

Maryland iGaming Analysis

APPLIED
ANALYSIS



February 19, 2024

Mr. Uri Clinton
Executive Vice President, General Counsel and Corporate Secretary
Boyd Gaming Corporation
6465 South Rainbow Boulevard
Las Vegas, Nevada 89118

RE: Maryland iGaming Analysis

Dear Mr. Clinton:

In accordance with your request, Applied Analysis (“AA”) is pleased to submit this report titled *Maryland iGaming Analysis*. AA was retained by Boyd Gaming Corporation (“Boyd” or the “Company”) to evaluate specific attributes related to proposed legislation in the state of Maryland that contemplates the authorization and implementation of internet gaming, or iGaming. More specifically, this analysis addresses key topics the Company is evaluating in response to Maryland House Bill 1319 (“HB1319”) and Senate Bill 603 (“SB603”). The analysis contained herein considers the revenue potential of iGaming in Maryland, the impact on existing brick-and-mortar casinos and other factors. This summary report outlines the salient findings and conclusions of our review and analysis.

This report was designed by AA in response to your request. However, we make no representations as to the adequacy of these procedures for all your purposes. Generally speaking, our findings and estimates are as of the date of this letter and utilize the most recent data available. The information in this report was collected from our internal databases and various third parties, including the Company and other public data providers. The data were assembled by AA. While we have no reason to doubt its accuracy, the information collected was not subjected to any auditing or review procedures by AA; therefore, we can offer no representations or assurances as to its completeness.

This report is an executive summary. It is intended to provide an overview of the analyses conducted and a summary of our salient findings. AA will retain additional working papers relevant to this study. If you reproduce this report, it must be done so in its entirety. We welcome the opportunity to discuss this report with you at any time. Should you have any questions, please contact Brian Gordon or Jeremy Aguero at (702) 967-3333.

Sincerely,



Applied Analysis



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Executive Summary

Baseline iGaming Revenues in Maryland Estimated to Exceed \$1.1 Billion by 2030

Assuming Maryland were to approve iGaming legislation that allows economic activity to commence in 2026, initial estimates suggest gaming revenue of approximately \$500 million is possible with a 50 percent discount to the average iGaming revenue (\$111 per resident over 21 in Maryland, which is approximately half the average among iGaming states).

Consistent with a number of other markets, revenue is expected to ramp up after its initial debut as multiple channels launch, and this new entertainment offering is absorbed by the market. By 2030, estimates suggest Maryland revenue could exceed \$1.1 billion.

Importantly, consumer spending on iGaming activities in 2030 is estimated to account for approximately 0.21 percent – that is less than half a percent – of personal income in Maryland. For reference, a typical household earning the median income of \$94,991 in Maryland would be expected to spend an average of \$200 per year on iGaming activities.



Executive Summary

Revenues Could Outperform Baseline Expectations with a Greater Number of Outlets

States with a greater number of iGaming outlets have reported the strongest gaming volumes. The number of outlets, also referred to as skins or sublicenses, that are offered in each state appear to provide a number of advantages, including:

- Expanding the brand reach of brick-and-mortar casinos;
- Establishing a competitive marketplace (more quickly);
- Attracting new demographics to the gaming space, including groups not previously exposed to in-person gaming;
- Providing access to a wider database of potential consumers and accelerating the absorption within the market; and
- Catering to niche demographics that may not have been connected but for multiple access points.

The baseline revenue estimates on the preceding page assume two licenses (or skins) per operator. However, fewer skins would suggest less revenue potential (reducing revenue by 25 percent or more), while more skins (a minimum of three per operator) could increase revenues by 25 percent or more.

iGaming Metrics by State (2023)

State	Start Year	iGaming Revenue	No. of Skins	Revenue Per Skin
States with a Greater Than 15 Skins:				
New Jersey	2013	\$1.9 B	33	\$58 M
Pennsylvania	2019	\$1.7 B	19	\$92 M
Michigan	2021	\$1.7 B	16	\$108 M
States with a Fewer Than 15 Skins:				
Connecticut*	2021	\$335 M	2	\$167 M
West Virginia	2020	\$157 M	11	\$14 M
Delaware	2013	\$14 M	3	\$5 M

*Operated under tribal gaming compacts.

