



**Eilers & Krejcik**  
Gaming

## **Comparing Online And Land-Based Casino Gaming**

*How The Growing Online Segment Impacts Land-Based Performance*

**FEBRUARY 2024 | PREPARED EXCLUSIVELY FOR IDEA GROWTH**

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# Glossary

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**Cannibalization:** A shift in consumer spend from one product or product type to another. In this report, we use the term exclusively to mean a shift away from existing land-based casino spend and towards online casino gaming.

**Gross gaming revenue (GGR):** Topline revenue—commonly understood to refer to the total amount bet less the amount paid out in winning bets. Note that all mentions of “revenue” in this report refer to gross gaming revenue.

**Online casino (OC):** Casino gaming (e.g., slots, table games) conducted by consumers over the internet.

**Land-based casino:** A physical building where casino gaming (e.g., slots, table games) is conducted by consumers in person.

**Land-based-only market:** A market (in this report, generally a state) in which land-based casinos operate but online casinos do not.

**Omni-channel market:** A market (in this report, generally a state) in which both land-based casinos and online casinos operate.

**Compound annual growth rate (CAGR):** The average annual rate of revenue growth between two given years.

**Compound quarterly growth rate (CQGR):** The average quarterly rate of revenue growth between two given quarters.

**Online-first customers:** Customers of a casino company who appeared in the company’s online casino customer database prior to appearing in the company’s land-based casino customer database (not all necessarily appear in the land-based database).

**Land-based-first customers:** Customers of a casino company who appeared in the company’s land-based casino customer database prior to appearing in the company’s online casino customer database (not all necessarily appear in the online casino database).

This report studies how the legalization of online casino gambling affects land-based casinos. We analyze data from casinos, regulators, and state governments, and we conducted our own survey of companies that offer both land-based and online casino products. When studying revenue data, we closely look at performance in states where both online and land-based casinos are available as well as states where only land-based casinos operate. In addition to looking at public data, we also produced our own detailed model to estimate the specific impact that introduction of online casinos has on land-based casino revenue. Throughout this report, whenever we refer to revenue we specifically mean gross gaming revenue—the “topline” figure commonly used to refer to the total amount bet by a casino’s customers, minus the amount paid out in winning bets.

**Online casino attracts different customers vs. land-based casino.** Compared to land-based casino players, online casino players tend to be moderately younger and are more likely to be male. Playing online requires less time and allows for play at lower stakes. Online play also attracts a different audience because it lacks the social element of being around other players at a physical property.

**Casino operators have not observed cannibalization.** We conducted a survey of casino operators with both land-based and online products, and 100% of them stated that their land-based revenue either “stayed roughly the same” or “moderately increased” following the introduction of online casino play. No one we spoke to believed that their online casino revenue had cannibalized their land-based casino revenue. We note that these responses are based on the very best available data on this topic: internal customer databases.

**Online casinos have a positive impact on land-based casino revenue.** We used three unique approaches to study how online casinos affect land-based casino revenue:

- 1. Land-based casino markets all showed positive change after online casino was introduced.** There are six states where both land-based and online casinos currently operate. For each state, we compared the growth rate of land-based casino revenue before online casinos were introduced there with the growth rate after online casinos were introduced. In all six states, land-based casino revenue was positively impacted by the introduction of online casinos. The amount of that improvement, quarterly, ranged from +0.34% in Connecticut to +6.02% in West Virginia, with an average increase of +2.44%.
- 2. Compared with land-based-only states, casino markets with online performed better.** In each of the six states with both land-based and online casinos, we compared their revenue performance before and after their respective introductions of online casinos with the performance of seven other states where only land-based casinos operate. Five out of those six states outperformed the land-based-only states in terms of their directional change using the same time periods.
- 3. Adding online casino boosts land-based casino revenue.** We built a model that takes into account a wide variety of economic and demographic factors, including data on the differences between online and land-based players, how customers typically behave differently after online casinos are made available, and other key factors. According to our conservative estimates, we estimate that in a typical U.S. state, the total impact of online casino introduction on land-based casino revenue is positive: up about +1.7%.

Online casinos grow the overall tax revenues collected by states - and not just because of new online revenue. **Land-based casino revenues have consistently been positively impacted by the introduction of online casinos, due in large part to the differences in the customers who prefer each type of gaming.**

Average change in land-based growth rate after states introduced online casinos

**+2.44%**

The number of states with online casinos where their land-based revenue growth outperformed states with only land-based casinos

**5 of 6**

The typical impact of introducing online casinos on a state’s land-based revenue, according to our modeling

**+1.7%**

# §1. Differences Between Land-Based And Online Casino

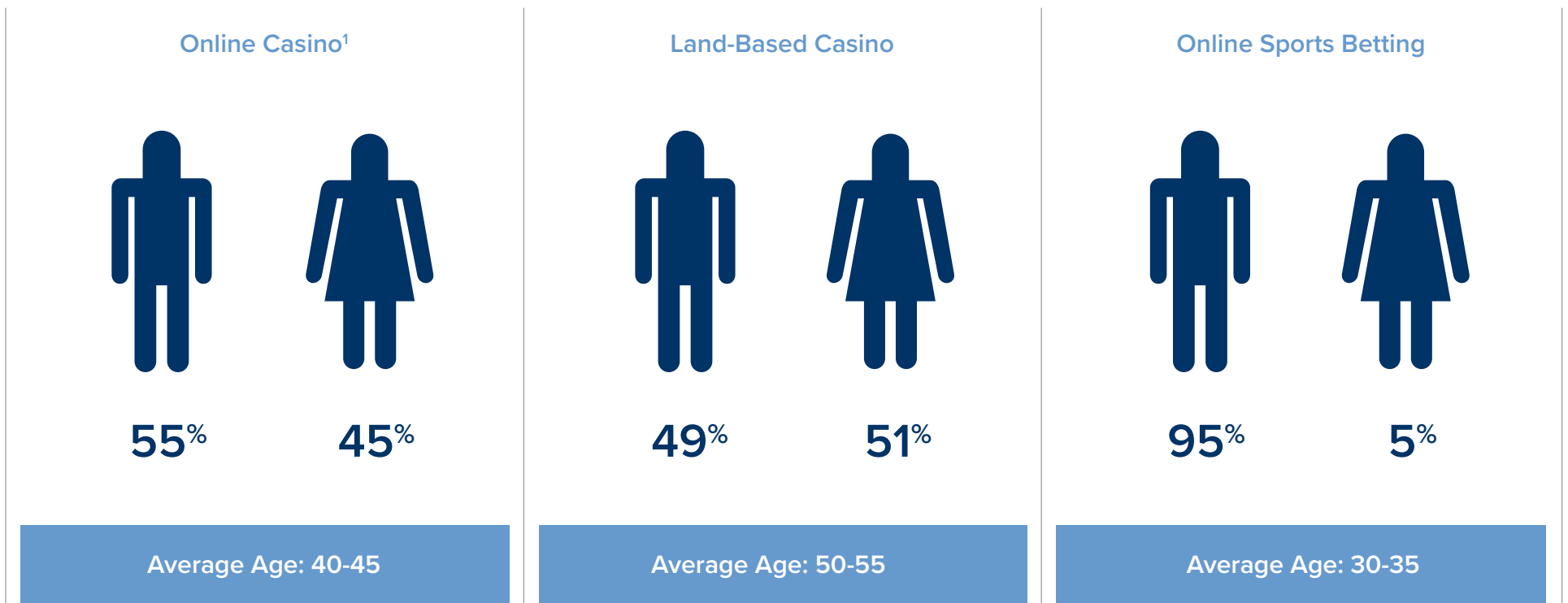
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*In this section, we highlight core differences between online and land-based casino demographics and experiences.*

## Land-Based And Online Casino Attract Different Customers

**Key Takeaway:** Gambling products are not one-size-fits-all—they naturally draw different kinds of customers. Below, we use relevant public company data to illustrate differences between land-based and online casino customer demographics. As the data makes clear, online casino attracts substantially younger customers than land-based casino. Note: online sports betting customer data is also included for additional context.

### Online Casino vs. Land-Based Casino Demographics



Source: [Golden Nugget Online Gaming June 2020 Investor Presentation](#) / Eilers & Krejcik Gaming

<sup>1</sup> Online casino demographic data ([November 2023](#)) from Rush Street Interactive similarly suggests a relatively balanced distribution of gender (46-54 male-female) and average age (42)

## Land-Based And Online Casino Offer Different Experiences To Customers

**Key Takeaway:** Land-based and online casino draw different kinds of customers because each product provides a fundamentally different experience. An online casino visit, for example, is typically measured in minutes, while a land-based casino visit is more likely to be measured in hours. The graphic below provides a surface analysis of major differences between the online and land-based casino experience.

### Major Experiential Differences: Land-Based vs. Online Casino

	Online Casino	Land-Based Casino
<b>Time Investment</b>	Lower	Higher
<b>Stake Levels</b>	Broader	Narrower
<b>Overall Experience</b>	Narrower	Broader

### Notes And Context

**Time Investment.** The time investment required for an online casino "visit" is often measured in minutes, versus the typical time commitment required to visit a land-based casino, which is more likely to be measured in hours.

**Stake Levels.** The lowest stakes available online are often a fraction of the stakes that a land-based casino can support due to physical space constraints; land-based casinos typically offer \$5 blackjack as a minimum stake, whereas online casinos can (and do) offer blackjack for \$0.05 a hand.

**Overall Experience.** Land-based casinos typically offer specific amenities, such as food, beverage, and entertainment options. Additionally, they incorporate unique environments and social elements into their products.

