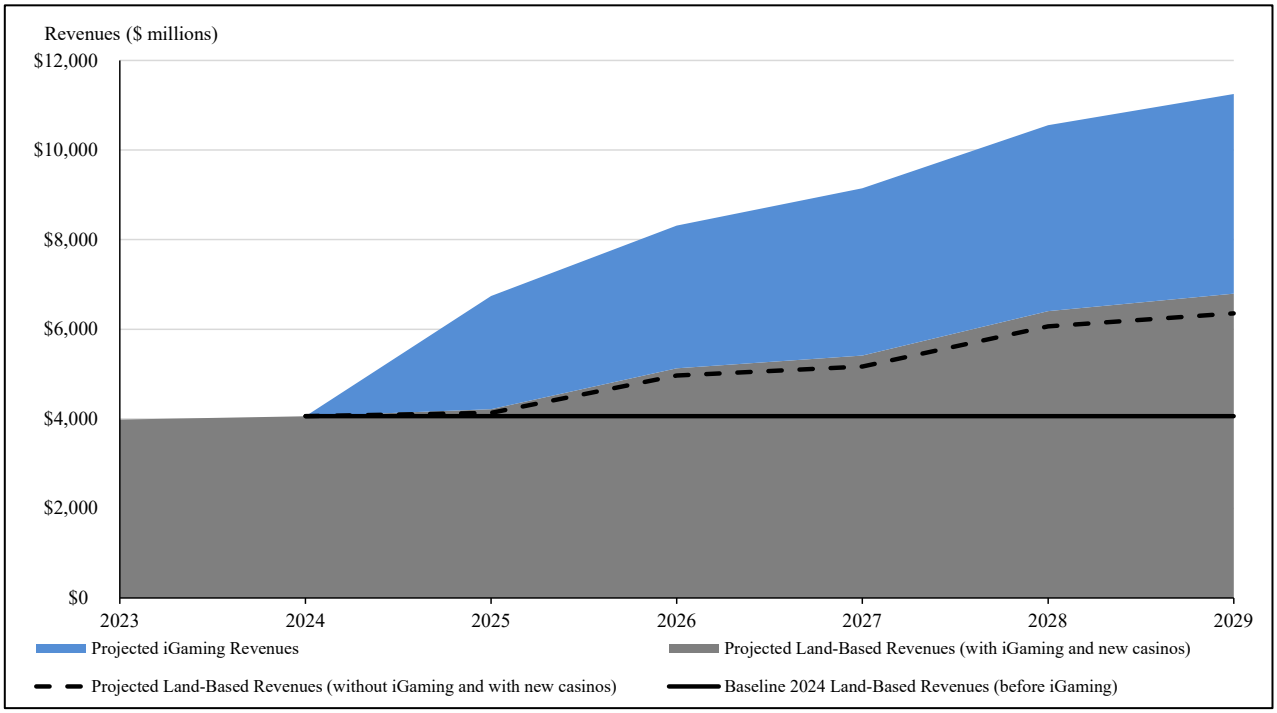
1. From 2024 through 2029, Land-based revenues would be projected to grow from $4.1 billion to $4.5 billion based on New York's existing CAGR, an increase of $402 million.
2. After adding in the Land-based Treatment Effect, Land-based revenues are projected to grow by an additional $438 million from the additional growth in Land-based revenues due to iGaming.
3. By 2029, an additional $1.9 billion is projected to come from the three new casinos.
4. iGaming is projected to generate an additional $2.5 billion in revenues in its first full year (2025), which is projected to grow to $4.5 billion by Year 5 (2029).
5. In total, Land-based and iGaming revenues combined are projected to grow from $4.1 billion in 2024 to $11.3 billion in 2029 (a 177.4% increase). This large increase is attributable to multiple factors, including New York's large population for iGaming, its demonstrated large sports betting revenues, and its relatively low current level of Land-based casino revenue per capita.

Figure 80: New York – Revenue Projections (Including iGaming and New Casinos) (in $ Millions)[677]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$4,057	$4,057	$4,057	$4,057	$4,057	**$20,285**
[2]	Total Projected Land-based Revenues (with iGaming and new casinos)	$4,212	$5,126	$5,413	$6,405	$6,793	**$27,949**
[3]	Projected iGaming Revenues	$2,529	$3,189	$3,733	$4,151	$4,460	**$18,063**
[4] = [2] + [3]	Total Projected Revenues (with iGaming)	$6,741	$8,315	$9,145	$10,557	$11,253	**$46,012**
[5] = ([4] – [1]) / [1]	Percent Increase in Total Revenues From Baseline	*66.2%*	*105.0%*	*125.4%*	*160.2%*	*177.4%*	*126.8%*

[677] Exhibit 52.

Figure 81: New York – Chart of Revenue Projections (Including iGaming and New Casinos)[678]



[678] Exhibit 52A.

B. Illinois

As discussed in Sections VII to X, the revenue projections for Illinois are as follows (see Exhibit 54):