Executive Summary

Concerns About Cannibalization of Brick-and-Mortar Casinos Appear Unwarranted

While evaluating the expansion of gaming offerings to online activities, it is appropriate to consider the implications on other segments of the market, including brick-and-mortar casinos. Physical casinos are responsible for employing thousands of workers while positively contributing to the overall economy. However, the consumers visiting a casino (experiential gaming) tend to be much different than those seeking entertainment opportunities on a computer or mobile device from the comfort of their home. Research on this topic would suggest the two groups rarely cross over with one another, and in fact, they have the potential to complement one another.

States with tenured iGaming access have not seen a dramatic fall of in-person gaming revenue. New Jersey and Delaware launched iGaming a decade ago. In both cases, iGaming legalization came as brick-and-mortar casino revenues were previously trending downward. Immediately following their iGaming launches, both states saw brick-and-mortar casino revenues stabilize and then ultimately trend upward. A multichannel approach to gaming products increases revenues across the entire industry.

Literature Review

Author	General Conclusions Regarding iGaming Cannibalization of Brick-and-Mortar Casinos
Meister Economic Consulting	Brick-and-mortar gross gaming revenue stabilized then began to grow after iGaming launch
Spectrum Gaming Group	iGaming does not cannibalize brick-and-mortar gaming
Christiansen Capital Advisors, LLC	iGaming grows the overall gaming market
The Innovation Group	Estimates iGaming across all states reduced brick-and-mortar revenue by as much as 10.2 percent
Gemini Research	iGaming does not negatively affect brick-and-mortar gaming revenue
Eilers & Krejcik	iGaming generated a positive 1.7 percent impact for brick-and-mortar casinos



EXECUTIVE
SUMMARY



**iGAMING
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Estimating iGaming Demand in Maryland

Key Considerations

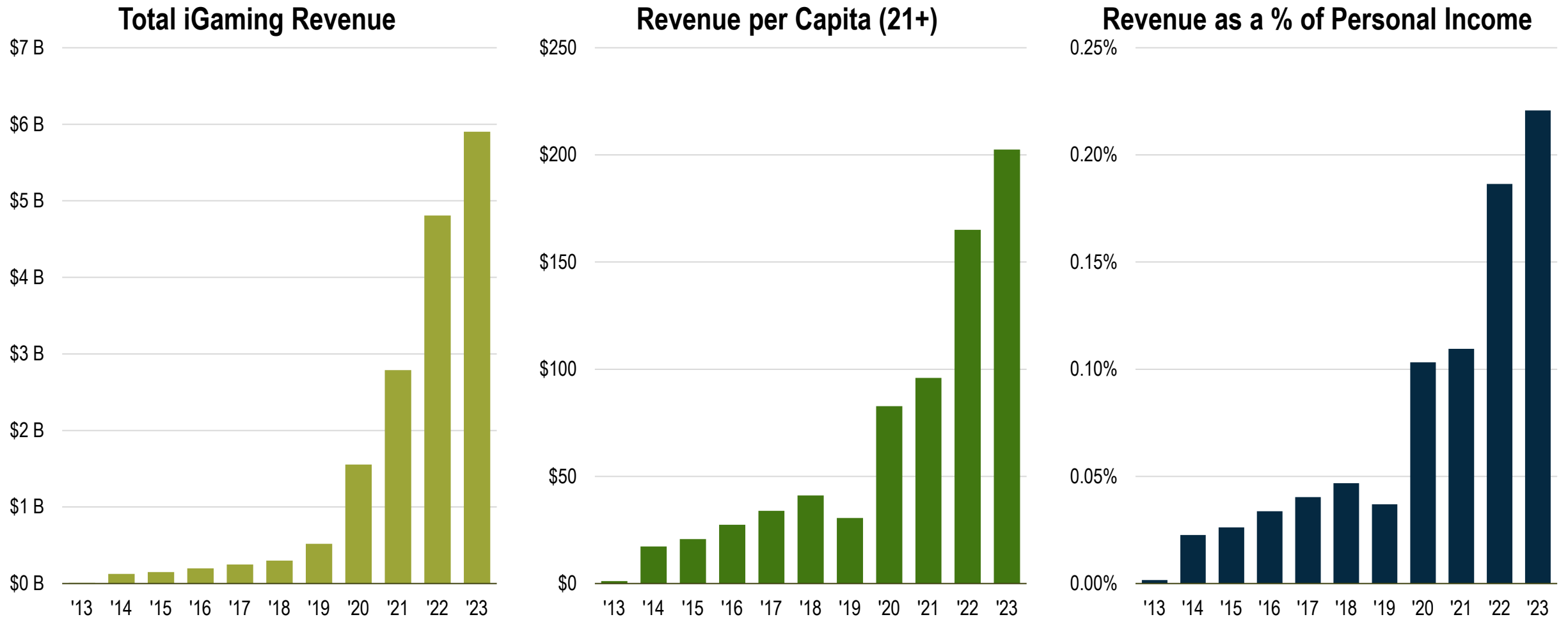
The overall process to develop iGaming estimates for the state of Maryland is based on a stepwise approach with key assumptions sourced to historical performances within the industry and a range of results that could potentially prevail in Maryland. Note: Performance trends in states offering iGaming are included in the next section of this report.