## §2. Casino Executives On Cannibalization

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*In this section, we provide a selection of key quotes from land-based casino executives on the topic of cannibalization. All executives cited in this section operate land-based and online casino businesses and so have direct visibility into the relationship between land-based and online casino.*

### Casino Executives Have Said Land-Based And Online Casino Are Complementary

**Key Takeaway:** To date, executives from a range of land-based casino companies have reported a complementary dynamic between land-based and online casino. Indeed, some of those executives have specifically stated that online casino has not been cannibalistic to land-based casino, and that online casino has been critical to reactivating and reacquiring dormant land-based customers and acquiring new customers.

...we haven't seen any cannibalization. We firmly believe that the [online and land-based] businesses are complementary and together that it makes for a much stronger product overall.

**Keith Smith**  
CEO, Boyd Gaming ([Source](#))

The idea that omnichannel [casino] can and will work—and not be cannibalizing—is something I'm very excited by moving forward.

**Bill Hornbuckle**  
CEO, MGM Resorts ([Source](#))

There is still a misconception that online casino play cannibalizes land-based casinos. But iGaming's competitors are Netflix and Candy Crush—not casinos.

**Thomas Winter**  
Former SVP Of Online Gaming, Golden Nugget Atlantic City ([Source](#))

In terms of cannibalization, we have seen nothing to date in terms of cannibalizing the brick-and-mortar business. It's been accretive to brick-and-mortar in that customers that we found through digital or reactivated in digital, showing up in brick-and-mortar continues to increase as the quarters pass.

**Tom Reeg**  
CEO, Caesars Entertainment ([Source](#))

...roughly 66% of [our online casino] players [are] new to our ecosystem or reconnected former patrons. The average age of these players is much younger than our core land-based player, which highlights the lack of cannibalization iCasino has had on our brick and mortar business in the first quarter.

**Jay Snowden**  
CEO, Penn Entertainment ([Source](#))



## §3. Casino Operators On Cannibalization

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*We conducted a proprietary survey of casino operators with land-based and online businesses to determine whether cannibalization is occurring. In this section, we show results from our survey—results which well align with the statements from executives we highlighted in §2.*

## Survey Participants: Online Casino Is Not Cannibalizing Land-Based Casino (1/2)

**Key Takeaway:** For this report, we conducted our own proprietary survey of operators with land-based and online casino businesses to determine whether, or to what extent, cannibalization is occurring. We note that the response from participants was unanimous: cannibalization has not been observed. Further, all survey participants noted that fears about cannibalization are not valid.

### About Our Survey

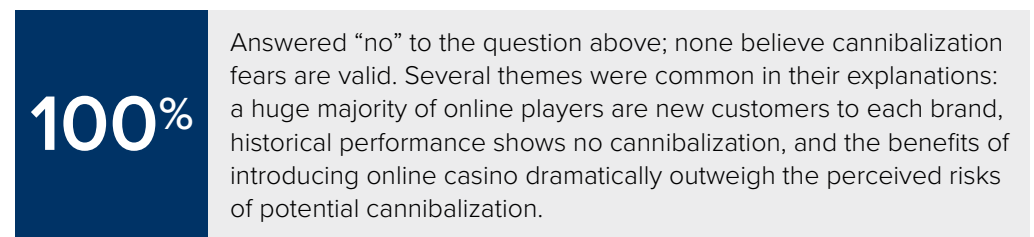
- Throughout this report, we focus most of our attention on analysis of publicly available gaming data to evaluate the impact that online casino availability has had on land-based casino performance. However, the very best possible data on this topic is not public; **rather, the most reliable and accurate data is the internal customer databases of casino operators with both retail and online products.**
- Operators can determine the extent of crossover between the audiences for their land-based and online products with significant granularity. As such, **they can each individually draw accurate conclusions regarding whether their online products have cannibalized their retail casinos**—and they have the luxury of doing so by looking at actual historical performance rather than surmising about what retail growth should have looked like.
- We reached out to several operators to ask about their experiences, and we received responses from five. Each respondent to our short survey represents a company that owns a land-based casino and an associated online casino brand, and all respondents aligned closely on some key areas.

### Survey Highlights

**Q. How would you describe the impact the introduction of online casino has on land-based casino revenue? (N=5)**



**Q. How would you describe the impact the introduction of online casino has on land-based casino revenue? (N=5)**



### Survey Participants: Online Casino Is Not Cannibalizing Land-Based Casino (2/2)

**Key Takeaway:** Of operators who were willing to share insights driven by their player databases, none believe cannibalization has taken place. When we asked those operators to look at their player databases for the crossover between their online and land-based players in states where both product types are available, the average response was that just 7% of customers play both online and at retail casinos. We view this minimal crossover between the two sets of customers as one of the biggest reasons that cannibalization has not been observed.

#### A Closer Look At Casino Player Crossover Trends

Survey Question	Average Response	Lowest Response	Highest Response
In states where you have both land-based and online operations, what percentage of customers participate in both land-based and online casino games? (N=4)	7%	2%	12%
What percentage of online-first customers participate in land-based casino games? (N=4)	6%	1%	13%
What percentage of land-based-first customers participate in online casino games? (N=4)	9%	4%	17%

## §4. How Online Casino Has Impacted Land-Based Production

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*In this section, we examine the impact the introduction of online casino has on their corresponding market's land-based casino GGR production, including case studies for all six states—Connecticut, Delaware, Michigan, New Jersey, Pennsylvania, and West Virginia—currently live with online casino.*

## Case Studies: Overview (1/7)

**Key Takeaway:** For all six states with online casino (OC), we compared the compound quarterly growth rates (CQGR) of land-based casino GGR immediately before and after the introduction of online casino for the maximum allowable periods based on available data. Every state showed a positive change in quarterly growth after the introduction of online casino—the table below details the results.

State	Online Casino Introduced	Quarterly Periods Examined Pre- & Post-OC	Land-Based Casino CQGR Pre-OC	Land-Based Casino CQGR Post-OC	Change in Land-Based CQGR Post OC
Connecticut	Oct 2021	8	-0.99%	-0.65%	+0.34%
Delaware	Nov 2013	24	-1.64%	+0.30%	+1.94%
Michigan*	Jan 2021	8	-3.15%	+1.74%	+4.89%
New Jersey	Nov 2013	24	-1.37%	-0.09%	+1.28%
Pennsylvania	Jul 2019	16	+0.16%	+0.30%	+0.14%
West Virginia*	Jul 2020	8	-3.00%	+3.02%	+6.02%

\* Both Michigan and West Virginia went live with online casino during a period in which their land-based casino operations were being disrupted by state-mandated COVID-19-driven restrictions, which likely had an impact on retail casino growth rates for those states. Additional context can be found on the corresponding slides that follow.

### Methodological Notes:

- 1) We measured quarterly growth rates, factoring out the seasonality impact, over comparable time frames before and after the introduction of online casino for each state (e.g., Connecticut was measured in the 8 quarterly periods from 3Q19–3Q21 and 3Q21–3Q23 for pre- and post-OC, respectively).
- 2) For each state, online casino has been operational for at least 24 months (8 quarterly periods) and land-based casinos were established within the state prior to the introduction of online casino.

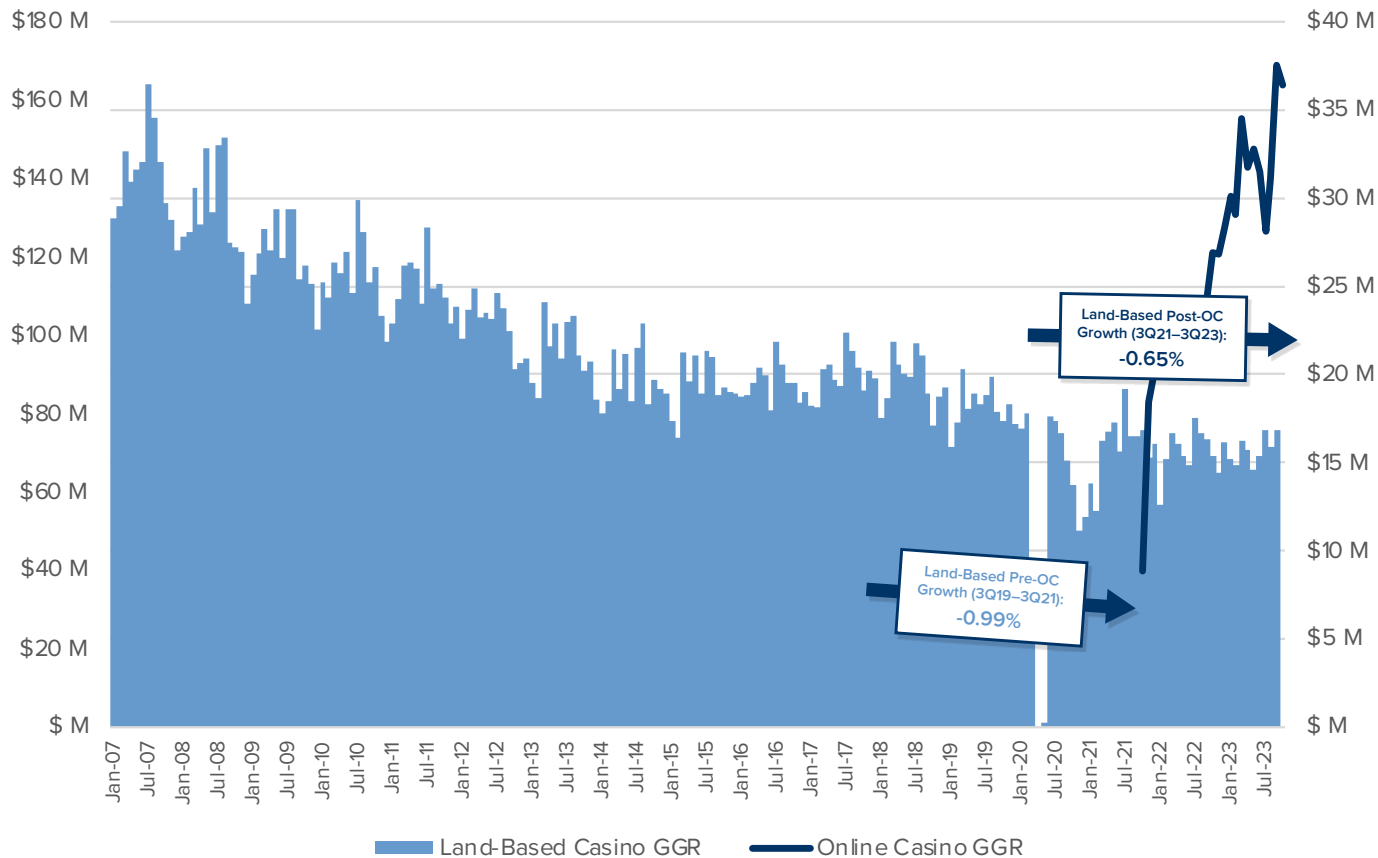
Source: Eilers & Krejcik Gaming

## Case Study: Connecticut Online Casino Impact (2/7)



**Key Takeaway:** The Connecticut land-based casino market was in observable year-over-year GGR decline prior to online casino launching. Since online casino was introduced in 2021, a flattening of that decline in CT land-based revenue is evident. Of note, land-based casino GGR in 2023 is currently on pace for its third instance of y/y growth since 2007 (excluding COVID-impacted 2020) and first since 2017.