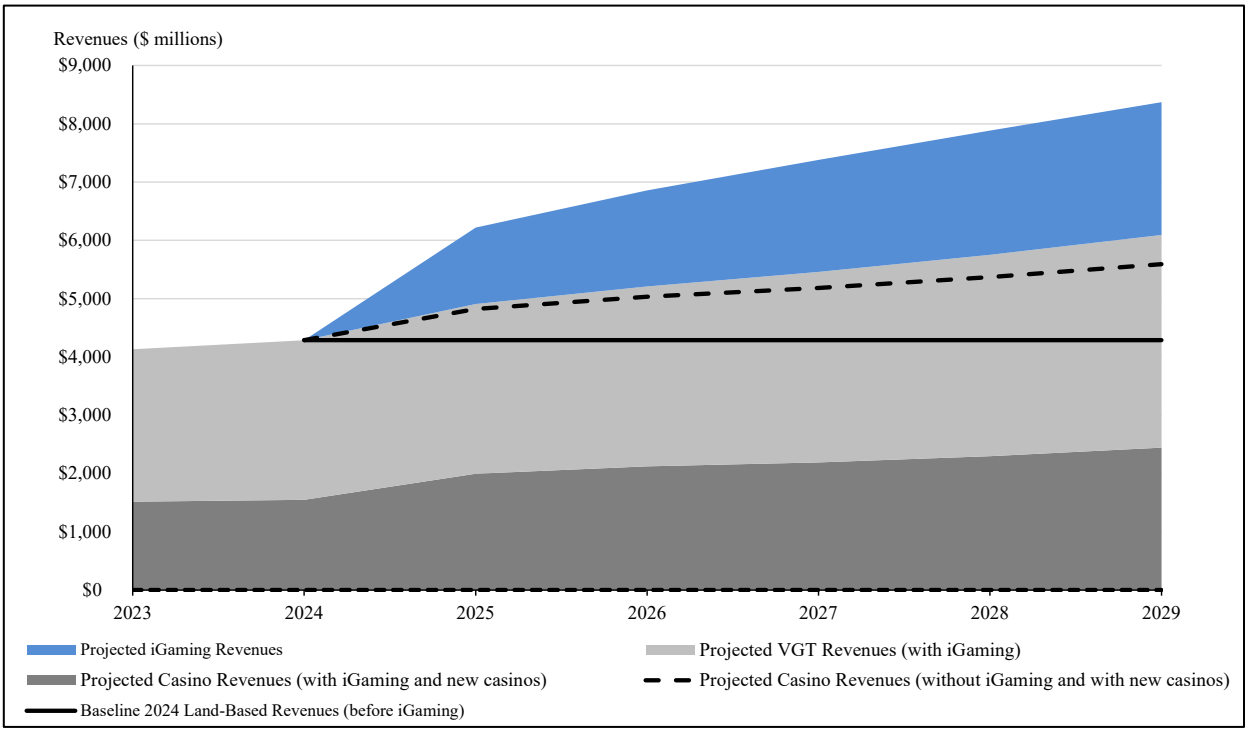
1. From 2024 through 2029, VGT revenues would be projected to grow from $2.7 billion to $3.3 billion based on Illinois' existing growth of VGT revenues, an increase of $577 million.
2. After adding in the Land-based Treatment Effect, VGT revenues are projected to grow by an additional $332 million from the additional growth in VGT revenues due to iGaming.
3. From 2024 through 2029, Land-based casino revenues would be projected to grow from $1.5 billion to $1.7 billion based on Illinois' existing CAGR of Land-based casino revenues, an increase of $160 million.
4. After adding in the Land-based Treatment Effect, Land-based casino revenues are projected to grow by an additional $167 million from the additional growth due to iGaming.
5. By 2029, an additional $568 million is projected to come from the four new casinos.
6. iGaming is projected to generate an additional $1.3 billion in revenues in its first full year (2025), which is projected to grow to $2.3 billion by Year 5 (2029).
7. In total, revenues from Land-based casinos, VGTs, new casinos, and iGaming combined are projected to grow from $4.3 billion in 2024 to $8.4 billion in 2029 (a 95.3% increase). This large increase is attributable to multiple factors, including Illinois' large population for iGaming, new casino revenues, continued growth potential for both VGTs and Land-based casino revenues, and its demonstrated large sports betting revenues.

Figure 82: Illinois – Revenue Projections (Including iGaming, New Casinos, and VGTs) (in $ Millions)[679]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (VGTs and Casinos) (2024)	$4,287	$4,287	$4,287	$4,287	$4,287	**$21,435**
[2]	Total Projected Land-based Revenues (VGTs, iGaming, and new casinos)	$4,909	$5,210	$5,458	$5,754	$6,092	**$27,422**
[3]	Projected iGaming Revenues	$1,310	$1,646	$1,921	$2,130	$2,281	**$9,288**
[4] = [2] + [3]	Total Projected Revenues (with iGaming)	$6,218	$6,856	$7,379	$7,884	$8,373	**$36,710**
[5] = ([4] – [1]) / [1]	Percent Increase in Total Revenues From Baseline	*45.1%*	*59.9%*	*72.1%*	*83.9%*	*95.3%*	*71.3%*

[679] Exhibit 54.

Figure 83: Illinois – Chart of Revenue Projections (Including iGaming, New Casinos, and VGTs)[680]



C. Louisiana

As discussed in Sections VII, VIII, and X, the revenue projections for Louisiana are as follows (see Exhibit 55):

1. From 2024 through 2029, Land-based revenues would be projected to go from $3.49 billion to $3.46 billion based on Louisiana's existing CAGR, a slight decline of $34 million.
2. After adding in the Land-based Treatment Effect, Land-based revenues are projected to grow by $347 million from the additional growth due to iGaming.
3. iGaming is projected to generate an additional $545 million in revenues in its first full year (2025), which is projected to grow to $957 million by Year 5 (2029).
4. In total, Land-based and iGaming revenues combined are projected to grow from $3.5 billion in 2024 to $4.8 billion in 2029 (a 36.4% increase). This smaller increase relative to other states is attributable to multiple factors, including Louisiana's stagnant growth of Land-based revenues, its