As with any forward-looking estimates, actual results are subject to variability, external forces and other considerations. The estimates contained herein are designed to provide order-of-magnitude estimates when evaluating the potential size of the market.

1	Evaluate performance trends in markets offering iGaming
2	Understand consumer spending levels overall
3	Analyze consumer behavior on a relative basis (e.g., per capita and share of income)
4	Develop projections of the economic base in Maryland (e.g., 21+ adults and incomes)
5	Develop estimates of iGaming demand on a relative basis
6	Contemplate a reasonable ramp-up (or absorption) period within the subject market
7	Apply average consumer spending expectations to the resident base
8	Establish a range of potential outcomes to provide upper and lower expectations
9	Review for reasonableness relative to comparable markets offering iGaming
10	Consider estimates developed by others in the industry for comparability purposes

iGaming Performance Trends

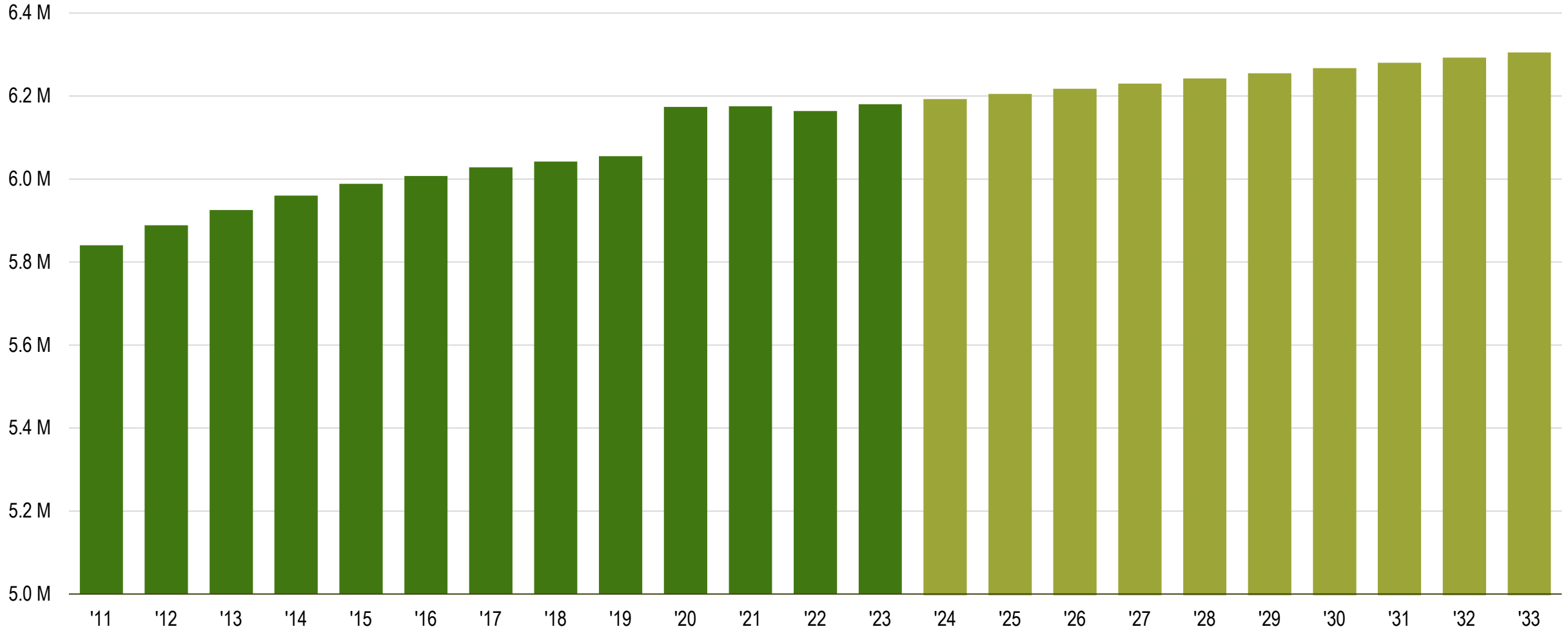
Aggregate Among Six States Actively Offering iGaming