Connecticut Land-Based Casino GGR – Since 2007



Change in Land-Based GGR Growth Post Online Casino Introduction:

**+0.34%**

Online Casino Launch:

**Oct-2021**

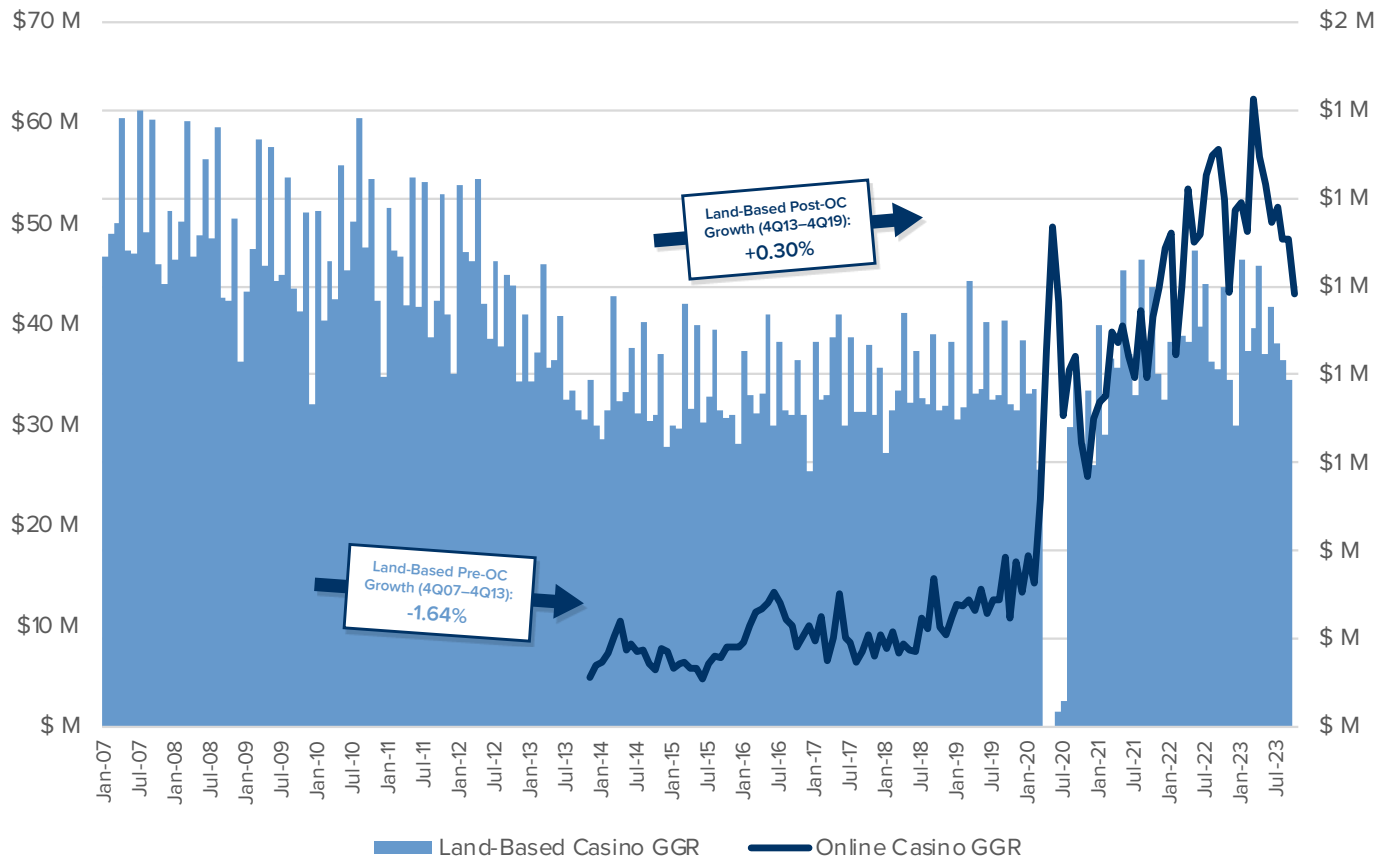
Source: CT Department of Consumer Protection / Eilers & Krejcik Gaming



## Case Study: Delaware Online Casino Impact (3/7)

**Key Takeaway:** The Delaware land-based casino market was in observable year-over-year GGR decline prior to online casino, illustrated in the chart below. Since online casino was introduced in 2013, a flattening of that decline, and subsequent uptick, in DE land-based GGR is evident. Of note, land-based casino GGR has been up y/y every year (excluding COVID-impacted 2020) since 2015.

Delaware Land-Based Casino GGR – Since 2007



Change in Land-Based GGR Growth Post Online Casino Introduction:

**+1.94%**

Online Casino Launch:

**Nov-2013**

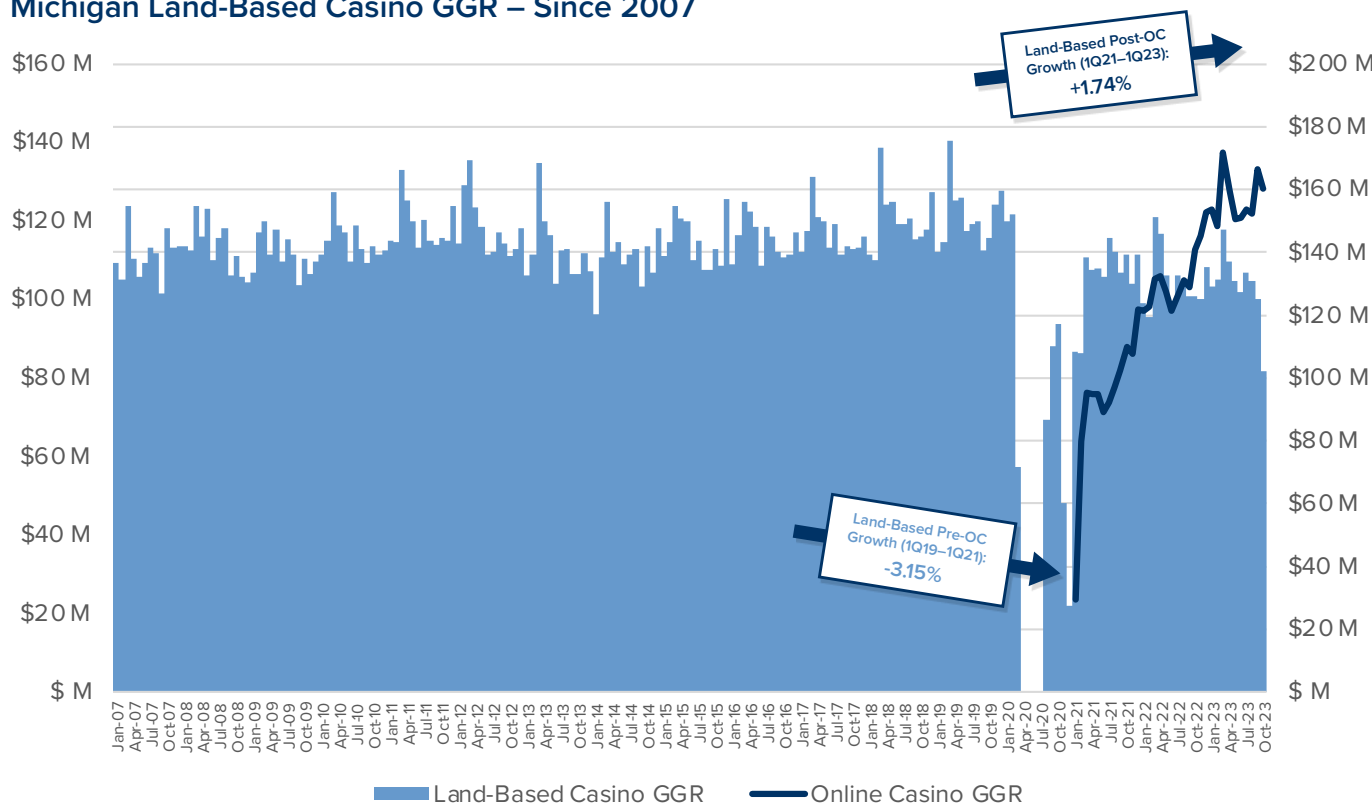
Source: DE Lottery / Eilers & Krejcik Gaming



## Case Study: Michigan Online Casino Impact (4/7)

**Key Takeaway:** The chart below shows land-based casino GGR production in Michigan’s 3 Detroit-based commercial casinos. Unlike other states in our study, MI land-based GGR never fully recovered to their pre-COVID levels after state and federal restrictions took hold, which we believe is a result of limited out-of-state play driven by federal policy blocking access from nearby Canadians—a challenge unique to the Detroit casinos.