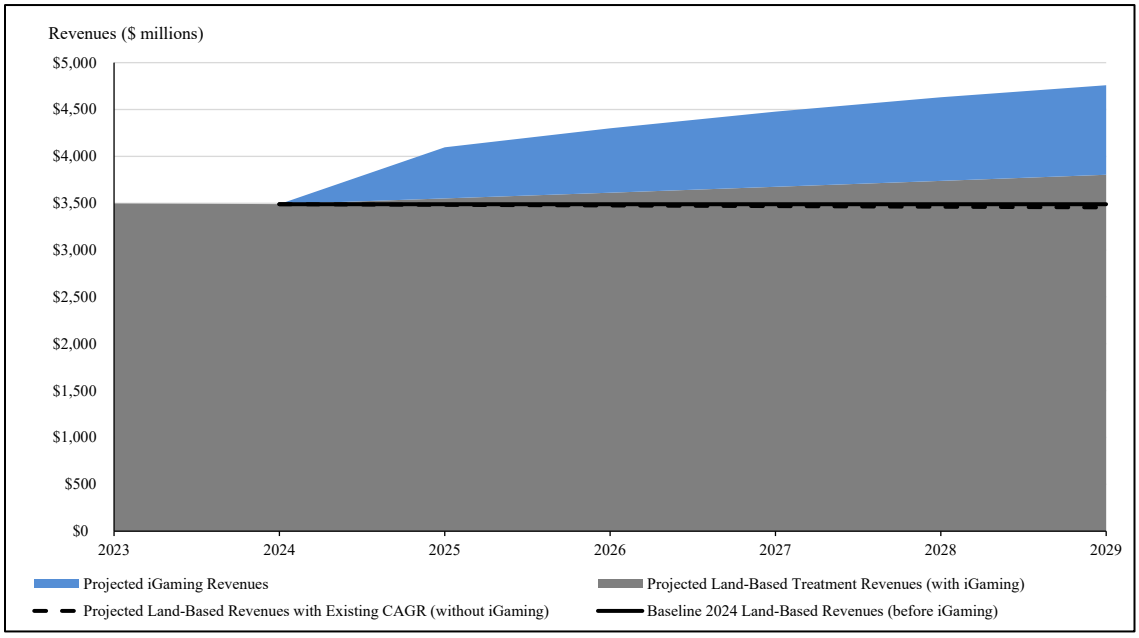
[680] Exhibit 54A.

relatively lower population compared to other states, and its currently high level of Land-based casino revenues, which leaves less room for growth compared to other states.

Figure 84: Louisiana – Revenue Projections (Including iGaming) (in $ Millions)[681]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$3,490	$3,490	$3,490	$3,490	$3,490	**$17,449**
[2]	Total Projected Land-based Revenues (with iGaming)	$3,550	$3,612	$3,674	$3,738	$3,802	**$18,376**
[3]	Projected iGaming Revenues	$545	$687	$803	$892	$957	**$3,884**
[4] = [2] + [3]	Total Projected Revenues (with iGaming)	$4,096	$4,299	$4,477	$4,629	$4,759	**$22,260**
[5] = ([4] – [1]) / [1]	Percent Increase in Total Revenues From Baseline	*17.4%*	*23.2%*	*28.3%*	*32.7%*	*36.4%*	*27.6%*

Figure 85: Louisiana – Chart of Revenue Projections (Including iGaming)[682]



[681] Exhibit 55.

[682] Exhibit 55A.

D. Maryland

As discussed in Sections VII, VIII, and X, the revenue projections for Maryland are as follows (see Exhibit 56):

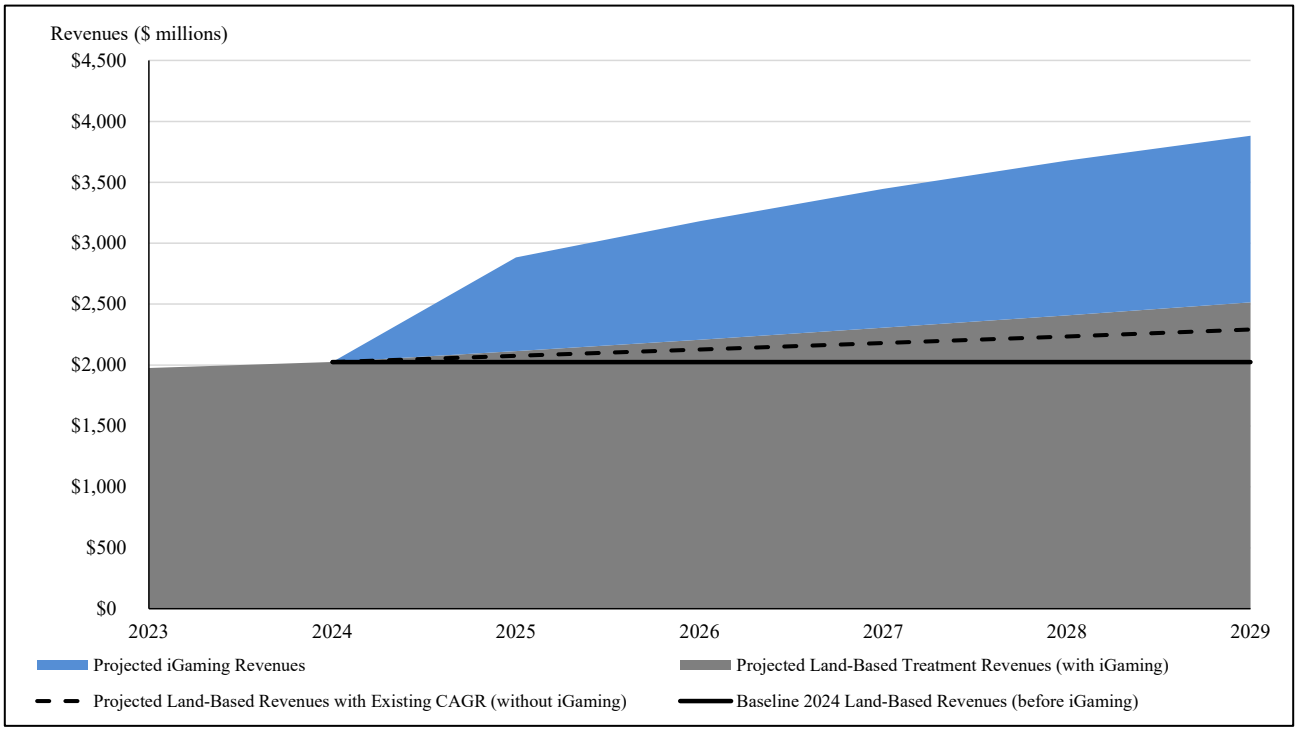
1. From 2024 through 2029, Land-based revenues would be projected to grow from $2 billion to $2.3 billion based on Maryland's existing CAGR, an increase of $266 million.
2. After adding in the Land-based Treatment Effect, Land-based revenues are projected to grow by an additional $224 million from the additional growth due to iGaming.
3. iGaming is projected to generate an additional $769 million in revenues in its first full year (2025), which is projected to grow to $1.4 billion by Year 5 (2029).
4. In total, Land-based and iGaming revenues combined are projected to grow from $2 billion in 2024 to $3.9 billion in 2029 (a 91.7% increase). This large increase is attributable to multiple factors, including Maryland's large population for iGaming, continued growth potential for Land-based casino revenues, and its demonstrated large sports betting revenues.