Source: Various (included in subsequent sections of this report). Note: Revenue, adult population and personal income have not been adjusted for partial years.

Maryland Economic Base Projections

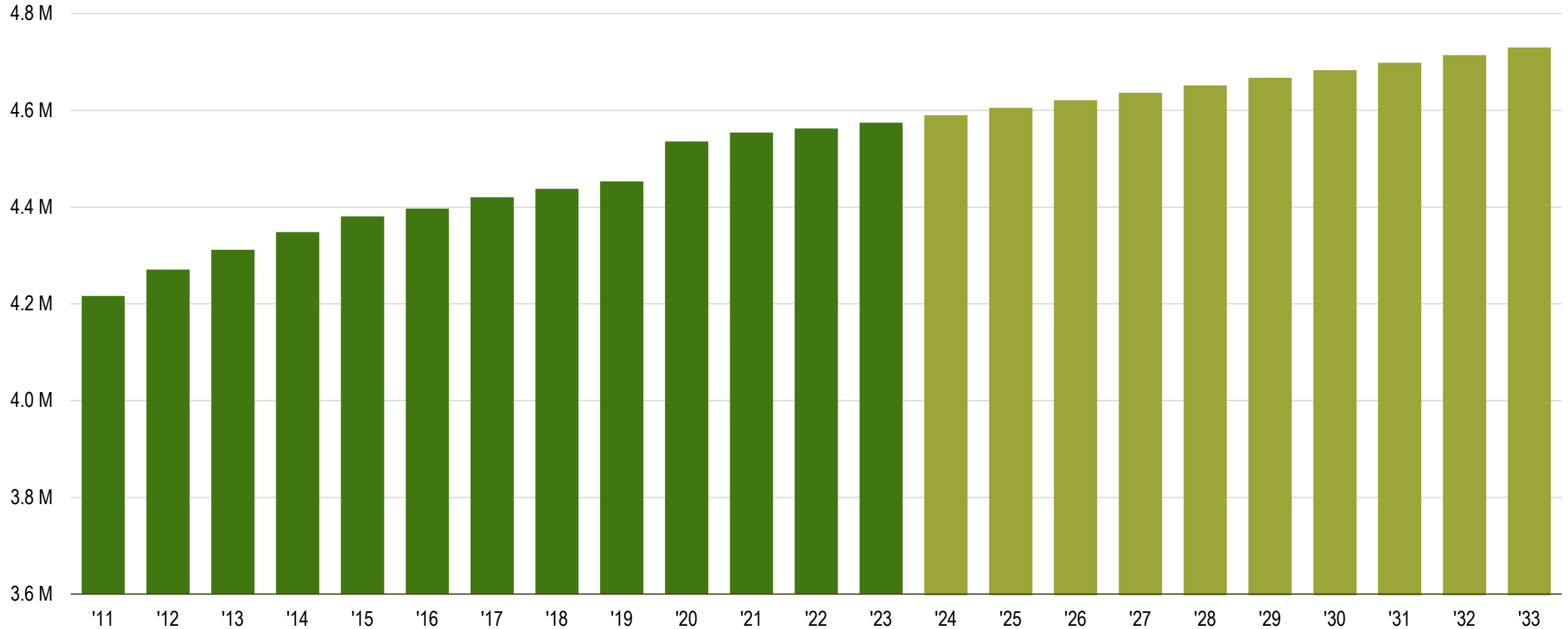
Total Population



Note: Assumes annual growth of 0.2 percent.