Michigan Land-Based Casino GGR – Since 2007



Change in Land-Based GGR Growth Post Online Casino Introduction:

**+4.89%\***

Online Casino Launch:

**Jan-2021**

\* Note: The +4.89% figure was measured to and from Michigan’s online casino launch (1Q21), when the state was still undergoing land-based casino, COVID-driven capacity restrictions. We also measured Michigan’s pre- and post-growth from 2Q21—when the state’s casinos returned to full capacity—which led to a post-OC growth change of +1.50%.

Source: MI Gaming Control Board / Eilers & Krejcik Gaming

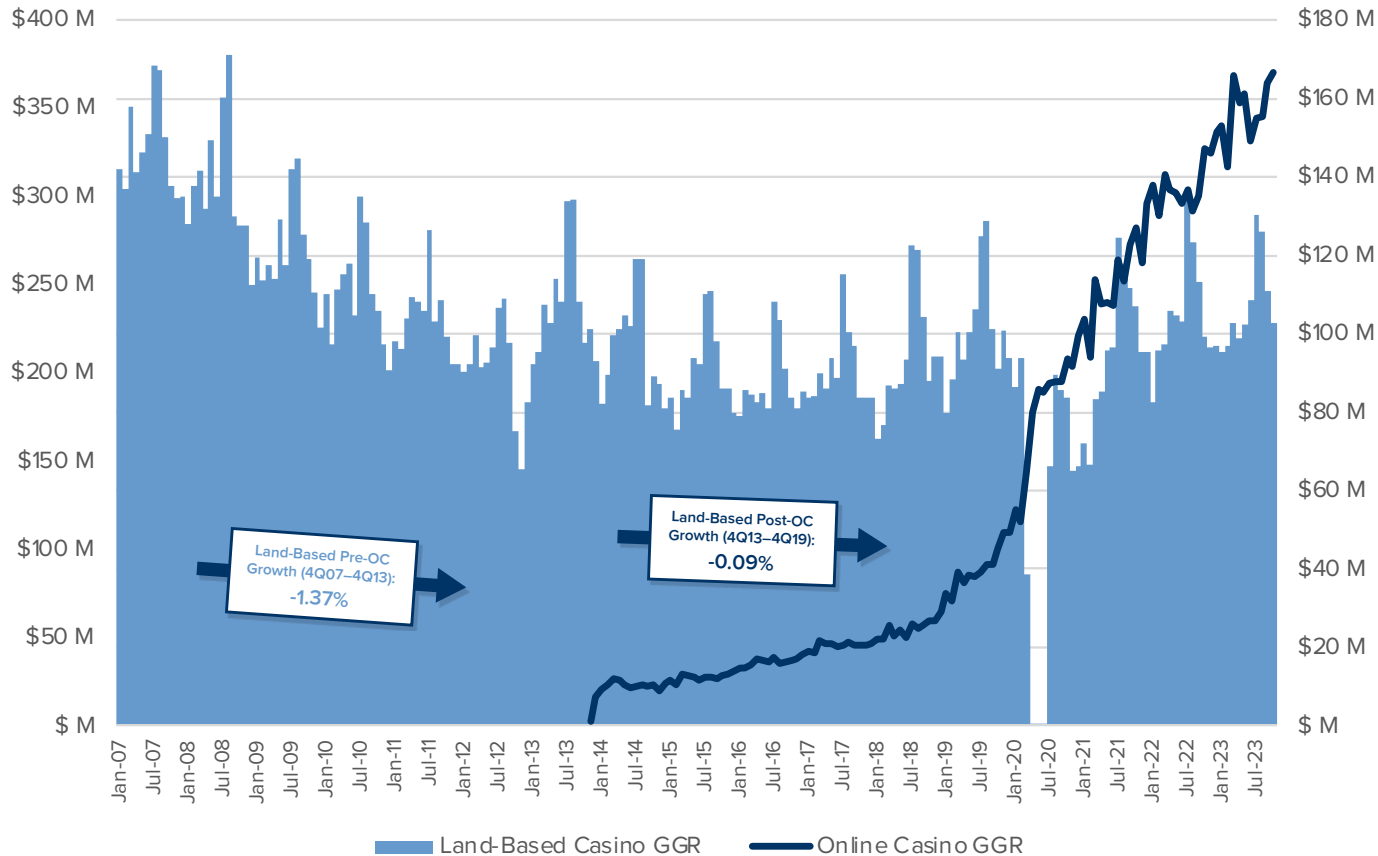




## Case Study: New Jersey Online Casino Impact (5/7)

**Key Takeaway:** The New Jersey land-based casino market was in observable year-over-year GGR decline prior to online casino, illustrated in the chart below. Since online casino was introduced in 2013, a flattening, and subsequent uptick, in NJ land-based revenue is evident. Of note, land-based casino GGR has been up y/y every year (excluding COVID-impacted 2020) since 2016.

**New Jersey Land-Based Casino GGR – Since 2007**



**Change in Land-Based GGR Growth Post Online Casino Introduction:**

**+1.28%**

**Online Casino Launch:**

**Nov-2013**

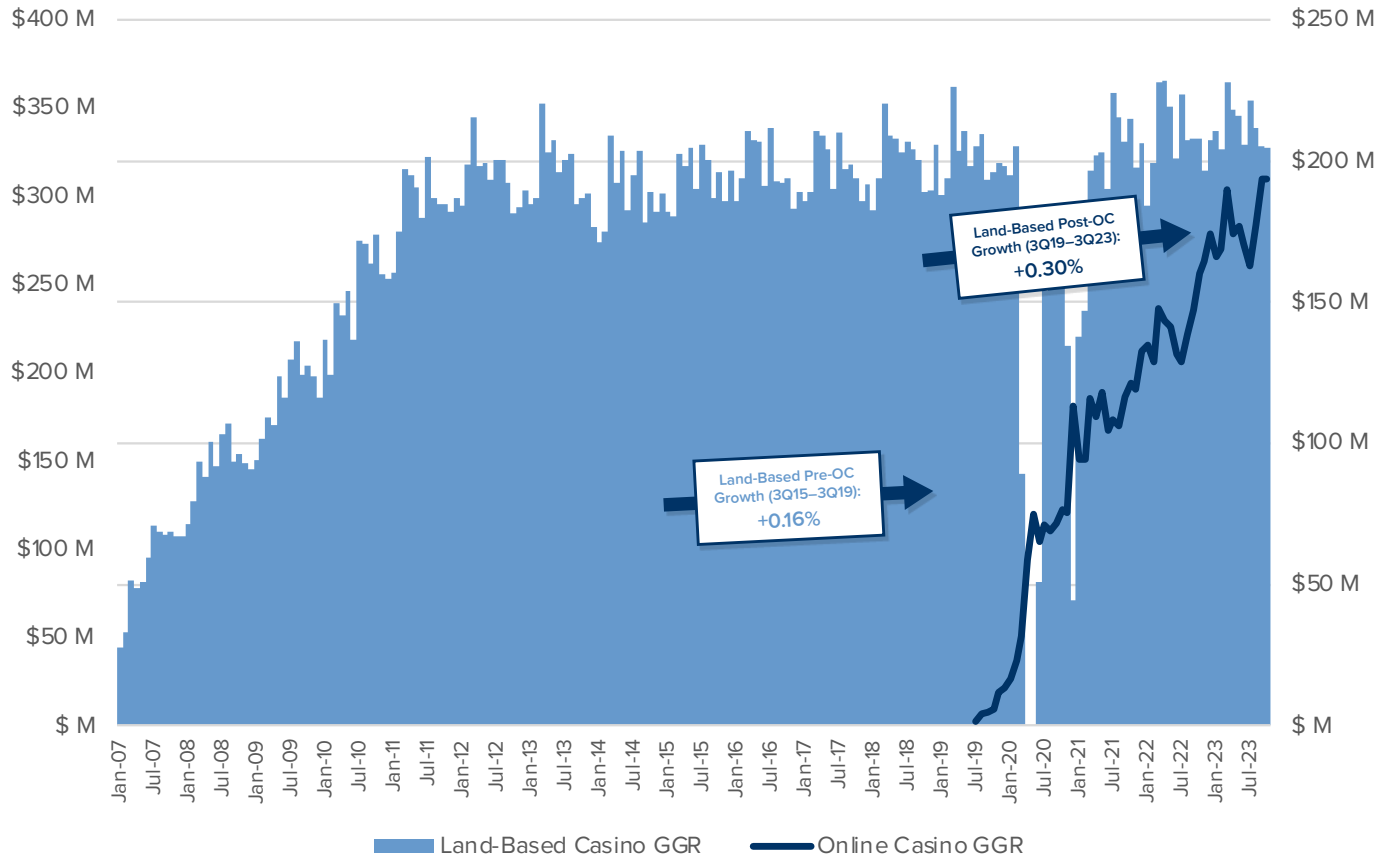
Source: NJ Division of Gaming Enforcement / Eilers & Krejcik Gaming

## Case Study: Pennsylvania Online Casino Impact (6/7)



**Key Takeaway:** The Pennsylvania land-based casino market was experiencing modest GGR growth prior to online casino, illustrated in the chart below. After online casino was introduced in 2019, and post 2020–2021 COVID-related casino shutdowns, the PA land-based market resumed its growth phase. Both land-based and online casino GGR hit a high point in 2022 and are on pace to eclipse that mark again in 2023.