Figure 86: Maryland – Revenue Projections (Including iGaming) (in $ Millions)[683]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$2,025	$2,025	$2,025	$2,025	$2,025	**$10,126**
[2]	Total Projected Land-based Revenues (with iGaming)	$2,115	$2,208	$2,306	$2,408	$2,515	**$11,552**
[3]	Projected iGaming Revenues	$769	$972	$1,140	$1,270	$1,368	**$5,520**
[4] = [2] + [3]	Total Projected Revenues (with iGaming)	$2,884	$3,180	$3,446	$3,679	$3,882	**$17,071**
[5] = ([4] – [1]) / [1]	Percent Increase in Total Revenues From Baseline	*42.4%*	*57.0%*	*70.2%*	*81.6%*	*91.7%*	*68.6%*

[683] Exhibit 56.

Figure 87: Maryland – Chart of Revenue Projections (Including iGaming)[684]



E. Virginia

As discussed in Sections VII, VIII, and X, the revenue projections for Virginia are as follows (see Exhibit 57):

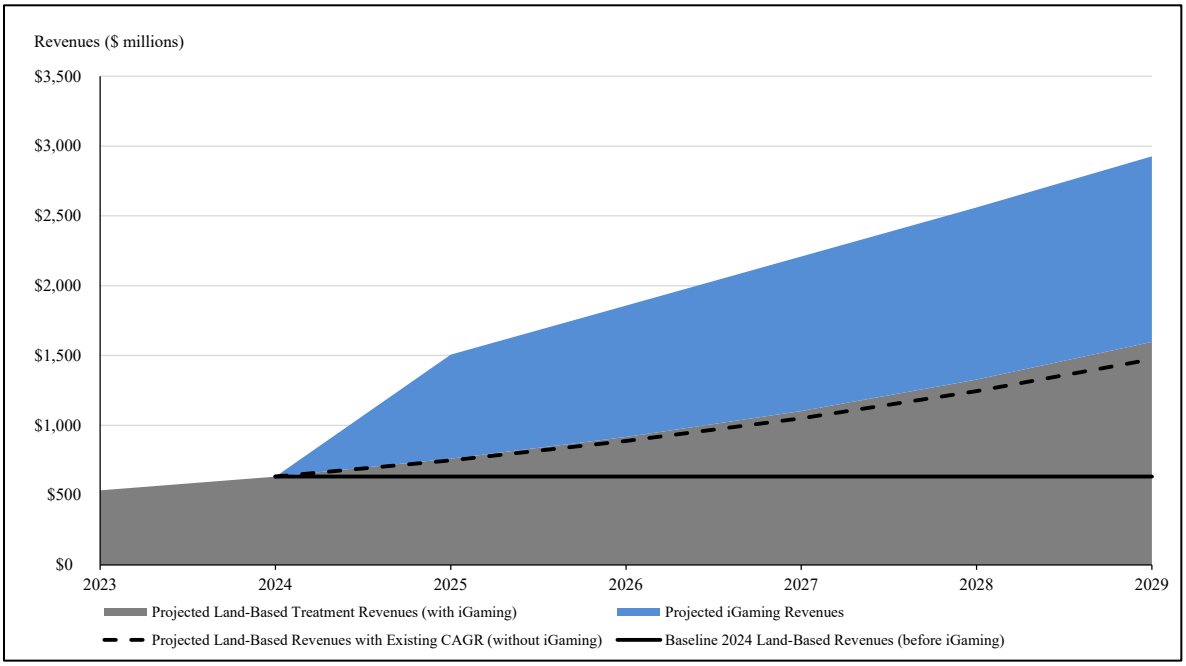
1. From 2024 through 2029, Land-based revenues would be projected to grow from $632 million to $1.6 billion based on Virginia's projected CAGR, an increase of $841 million.
2. After adding in the Land-based Treatment Effect, Land-based revenues are projected to grow by an additional $124 million from the additional growth due to iGaming.
3. iGaming is projected to generate an additional $745 million in revenues in its first full year (2025), which is projected to grow to $1.3 billion by Year 5 (2029).
4. In total, Land-based and iGaming revenues combined are projected to grow from $632 million in 2024 to $2.9 billion in 2029 (a 362.8% increase). This large increase is attributable to multiple factors, including, most notably, the nascent casino market in Virginia, which is experiencing very fast growth and has high growth potential.

[684] Exhibit 56A.