Maryland Economic Base Projections

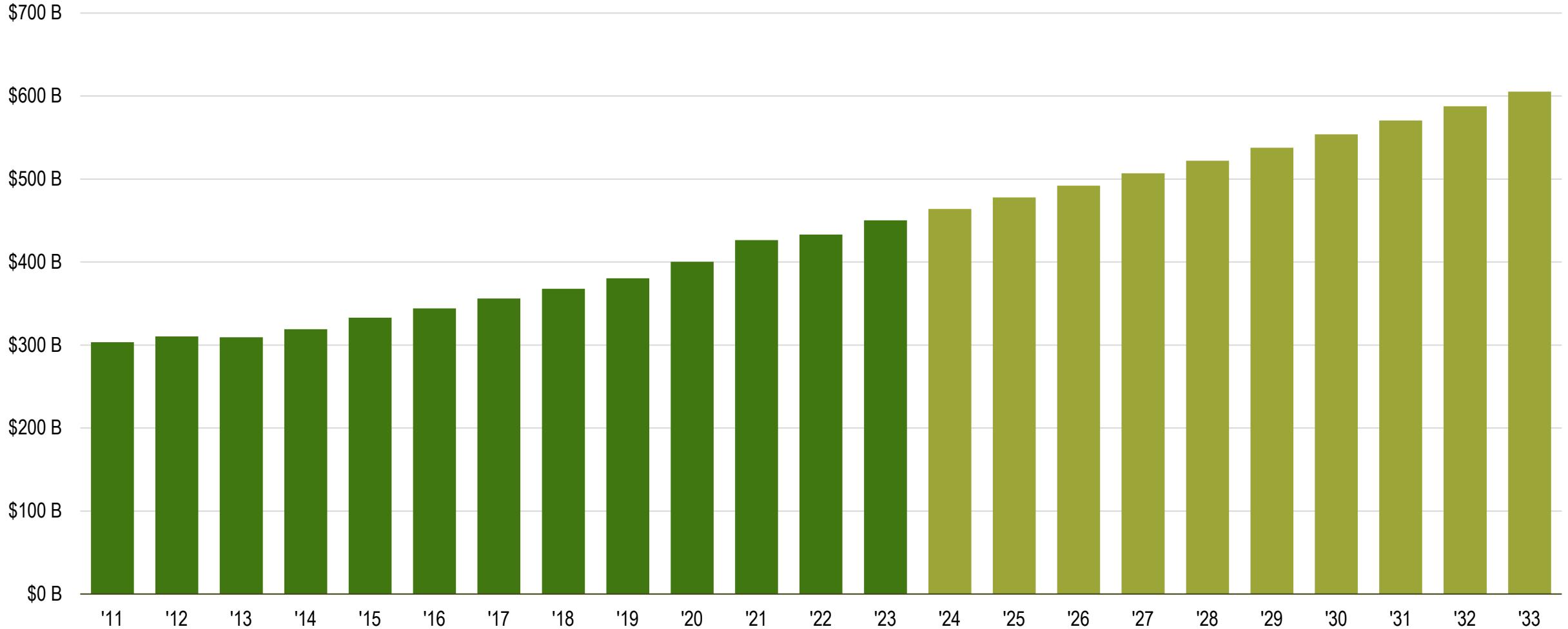
Adult Population (21+)



Note: Assumes population growth of 0.2 percent and an overall aging of the population consistent with current trends.