**Pennsylvania Land-Based Casino GGR – Since 2007**



**Change in Land-Based GGR Growth Post Online Casino Introduction:**

**+0.14%**

**Online Casino Launch:**

**Jul-2019**

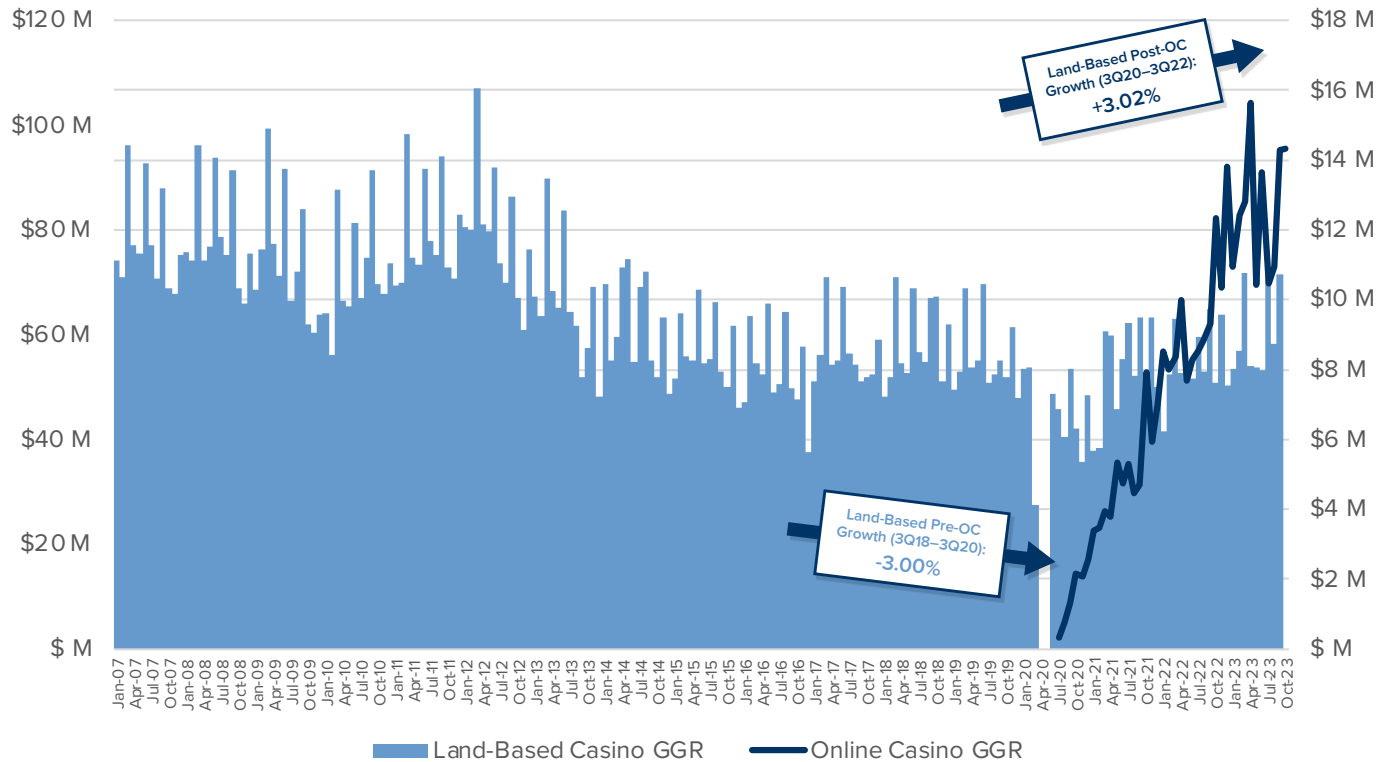
Source: PA Gaming Control Board / Eilers & Krejcik Gaming



## Case Study: West Virginia Online Casino Impact (7/7)

**Key Takeaway:** The chart below shows land-based casino GGR production at West Virginia’s 5 racetracks. From the market’s high point in 2012, it began an extended period of GGR decline followed by another period of flattening prior to casino shutdowns. Subsequent to the state’s mid- pandemic online launch, land-based casinos returned to their pre-COVID GGR production and are on pace in 2023 for their best year since 2013.

West Virginia Land-Based Casino GGR – Since 2007



Change in Land-Based GGR Growth Post Online Casino Introduction:

**+6.02%\***

Online Casino Launch:

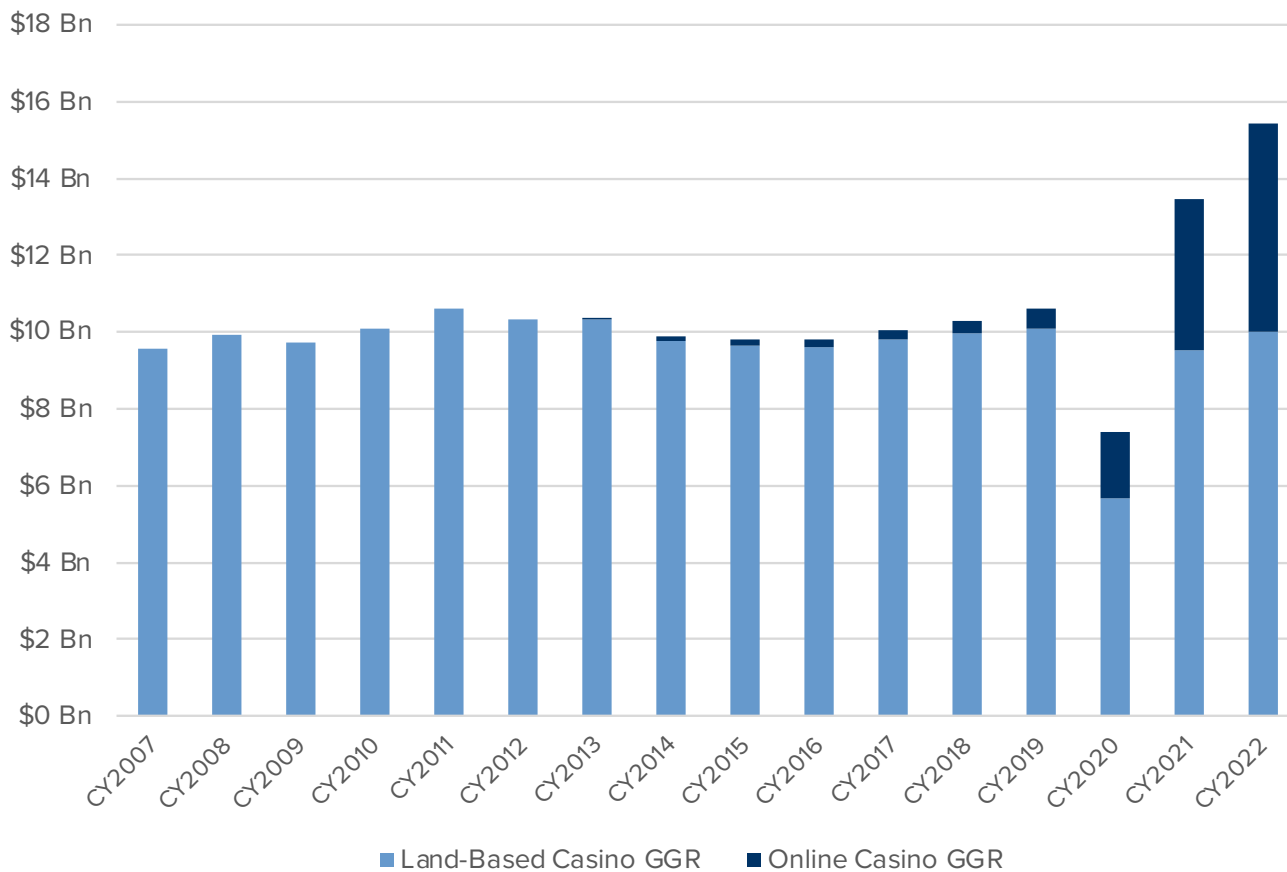
**Jul-2020**

\* Note: The +6.02% figure was measured to and from West Virginia’s online casino launch (3Q20), when the state was still undergoing land-based casino, COVID-driven capacity restrictions. We also measured West Virginia’s pre- and post-growth from 2Q21—when the state’s casinos were operating at full capacity—which led to a post-OC growth change of +1.27%.

## Online Casino Revenue Results In Substantial Net Gains

**Key Takeaway:** Online casino is undeniably net additive to GGR, and by extension, gaming tax revenue. Forgetting the complexities of the broader discussion around the relationship between online casinos and land-based casino revenue, the addition of online casino has resulted in meaningful aggregate GGR growth in every state where online casinos have launched.

Land-Based + Online Casino GGR, Aggregated Across All Omni-Channel States



### Notes And Context

In omni-channel states (ie.those with both land-based and online casino), land-based casino GGR grew at a 2.5% CAGR from 2007 through 2011 when it peaked. Between 2011 and 2016, land-based casino GGR declined for 5 consecutive years at a CAGR of -2.0%. During that time, online casinos first launched, but online GGR was still quite small, representing just 2.0% of aggregate GGR in omni-channel states by 2016.

From 2016-2019, online casino grew at a 38.3% CAGR—from 2% of the market to 5%—and the land-based market’s 5-year negative trend reversed (land-based grew at a 1.7% CAGR). 2019 was the first year that combined land-based and online GGR beat the 2011 land-based peak. 2020 declined due to casino closures, but 2021 and 2022 saw enormous growth in aggregate GGR, driven by online casino. The long-term trend is visually obvious: land-based GGR has been flattish, and online has grown hugely.