Figure 88: Virginia – Revenue Projections (Including iGaming) (in $ Millions)[685]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline (2024)	$632	$632	$632	$632	$632	**$3,162**
[2]	Total Projected Land-based Revenues (with iGaming)	$761	$916	$1,103	$1,327	$1,597	**$5,704**
[3]	Projected iGaming Revenues	$745	$942	$1,106	$1,234	$1,330	**$5,356**
[4] = [2] + [3]	Total Projected Revenues (with iGaming)	$1,506	$1,858	$2,209	$2,561	$2,927	**$11,060**
[5] = ([4] – [1]) / [1]	Percent Increase in Total Revenues From Baseline	*138.1%*	*193.8%*	*249.3%*	*304.9%*	*362.8%*	*249.8%*

Figure 89: Virginia – Chart of Revenue Projections (Including iGaming)[686]



[685] Exhibit 57.

[686] Exhibit 57A.

F. Overall Results

In summary, the revenue projections for all five Projection States are as follows (see Exhibit 58):

1. From 2024 through 2029, Land-based revenues would be projected to grow from $14.5 billion to $16.7 billion based on the pre-existing growth rates, an increase of $2.2 billion.
2. After adding in the Land-based Treatment Effect, Land-based revenues are projected to grow by an additional $1.6 billion from the additional growth due to iGaming.
3. By 2029, an additional $2.5 billion is projected to come from the three new casinos in New York and four new casinos in Illinois.
4. iGaming is projected to generate an additional $5.9 billion in revenues in its first full year (2025), which is projected to grow to $10.4 billion by Year 5 (2029).
5. In total, Land-based and iGaming revenues combined are projected to grow from $14.5 billion in 2024 to $31.2 billion in 2029 (a 115.3% increase). This large increase is attributable to multiple factors, previously discussed for each of the five Projection States.

Figure 90: All States – Revenue Projections (Including iGaming) (in $ Millions)[687]

Index	Description	2025	2026	2027	2028	2029	Total
[1]	Baseline	$14,491	$14,491	$14,491	$14,491	$14,491	**$72,456**
[2]	Total Projected Land-based Revenues (with iGaming and new casinos)	$15,547	$17,072	$17,953	$19,632	$20,799	**$91,003**
[3]	Projected iGaming Revenues	$5,898	$7,437	$8,703	$9,677	$10,396	**$42,111**
[4] = [2] + [3]	Projected Total Revenues (with iGaming)	$21,445	$24,508	$26,657	$29,310	$31,195	**$133,144**
[5] = ([4] – [1]) / [1]	Percent Increase in Total Revenues From Baseline	*48.0%*	*69.1%*	*83.9%*	*102.3%*	*115.3%*	*83.7%*

[687] Exhibit 58.

XII. Tax Implications

A. iGaming States

For each of the six iGaming States, this section discusses the various tax rates for different forms of gaming, the uses of taxes collected, and the increases in state tax revenues associated with iGaming.

New Jersey. Commercial gaming in New Jersey is taxed at varying rates depending on the type of gaming and whether it is Land-based or iGaming. Land-based casinos are taxed at an effective rate of 9.25%, comprising an 8% state tax rate and a 1.25% obligatory investment in economic development projects in Atlantic City and the rest of New Jersey.[688] iGaming is taxed at an effective rate of 17.5%, comprising a 15% state tax rate and a 2.5% obligatory community investment.[689] Land-based sports betting is taxed at an effective rate of 9.75%, and online sports betting is taxed at an effective rate of 14.25%. Sportsbook operations also need to pay 0.25% in federal excise taxes.[690]

In New Jersey, "Moneys in the Casino Revenue Fund shall be appropriated exclusively for reductions in property taxes, rentals, telephone, gas, electric, and municipal utilities charges of eligible senior citizens and disabled residents of the State, and for additional or expanded health services or benefits or transportation services or benefits to eligible senior citizens and disabled residents, as shall be provided by law."[691]

State tax revenues increased substantially in the presence of iGaming. Tax revenues in New Jersey have been increasing since 2016, except for 2020. In 2014, immediately after the legalization of iGaming, New Jersey received $254 million in tax revenues.[692] By 2022, this had increased by over 100% to $612 million.[693]

[688] AGA State of the States 2023, at p. 83.

[689] AGA State of the States 2023, at p. 83.

[690] AGA State of the States 2023, at p. 83.

[691] https://www.americangaming.org/wp-content/uploads/2021/03/AGAGamingRegulatoryFactSheet_NewJersey-2022.pdf, at p. 2.

[692] Exhibit 89.

[693] Exhibit 89.

Delaware. In Delaware, Land-based revenues, online table games, and video lottery games are subject to similar rates: a 15.5% tax on licensees and a 4.5% purse supplement tax.[694] Internet video lottery games are subject to an additional 42.5% state tax and a 10% purse supplement.[695] The Delaware State Lottery Office collects and distributes revenues from Land-based video lottery terminals in the following order: 42% of revenues go to the three racetracks to cover their expenses; 40% of the tax revenues go into the State General Fund to pay for public services; 10% of the revenues go toward increases in the purse for horse races in the state; and 7% of the revenues go toward leasing, upgrading, and monitoring the games.[696] Revenues from Land-based video lottery games are distributed as follows, after the first $3.75 million in proceeds has been transferred to the state lottery fund: 39% to the State General Fund, 43% to the racetracks as commission, 10% for horse racing purses, and 8% for vendor fees.[697] Tax revenues from sports betting are allocated as follows: 50% to the State General Fund, 40% back to the racetrack owners, and 10% to increasing the size of the horse purse.[698] Additionally, a minimum of 30% of revenues from the state lottery has to be deposited in the State General Fund in Delaware.[699]

State tax revenues are observed to increase substantially in the presence of iGaming. Commercial casino tax revenues in Delaware increased from $168 million in 2014 to $225 million in 2022.[700]

Pennsylvania. Pennsylvania charges similar tax rates for Land-based and iGaming operations. For electronic gaming devices, Pennsylvania imposes a 54% tax rate on both in-person play and digital simulations of the experience.[701] Likewise, Pennsylvania charges a 16% tax rate on revenue from table games, both in person and online. [702] Sports betting revenue is subject to a 36% effective tax rate, which includes a 2% tax for local municipalities, and is applied after deduction of promotional free bets offered

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[694] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at p. 2.