Maryland Economic Base Projections

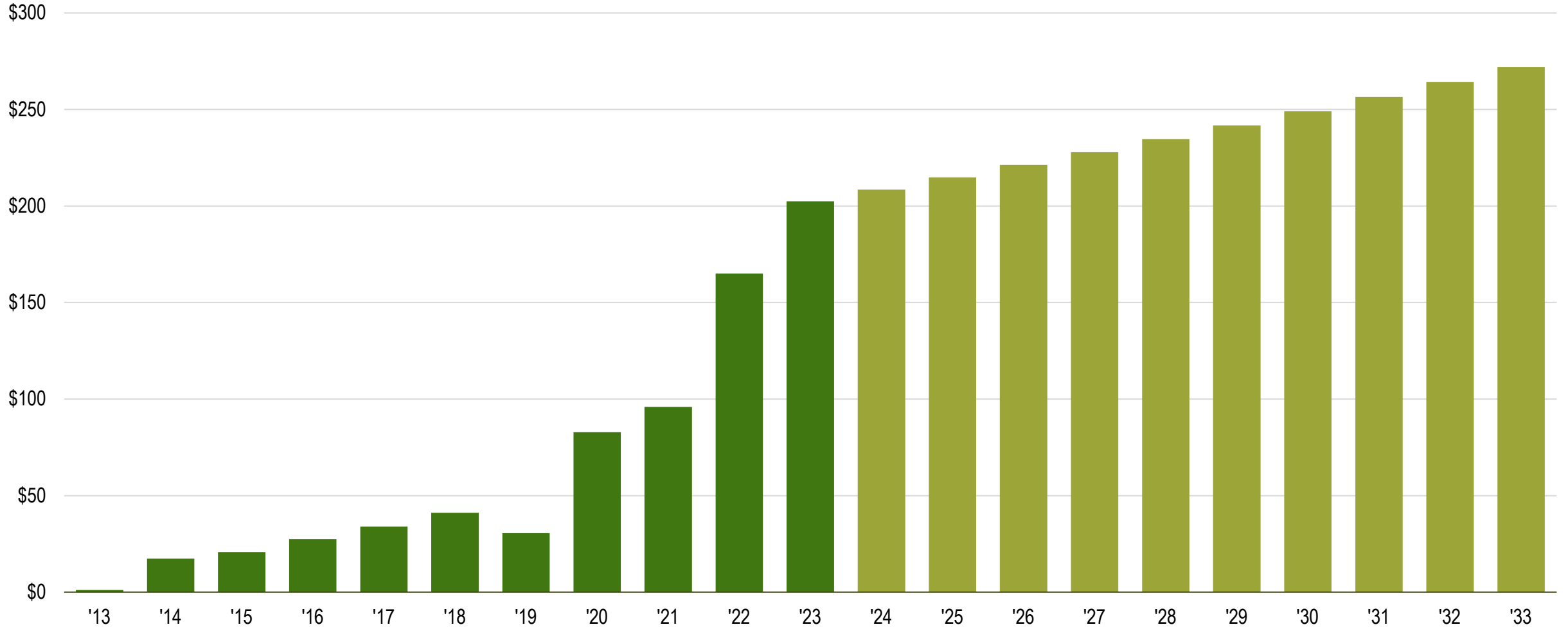
Personal Income



Note: Assumes growth of 3.0 percent annually (below historical averages).

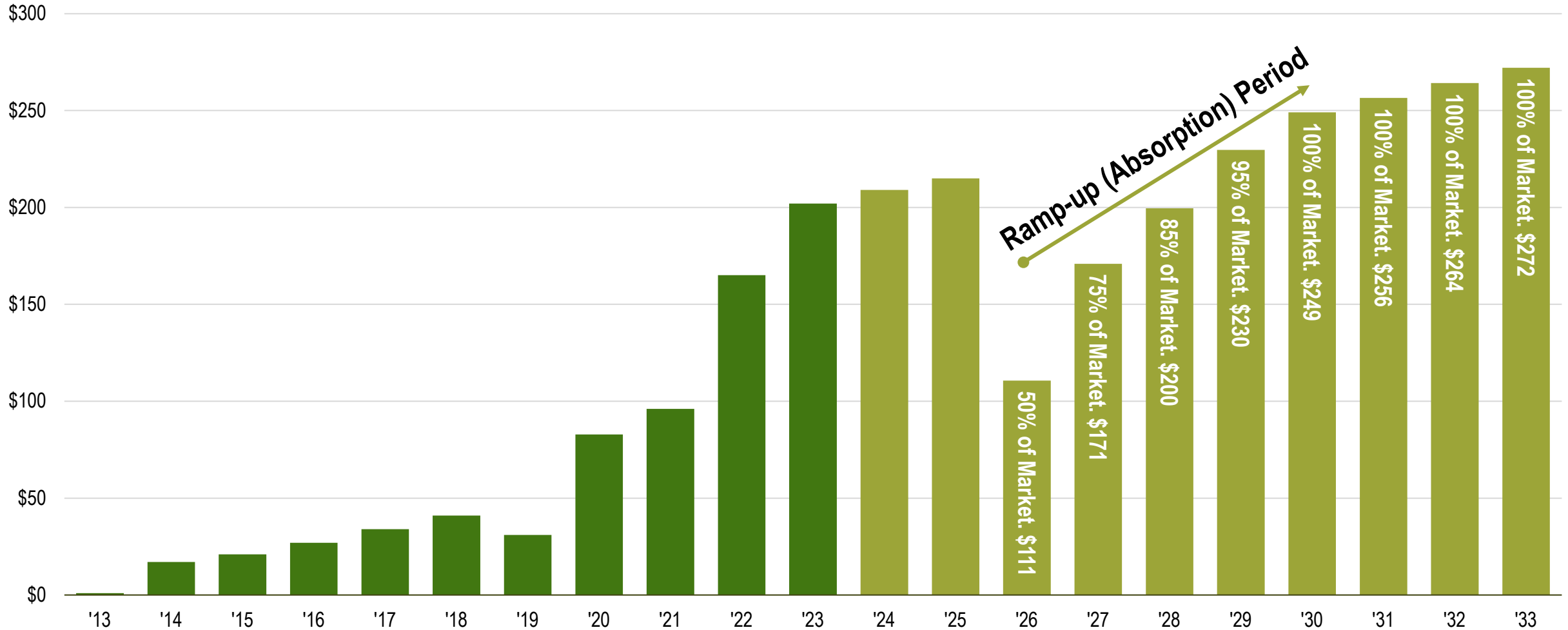
iGaming Revenue per Capita (21+)