Source: Eilers & Krejcik Gaming

## §5. Performance Comparison Between Market Types

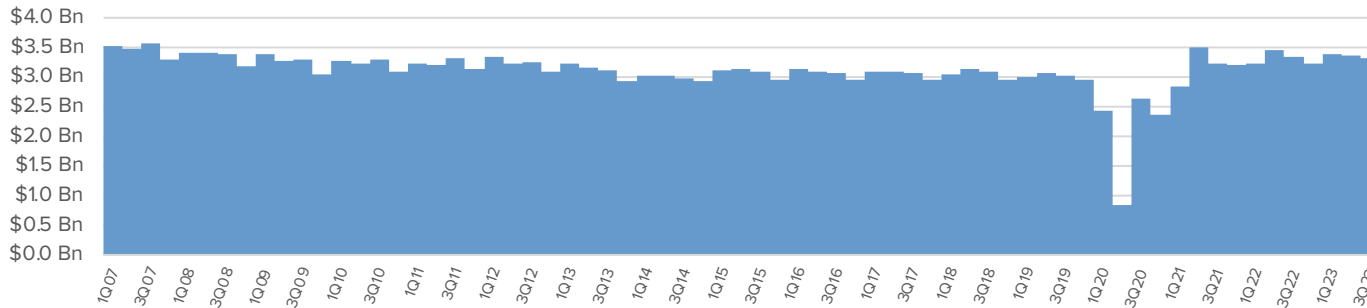
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*In this section, we look at the performance, in aggregate, of omni-channel casino markets (ie. those with both land-based and online casino) vs. land-based-only markets. While we believe this methodology doesn't account for some external factors (e.g., differences in state economies or COVID-19 policy), we felt it important to explore this approach because similar methodology has been used by some studies to—in our view, incorrectly—conclude that cannibalization is a significant issue.*

## Omni-Channel And Land-Based-Only Markets Aggregated

**Key Takeaway:** In the charts below, we show land-based GGR production aggregated among both the 6 previously examined omni-channel markets and the 7 land-based-only markets—CO, IL, IN, IA, LA, MS, and MO—that haven’t experienced a dramatic change to their respective landscapes since 2007. Over that time, the omni-channel markets grew slightly, while the land-based-only group showed marginal decline.

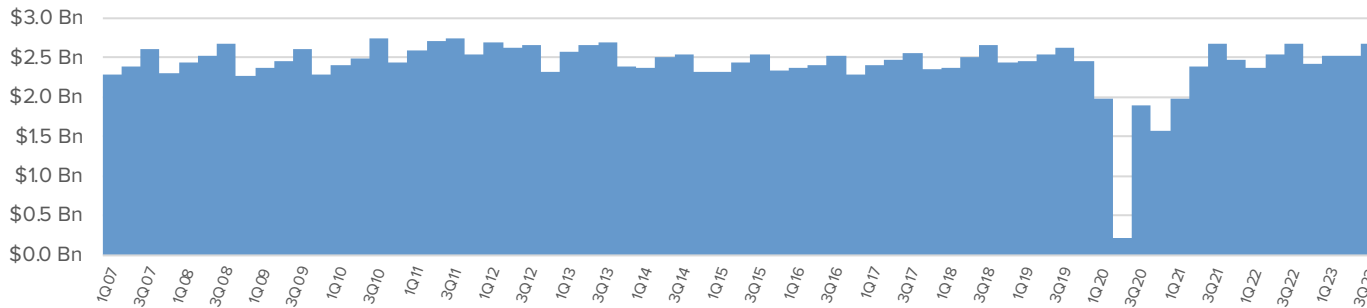
Land-Based-Only Markets Aggregated: Land-Based Casino GGR Since 2007



Land-Based-Only Markets' Quarterly Growth (3Q07–3Q23):

**-0.12%**

Omni-Channel Markets Aggregated: Land-Based Casino GGR Since 2007



Omni-Channel Markets' Quarterly Growth (3Q07–3Q23):

**+0.04%**

Source: State Regulators / Eilers & Krejcik Gaming

## Comparable Time Periods: Growth-Rate Changes From Land-Based-Only Markets

Deriving the Percentage Change in our Land-Based-Only Group for Each Relevant Timeframe

	Connecticut Time Period	Delaware Time Period	Michigan Time Period	New Jersey Time Period	Pennsylvania Time Period	West Virginia Time Period
<b>Pre-OC Period</b>	3Q19 – 3Q21	4Q07 – 4Q13	1Q19 – 1Q21	4Q07 – 4Q13	3Q15 – 3Q19	3Q18 – 3Q20
<b>Post-OC Period</b>	3Q21 – 3Q23	4Q13 – 4Q19	1Q21 – 1Q23	4Q13 – 4Q19	3Q19 – 3Q23	3Q20 – 3Q22
<b>Aggregated Land-Based Markets’ Pre-OC Period GGR CQGR</b>	+0.97%	-0.31%	-0.78%	-0.31%	-0.14%	-2.20%
<b>Aggregated Land-Based Markets’ Post-OC Period Compound GGR CQGR</b>	+0.29%	+0.05%	+2.28%	+0.05%	+0.63%	+3.34%
<b>Aggregated Land-Based Markets’ Change in Land-Based GGR CQGR</b>	<b>-0.68%</b>	<b>+0.36%</b>	<b>+3.07%</b>	<b>+0.36%</b>	<b>+0.77%</b>	<b>+5.54%</b>

### About Our Approach

Throughout our individual state case studies, we’ve shown that land-based casino revenue trends improved following the introduction of online casino **in all six states** where online casino is legal and available. We strongly believe that approach provides the most accurate view of the history of casino cannibalization (that online casino doesn’t harm, but rather boosts land-based casino).

That said, the data to the left will allow us to utilize the same general approach that some other prominent studies have used to conclude that cannibalization is a problem—but we’ll be looking with more granularity. Earlier, we derived the percentage change in land-based GGR before vs. after online casino introduction in omni-channel states. To the left, we derive the percentage change for our bucket of 7 land-based-only states for each of those same respective time periods. We’ll compare on the next slide.

Source: State Regulators / Eilers & Krejcik Gaming

## Growth-Rate Changes: Omni-Channel vs. Land-Based-Only Markets

	Connecticut	Delaware	Michigan	New Jersey	Pennsylvania	West Virginia
Aggregated Land-Based Markets' Change in Land-Based CQGR	-0.68%	+0.36%	+3.07%	+0.36%	+0.77%	+5.54%
Omni-Channel Market Change in Land-Based CQGR	+0.34%	+1.94%	+4.89%	+1.28%	+0.14%	+6.02%
Omni-Channel Market vs. Aggregated Land-Based-Only Markets	+1.02%	+1.58%	+1.82%	+0.92%	-0.63%	+0.48%

In the table above, we show how each respective omni-channel state's GGR CQGR changed after its introduction of online casino vs. the change for our bucket of land-based-only states for the same periods of time.

### Walking through an example to explain: Connecticut

In Connecticut, online casinos launched in 3Q21. That means we have 8 available quarters of data to date, so we compared the most recent 8 quarters (3Q21–3Q23) to the 8 quarters leading into the launch (3Q19–3Q21). In the pre-launch 8 quarters, Connecticut land-based casino GGR declined at a CQGR of -0.99%, and in the post-launch 8 quarters, it declined at a CQGR of -0.65%.

Comparing the two CQGRs, we see that in the period following introduction of online casino compared to the period prior, Connecticut *improved* its land-based casino GGR CQGR by +0.34%. By comparison, our land-based-only bucket of states were growing at a CQGR of +0.97% for the 8 quarters leading into Connecticut's online casino launch. After Connecticut's online casino launch, those same land-based-only states saw their GGR CQGR decline to +0.29%, a drop of -0.68%.

Connecticut's +0.34% change vs. the land-based-only states seeing a -0.68% change means Connecticut performed +1.02% better in terms of how land-based casino GGR changed following online casino introduction relative to the average change of the land-based-only states.

That means this methodology, with appropriate time frames, leads to the same conclusion as our other work. We nonetheless maintain that this methodology fails to account for a multitude of external factors including differences in state economies and COVID-19 policies.

**Key Takeaway:** In five out of six omni-channel states, the states not only improved their GGRs following their respective introductions of online casino, they in fact also *outperformed the states with only land-based casinos in terms of their GGR's directional change over a like time period.*