[695] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at p. 2.

[696] https://www.legalsportsreport.com/delaware/casino/ (accessed December 18, 2023); https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at p. 1.

[697] https://www.legalsportsreport.com/delaware/casino/ (accessed December 18, 2023); https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at p. 1, (accessed December 18, 2023).

[698] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at p. 2, (accessed December 18, 2023).

[699] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Delaware-2022.pdf, at p. 2, (accessed December 18, 2023).

[700] Exhibit 89.

[701] AGA State of the States 2023, at p. 99.

[702] AGA State of the States 2023, at p. 99.

to players.[703] Sportsbook operations are also subject to a 0.25% federal excise tax applied to wagering handle.[704] Pennsylvania largely uses its tax revenue from gambling operations to reduce school taxes paid for by property owners, although additional allocations are also reserved to fund local law enforcement grants, responsible gaming programs, the horse racing industry, economic development and tourism, and county governments.[705]

State tax revenues are observed to increase substantially in the presence of iGaming. Commercial casino tax revenues in Pennsylvania increased from $1.3 billion in 2014 to $2.2 billion in 2022, with substantial increases starting in 2021.[706]

West Virginia. West Virginia has varied tax rates for different types of gaming. First, the Lottery Commission levies a 4% tax on terminal gross revenues to use for its operational costs.[707] Under the Racetrack Video Lottery Act, casino operators retain 46.5% of net terminal income.[708] The West Virginia Lottery Racetrack Table Games Act imposes a 35% tax on adjusted gross receipts from the operation of table games, and the West Virginia Lottery Interactive Wagering Act levies a 15% "privilege" tax on gross interactive wagering revenues.[709] In addition, the taxes collected by the state are distributed as follows: 30% to the lottery commission, 7% to racing purses, 2% to host counties, 1% to the racetrack employee pension, 1.5% to the West Virginia Thoroughbred Development Fund, 1% to the West Virginia Racing Commission, 46.5% back to the licensee, 3% to the tourism fund, 7% to the workers compensation debt reduction fund, and 1% to other sources.[710]

State tax revenues have slightly decreased in the presence of iGaming. Commercial casino tax revenues in West Virginia slightly declined from $315 million in 2014 to $299 million in 2022.[711]

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[703] AGA State of the States 2023, at p. 99.

[704] AGA State of the States 2023, at p. 99.

[705] AGA State of the States 2023, at p. 99.

[706] Exhibit 89.

[707] https://www.americangaming.org/wp-content/uploads/2021/10/AGAGamingRegulatoryFactSheet_WestVirginia-2022.pdf, at p. 2 (accessed December 18, 2023).

[708] https://www.americangaming.org/wp-content/uploads/2021/10/AGAGamingRegulatoryFactSheet_WestVirginia-2022.pdf, at p. 2 (accessed December 18, 2023).

[709] https://www.americangaming.org/wp-content/uploads/2021/10/AGAGamingRegulatoryFactSheet_WestVirginia-2022.pdf, at p. 2 (accessed December 18, 2023).

[710] https://www.americangaming.org/wp-content/uploads/2021/10/AGAGamingRegulatoryFactSheet_WestVirginia-2022.pdf, at p. 2 (accessed December 18, 2023).

[711] Exhibit 89.

Michigan. Michigan has relatively low taxes on gambling compared to other states. Land-based casinos, electronic gaming devices, and table games are taxed at 19%.[712] iGaming tax rates vary depending on the amount of revenue collected, with the state charging a graduated tax rate that ranges from 20% on revenue less than $4 million to 28% on revenue exceeding $12 million.[713] Internet casinos affiliated with Detroit's three commercial casinos must also pay an additional 1.25% to the city itself.[714]

The majority of gaming tax revenue that the state receives is allocated to the Michigan School Aid fund, which benefits K-12 public education.[715] Detroit also receives a sizeable allocation of gambling tax revenues for itself, which it uses for public needs such as law enforcement, public safety programs, economic development and job creation programs, anti-gang and youth development programs, tax relief, and infrastructure improvements.[716] Additionally, tax revenue generated by iGaming includes a separate appropriation for first-responder programs and problem gambling services.[717]

State tax revenues increased substantially in the presence of iGaming. Commercial casino tax revenues in Michigan increased from $303 million in 2014 to $734 million in 2022, over a 100% increase.[718]

Connecticut. Connecticut taxes "master wagering" licensees on gross gaming revenues from online casinos at an effective rate of 18% for the first five years after beginning operations.[719] Starting in the sixth year of operations, the licensee must pay an increased tax rate of 20% on gross gaming revenues.[720] From 2021 to 2022, Connecticut collected $65 million in taxes from the operation of commercial casinos in the state.[721]

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[712] AGA State of the States 2023, at p. 67.

[713] AGA State of the States 2023, at p. 67.

[714] AGA State of the States 2023, at p. 67.

[715] AGA State of the States 2023, at p. 67.

[716] AGA State of the States 2023, at p. 67.

[717] AGA State of the States 2023, at p. 67.

[718] Exhibit 89.

[719] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Connecticut-2022.pdf, at p. 7.

[720] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Connecticut-2022.pdf, at p. 7.

[721] Exhibit 89.

B. Projection States

New York. Gaming revenues in New York are taxed depending on the type of gaming and the location of the property.[722] Electronic gaming revenue at the state's four casino resorts is taxed at rates between 30% and 37%, while table gaming and Land-based sports betting revenue is taxed at 10%.[723] Revenue from recently enacted online sports betting is taxed at 51%, with this rate not established in state law but, rather, agreed to by nine successful applicants in the state's licensing process.[724] Tax receipts from 2022 totaled $1.83 billion, an increase of 67.2% over 2021, prior to the introduction of online sports betting.[725]

Under New York law, 80% of gaming tax revenue from casino resorts is "used to fund statewide education programs or provide property tax relief to New York citizens," with the remainder distributed to local governments near commercial casino resort properties.[726]

State tax revenues are projected to increase substantially in the presence of iGaming. Overall, taxes from Land-based revenues are projected to increase by $383 million in the presence of iGaming from 2025 through 2029.[727] In addition, iGaming is projected to add additional tax revenues at a rate to be determined by the state legislature, based on projected iGaming revenue of $18.1 billion from 2025 through 2029.[728]

Illinois. Gaming revenues in Illinois are taxed in a variety of ways. In general, Illinois applies a graduated tax to commercial casinos. VGTs are taxed between 15% and 50% depending on the revenues that they generate. Similarly, casino tables are taxed at 15% of revenues up to $25 million and 20% on revenues exceeding that amount. The state also imposes an admissions tax of $2 per patron at Bally's Quad Cities Casino and $2 at all other casinos. Sports betting revenues are taxed at 17% on wagers placed in Cook County and 15% in all other parts of the state.[729] Overall, in 2022, Illinois generated $495 million from

[722] AGA State of the States 2023, at p. 88.

[723] AGA State of the States 2023, at p. 88.

[724] AGA State of the States 2023, at p. 88.

[725] AGA State of the States 2023, at p. 88.

[726] AGA State of the States 2023, at p. 88.

[727] See Figure 15.

[728] See Figure 17.

[729] AGA State of the States 2023, at p. 43.

gaming tax revenues, up 23.6% from the previous year.[730] Most of this state tax revenue was redistributed to state funds for educational programs and capital projects.[731]

State tax revenues are projected to increase substantially in the presence of iGaming. Overall, taxes from Land-based casino revenues are projected to increase by $112 million in the presence of iGaming from 2025 through 2029 in Illinois.[732] Taxes from VGT revenues are projected to increase by $319 million in the presence of iGaming from 2025 through 2029.[733] In addition, iGaming is projected to add additional tax revenues at a rate to be determined by the state legislature, based on projected iGaming revenues of $9.3 billion from 2025 through 2029.[734]

Louisiana. Louisiana's commercial gaming establishments (riverboats, Land-based casinos, and racetrack casinos) are taxed at different rates.[735] The following tax regulations apply to riverboat casinos:

1. Gaming riverboats have a maximum effective tax rate of 27.5%, which includes a 3.5% license fee, 4% to 6% local tax, and a graduated franchise fee as high as 18%.[736]
2. The graduated tax for riverboats is 15%. However, no franchise fees are applied if net monthly proceeds are less than $6 million. If monthly proceeds are between $6 million and $8 million, an addition 2% tax is applied. Finally, monthly gaming proceeds of more than $8 million result in an addition 3% in franchise taxes.[737]
3. Riverboats also charge an admission of up to $3.[738]

Land-based casinos pay the greater of 21.5% of gross revenues or an annual fee of $60 million as taxes to the state.[739] The state's racetrack casinos pay an effective tax rate of around 36%, consisting of an 18% contribution to the state horse industry (taken first) with the remaining revenue subject to a state tax

[730] AGA State of the States 2023, at p. 43, and Exhibit 89.

[731] AGA State of the States 2023, at p. 43.

[732] See Figure 15. Because of the varied tax rates, these projections may be influenced by whether casino revenues shift to different regions of the state due to the new casinos in the Chicago metro area.

[733] See Figure 15. Because of the varied tax rates, these projections may be influenced by the number of new VGTs that open throughout the state from 2025 to 2029.

[734] See Figure 17.

[735] https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Louisiana-2.pdf ("AGA Louisiana Regulatory Fact Sheet"), at p. 3.

[736] AGA Louisiana Regulatory Fact Sheet, at p. 3.

[737] AGA Louisiana Regulatory Fact Sheet, at p. 3.

[738] AGA Louisiana Regulatory Fact Sheet, at p. 3.

[739] AGA Louisiana Regulatory Fact Sheet, at p. 3.

of 18.5% and local taxes of up to 4%.[740] There is an 18.5% license tax on slot machine proceeds, and the state withholds 6% of all slot machine proceeds above $1,200.[741]

While Tribal gaming revenues are not taxed, the Coushatta Tribe must make annual payments of $7 million to the local governments of Allen Parish and the Town of Elton.[742] The Tunica-Biloxi Tribe and the Chitimacha Tribe contribute 6% of net revenues from the conduct of Class III gaming to Avoyelles Parish and St. Mary Parish, respectively.[743] Tribal gaming funds are used to fund Tribal government operations and programs, provide welfare for Tribe members, promote Tribal economic development, donate to charities, and help fund the operations of local agencies.[744]

State tax revenues are projected to increase substantially in the presence of iGaming. Overall, taxes from Land-based revenues are projected to increase by $209 million in the presence of iGaming from 2025 through 2029.[745] In addition, iGaming is projected to add additional tax revenues at a rate to be determined by the state legislature, based on projected iGaming revenue of $3.9 billion from 2025 through 2029.[746]

Maryland. Maryland's tax rates on gambling vary based on several factors, such as the type of game and casino. For video lottery terminals (a term often used interchangeably with slots or electronic gaming devices), Maryland's commercial casinos pay one of the country's highest tax rates at between 40% and 61%, depending on the specific casino. Table games, on the other hand, are taxed at 20%.[747] For these two game types, casinos in Maryland must also pay an annual assessment fee of $425 per electronic gaming device and $500 per table game to help fund responsible gambling programs.[748] Sports betting revenue is taxed at 15%, and sportsbook operations are also subject to a 0.25% federal excise tax applied to wagering handle.[749]

[740] AGA Louisiana Regulatory Fact Sheet, at p. 3.