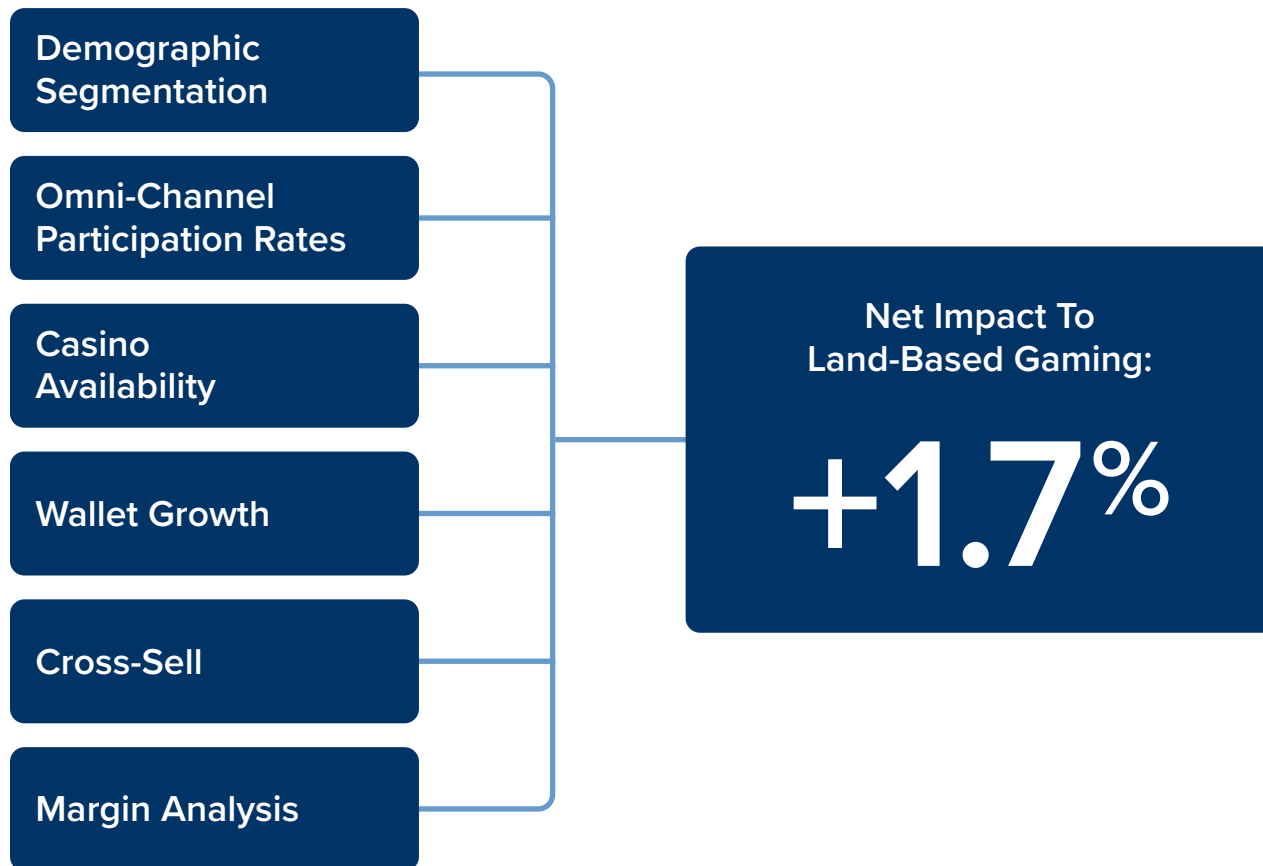
## §6. Modeling Potential Cannibalization

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*In this section, we summarize the methodology and findings from our bottom-up model which uses a set of conservative assumptions and estimates. Some of the factors we account for in our modeling are: demographic differences between online and land-based players, rates of omni-channel participation by consumers, impact of omni-channel participation on consumer wallet growth, availability of land-based casinos, and impact of cross-sell.*

## Model Overview: Land-Based Casino To Benefit From Online Casino

**Key Takeaway:** We conducted a ‘bottom-up’ modeling exercise to understand the potential cannibalization effects of iGaming on land-based casino GGR. Using a set of conservative assumptions in a hypothetical state, we estimate that there is likely to be a small positive effect of iGaming on land-based gaming.



### Notes And Context

**Limited Demographic Overlap:** There is little overlap between iGaming and land-based players when we group players based on age bands. Slightly less than 14% of land-based demand is estimated to come from players that also play online.

**High Omni-Channel Spend:** Our data from operators suggests that omni-channel players spend 2.5x online-only players and 5.5x land-based players. Although we expect that much of that difference owes to those players being highly engaged with or without iGaming, we estimate that a small amount of their play in land-based is accretive due to iGaming participation.

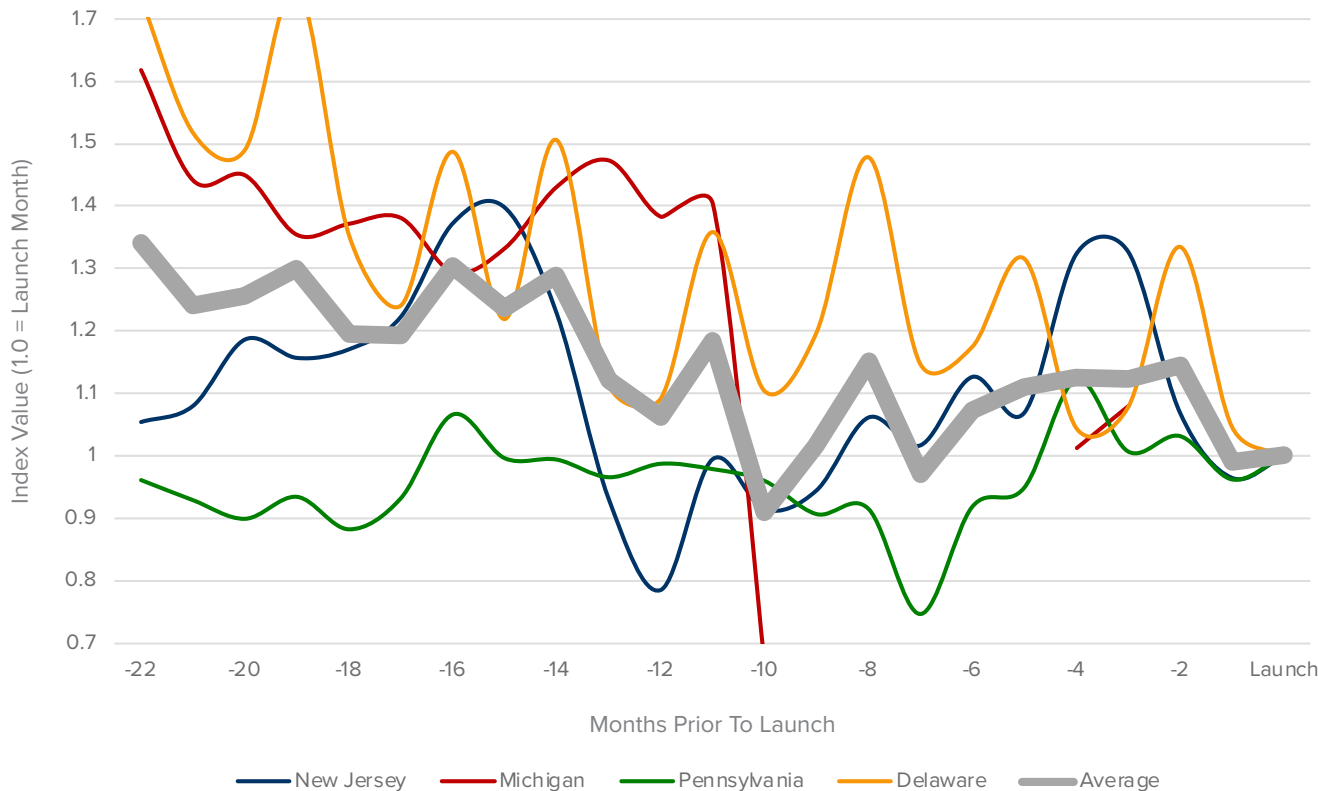
**Meaningful Cross-Sell:** We estimate nearly one-third of omni-channel players are “online-first” players that are incremental to land-based sales.

More details about the methodology appear on [slide 30](#) and the accompanying XLSX file

## Other Methodologies: Comparisons Between States

**Key Takeaway:** We find little value in comparing states with and without iGaming. A key challenge is that the relevant markets with iGaming were generally flat or in secular decline before the launch of online casinos (this dynamic was often a catalyst leading to online legalization), while ‘comparable’ states tended to be growing land-based casino markets. We also find there are too many idiosyncrasies in the markets to be confident in 2022 comparisons. For example, Michigan casinos were adversely impacted by extensive Canadian border closures and vaccination requirements.

### Indexed GGR Casino Revenue Prior To iGaming Launch



### Notes And Context

**Markets in Decline:** On average, across New Jersey, Pennsylvania, Michigan and Delaware, nominal casino GGR fell by roughly 12% in the year prior to launch. We do not view these markets as comparable to other states with commercial gaming in a post-Covid recovery analysis. For example, Illinois (+12%), Indiana (+21%), and Ohio (+11%) YoY growth was strong in February 2020.

**Different Policies:** COVID-19 related policies had substantially different impacts on iGaming states and non-iGaming states. For instance, Michigan and Pennsylvania properties closed on two separate occasions. Michigan did not reopen until December 2020 and Pennsylvania did not reopen until January 2021.

Michigan was particularly affected by Federal policies that restricted access from Canadians. The land-border was closed to tourists until October 1, 2022, and there was a vaccine requirement until May 12, 2023.

Source: Eilers & Krejcik Gaming, LLC, UNLV Libraries Center for Gaming Research, Casino City

## Addressing Other Studies With Differing Conclusions (1/2)

There are two prominent studies on the topic of casino cannibalization that have been cited in media: one published by Deutsche Bank, and another more recently by The Innovation Group. In addition to the issues we identified on the prior slide, each of these studies has unique methodological challenges. Although we view any approach as having some limitations, we view our own methodology that results in different conclusions as substantially more reliable and accurate.