[741] AGA Louisiana Regulatory Fact Sheet, at p. 3.

[742] AGA Louisiana Regulatory Fact Sheet, at pp. 3-4.

[743] AGA Louisiana Regulatory Fact Sheet, at p. 3.

[744] AGA Louisiana Regulatory Fact Sheet, at p. 4.

[745] See Figure 15.

[746] See Figure 17.

[747] AGA State of the States 2023, at p. 61.

[748] AGA State of the States 2023, at p. 61.

[749] AGA State of the States 2023, at p. 61.

In 2022, Maryland's commercial casino and sports betting operations generated a total of $854.7 million in tax revenue.[750] Of this amount, the vast majority was distributed to Maryland's Education Trust Fund, an institution that supports public education and the construction of new schools throughout the state.[751] The remaining tax revenue went to support local governments, the state's horse racing industry, responsible gaming initiatives, minority- or women-owned businesses, and Maryland's State Lottery Fund.[752]

State tax revenues are projected to increase substantially in the presence of iGaming. Overall, taxes from Land-based revenues are projected to increase by $249 million in the presence of iGaming from 2025 through 2029.[753] In addition, iGaming is projected to add additional tax revenues at a rate to be determined by the state legislature, based on projected iGaming revenue of $5.5 billion from 2025 through 2029.[754]

Virginia. Virginia has varied tax rates for gaming revenues. Sports wagering is taxed at 15% of the adjusted gross gaming revenue.[755] However, the following may be deducted: all cash, cash value of merchandise, bonuses, and promotions paid out to bettors; uncollectible gaming receivables; any funds paid to a horseman's purse if the permit holder is an owner or operator of a horse racetrack; and all excise taxes on sports betting at a 0.25% rate.[756]

State tax revenues are projected to increase substantially in the presence of iGaming. Overall, taxes from Land-based revenues are projected to increase by $35 million in the presence of iGaming from 2025 through 202.[757] In addition, iGaming is projected to add additional tax revenues at a rate to be determined by the state legislature, based on projected iGaming revenue of $5.4 billion from 2025 through 2029.[758]

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[750] AGA State of the States 2023, at p. 61.

[751] $617.1 million of the $854.7 tax revenue was distributed to Maryland's Education Trust Fund. AGA State of the States 2023, at p. 61.

[752] AGA State of the States 2023, at p. 61.

[753] See Figure 15.

[754] See Figure 17.

[755] https://www.americangaming.org/wp-content/uploads/2021/03/AGAGamingRegulatoryFactSheet_Virginia-2022.pdf, at p. 5.

[756] https://www.americangaming.org/wp-content/uploads/2021/03/AGAGamingRegulatoryFactSheet_Virginia-2022.pdf, at p. 4.

[757] See Figure 15.

[758] See Figure 17.

XIII. Firm and Author Summary

Analysis Group. Analysis Group is one of the largest international economics consulting firms, with more than 1,200 professionals across 14 offices in North America, Europe, and Asia. Since 1981, we have provided expertise in economics, finance, health care analytics, and strategy to top law firms, Fortune Global 500 companies, and government agencies worldwide. Our internal experts, together with our network of affiliated experts from academia, industry, and government, offer our clients exceptional breadth and depth of expertise.

Mickey Ferri, Vice President; Ph.D., economics. Dr. Ferri specializes in applied business economics and has extensive experience in economic analysis, business strategy, and data analysis. His work typically includes market analysis, revenue projections, analysis of actual versus but-for scenarios, economic damages, and/or commercial success. Dr. Ferri has performed work in the context of litigation, regulatory, and policy settings, including intellectual property, antitrust and competition, and compliance with the Real Estate Settlement and Procedures Act. Dr. Ferri has served as an economics expert or consultant in more than 60 engagements in U.S. federal and state courts, has submitted over 30 expert reports and declarations, and has testified at depositions and trials in federal and state courts and at arbitration hearings. He has consulted clients in several industries, including entertainment, consumer products, real estate, pharmaceuticals, medical devices, education, finance, software and hardware, cybersecurity, automobiles, natural resources, and sports.

Dr. Ferri has authored articles in journals published by the California Law Association and the American Bar Association, among others. He has been recognized multiple times as a top patent expert by Intellectual Asset Management (IAM) in the IAM Patent 1000. His work has been featured in several media outlets, including TechCrunch, NewsNation, CBS, LinkedIn, Financial Services Review, Venture Beat, and Digital Trends. Dr. Ferri is a USA Track & Field (USATF) San Diego-Imperial board member and a USATF national panelist. Prior to joining Analysis Group, he worked at multiple other economics consulting companies. He also co-founded two companies: one, backed by Y Combinator, developed and sold motion capture clothing to measure and improve human movement; the other used economics, data, and science to improve the lives of athletes.

Laura O'Laughlin, Vice President; M.Sc., economics. Ms. O'Laughlin works with clients on both litigation and non-litigation matters. She has developed, administered, and analyzed surveys in trademark, intellectual property (IP), antitrust, consumer protection, and false advertising matters. In the non-litigation context, Ms. O'Laughlin uses complex research methods and modeling and applies innovative analytical approaches to provide new insights on the competitive and market challenges that clients face in managing and expanding their businesses. In the litigation context, she has served as an expert witness and testified at trial and conducts economic analyses and manages case teams in support of academic and industry experts in a broad range of matters throughout the U.S. and Canada. She has assisted clients in all phases of the litigation process and has supported expert witnesses in the

preparation of reports and other testimony in matters involving merger reviews, antitrust litigation, competition policy, labor relations, false advertising, finance, valuation, trademark, IP, and patent infringement. She publishes regularly on issues related to marketing, economics, litigation, and public policy.

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