### The Innovation Group’s November 2023 Study for the Maryland Lottery and Gaming Control Agency

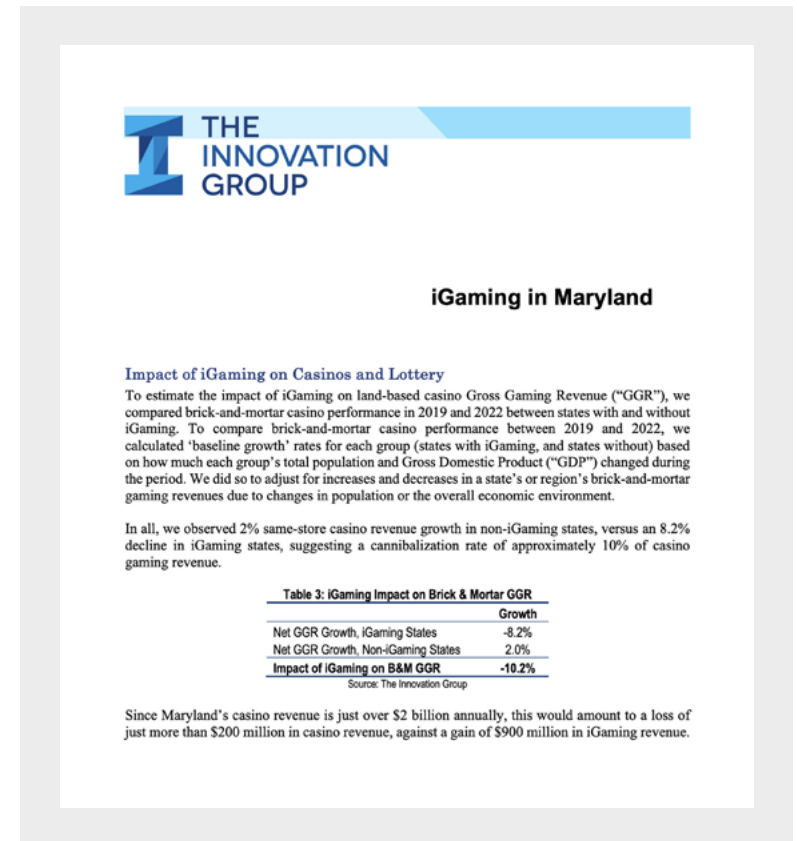
To estimate the impact of online casino on land-based casino performance, The Innovation Group “compared brick-and-mortar casino performance in 2019 and 2022 between states with and without iGaming.” In our view, the selection of these years is at odds with the goal of their study due to the launch dates of the six states with online casino availability:

- **New Jersey** and **Delaware** online casinos launched in November 2013. If online casino did cannibalize land-based casino in those states, the bulk of the impact would have happened prior to 2019. By extension, changes in land-based performance between 2019 and 2022 in those states were likely driven by other factors, as their online casino markets were mature.
- **Pennsylvania** (July 2019), **West Virginia** (July 2020), **Michigan** (January 2021), and **Connecticut** (October 2021) all launched during or after the first comparison year of land-based performance, meaning that at least some portion of the difference in land-based performance between 2019 and 2022 in those states happened *prior to the existence of online casinos in those markets*.

For example, the study states that land-based casino GGR declined by 14.2% in Connecticut from 2019 to 2022 – a drop of over \$139 million. The study then compares that figure to a “baseline growth” estimate of +2.1% to conclude land-based casino underperformed by -16.3%. However, a large majority of the land-based casino decline happened before there were online casinos in the state. **Of the \$139 million decline between 2019 and 2022, 83.4% of that decline was realized by 2021, a year in which online casinos were not available until October.**

**Double counting population growth:** The study’s “baseline growth” figures, which represent the amount one would expect each state’s (or group of states’) GGR to grow or decline, is calculated in their report by taking the percentage change in land-based casino GGR, subtracting by the percentage change in GDP, and then subtracting again by the percentage change in population – all three between 2019 and 2022. This is an error as the control should either be for total GDP or GDP per capita plus population. Double counting population effects is an error that was done in both the iGaming and non-iGaming states, and it adds unnecessary noise to the estimates.

**Other dubious choices:** Population change uses total population change rather than change in adult population. The study estimates 3.1% as the population change between 2019 and 2022 for both iGaming and non-iGaming states, but we estimate their list of iGaming states experienced 1.8% population growth of people aged 21+, and that their non-iGaming states saw 2.0% adult population growth.



**THE INNOVATION GROUP**

### iGaming in Maryland

**Impact of iGaming on Casinos and Lottery**

To estimate the impact of iGaming on land-based casino Gross Gaming Revenue (“GGR”), we compared brick-and-mortar casino performance in 2019 and 2022 between states with and without iGaming. To compare brick-and-mortar casino performance between 2019 and 2022, we calculated ‘baseline growth’ rates for each group (states with iGaming, and states without) based on how much each group’s total population and Gross Domestic Product (“GDP”) changed during the period. We did so to adjust for increases and decreases in a state’s or region’s brick-and-mortar gaming revenues due to changes in population or the overall economic environment.

In all, 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.

	Growth
Net GGR Growth, iGaming States	-8.2%
Net GGR Growth, Non-iGaming States	2.0%
<b>Impact of iGaming on B&amp;M GGR</b>	<b>-10.2%</b>

Source: The Innovation Group

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.

Source: Eilers & Krejcik Gaming, LLC, The Innovation Group, Deutsche Bank

### Addressing Other Studies With Differing Conclusions (2/2)

#### Deutsche Bank's September 2022 Research Note

Deutsche Bank's approach to considering the impact of online casino on land-based casino performance compares the land-based casino revenue change between 8-month periods (Jan–Aug) in 2019 and 2022 for three iGaming states (Michigan, New Jersey, and Pennsylvania) with the performance over like periods of time in seven non-iGaming states (Iowa, Missouri, Indiana, Ohio, Louisiana, Maryland, and Mississippi).

The study concludes that non-iGaming states, in aggregate, grew +13.0%. This research note most directly overlooks the key issues on market comps that we've identified in our analysis. As we stated, in New Jersey, Pennsylvania, Michigan and Delaware, nominal casino GGR fell by double digits in the year prior to launch and appeared in decline well before those dates. We do not view these markets as comparable to other states in such a blunt comparison methodology, particularly with other meaningful differences like Covid-19 related policy impacts.

Although we view any approach as having some limitations to precisely modeling potential cannibalization, we view our own methodology and supporting evidence as substantially more robust.

**Conclusion: Both the Innovation Group and Deutsche Bank studies that were cited by online casino detractors fail to consider a variety of factors in their respective analyses. We believe that their approach was fundamentally an 'apple-to-oranges' comparison of a group of states already in secular decline (prompting early iGaming expansion) versus a group of states that were growing into the pandemic closures.**



## Methodological Notes

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**Demographic Segmentation:** We categorize effects according to age bands, which allows for an understanding of gambling behaviors across different segments of the population. We used the distribution of population across age bands in Ohio as a stand-in representative state, and then use incomes across those age bands to understand potential distribution.

**Omni-Channel Participation Rates:** We use three different data sources to understand the potential distribution of iGaming players, land-based players, and omni-channel players, including data from the UK Gambling Commission (2023 survey – past four-week data), New Jersey (Rutgers University 2023 survey – past 12-month data), and data from our survey of operators. Our operator survey data includes only responses from two operators we deemed to be the most relevant, which we subsequently weighted based on their relative market shares. We then estimated a set of ‘hybrid participation rates,’ based on our relative confidence in the relevance of UK, NJ, and operator data sources. The survey of operators and UK Gambling Commission data are overweight while the New Jersey study is underweight due to sampling issues in the New Jersey study.

**Cannibalization Analysis:** The model uses estimated demand and participation rates to calculate the unadjusted potential cannibalization and its share, reflecting the maximum potential impact of iGaming on land-based revenue if 100% of the demographically overlapping iGaming revenue were to be cannibalized from land-based casinos. We then adjust this based on factors identified below.

- **Casino Availability:** Casinos are not easily available for all individuals in a state; therefore, some land-based demand will go unmet. Any overlapping iGaming would therefore not be cannibalizing that unmet demand. We assume 15% of land-based demand is unmet, which is slightly less than we estimate from prior geographic analysis of Ohio.
- **Wallet Size:** Wallet growth can occur via reduced household savings or reduced consumption of non-gaming. Based on inferences made from our operator survey, we estimate that omni-channel players (\$1,209 per month) spend more than either iGaming only (\$435 per month) or land-based only (\$217 per month). However, we also make the conservative assumption that most of the difference in the omni-channel players’ average spend vs. land-based players is that they are highly engaged players that would have had a higher-than-average land-only spend. To determine the incremental spend, we assume an 80/20 ratio—that 80% of revenue comes from the top 20% of customers, and we label the 20% as those highly engaged players—we estimate their spend at \$3,023 per month. The remaining players support the difference at \$756 per month. After subtracting the average online-only spend (\$435), we’re left with \$321 attributable to land-based spending. This is incremental over the \$217 average land-based spending, suggesting that even with conservative assumptions, there’s reason to believe that omni-channel is accretive to land-based spending. We assume this incremental spend for single brand players, but conservatively cap multi-brand players at no incremental land-based spend.
- **Cross-Sell:** We estimate the conversion rates from online-first customers to land-based, which are net additive to casino revenue. Based on results from our operator survey, we estimate that 29% of omni-channel players are online-first.
- **Margin Analysis:** We make modest assumptions about players that may be encouraged by an operator to play online instead of in-person, due to high gross margins online. Since gross margins vary widely but are generally strong in both online and land-based gaming, we expect limited diverted play. Assuming 55% margins in land-based and 60% in iGaming, and a relatively high cross-elasticity of -1.0, we allow for 8.3% of demand to be pushed online—a value that we view as quite conservative.

## About The Authors

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**Adam Krejcik** is a Principal at Eilers & Krejcik Gaming and leads the firm's Sports Betting & Emerging Verticals and Digital & Interactive Gaming practices. Krejcik has over a decade of market and equity research experience. Prior to joining Eilers & Krejcik, he was a senior research analyst at Roth Capital Partners covering the global interactive entertainment sector. Krejcik has appeared on CNBC, CCTV, and BNN, and is a regular speaker at industry conferences.



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## About Eilers & Krejcik Gaming

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Eilers & Krejcik Gaming LLC is an independent research and consulting firm with branches in Orange County, California and Las Vegas, Nevada. The firm's focus is on product, market, and policy analysis related to the global regulated gambling market. Clients include operators, suppliers, private equity and venture capital firms, institutional investors, and state governments.

The firm's work on the U.S. regulated sports betting issue includes a series of 50-state projections that have become the widely accepted basis for discussion of the U.S. market's potential. Recent state-governmental engagements have included West Virginia and Indiana, for which Eilers & Krejcik Gaming provided comprehensive market projections, economic impact projections, and fiscal analyses relating to sports betting and online gambling.



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