Assumed Baseline at Industry Average Levels



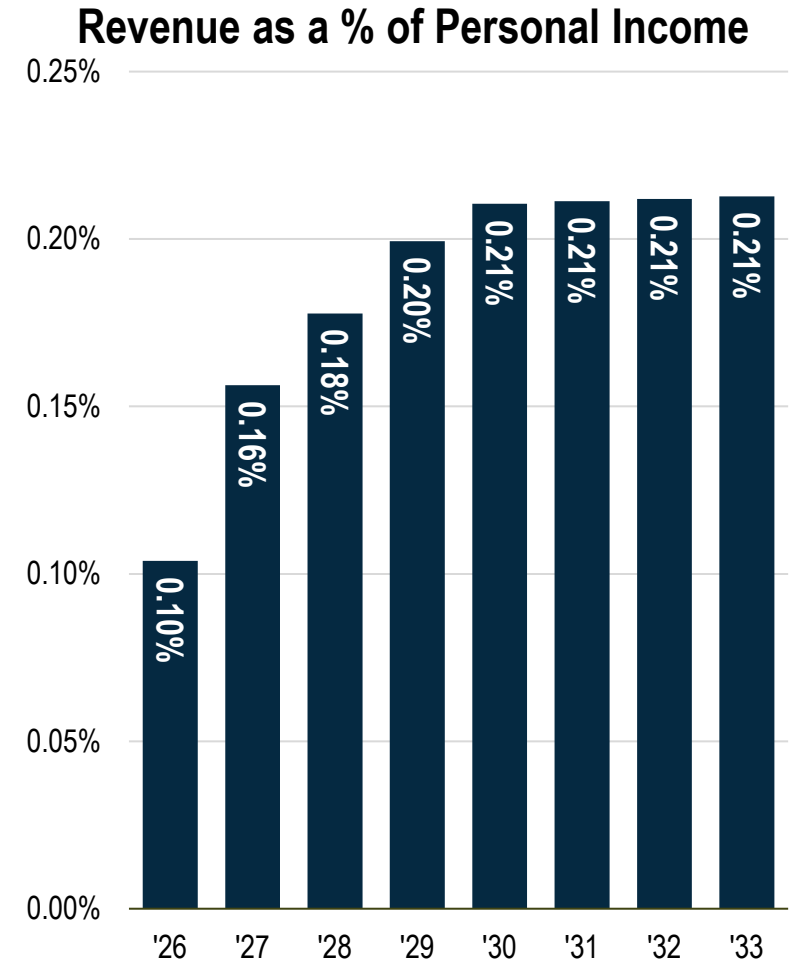
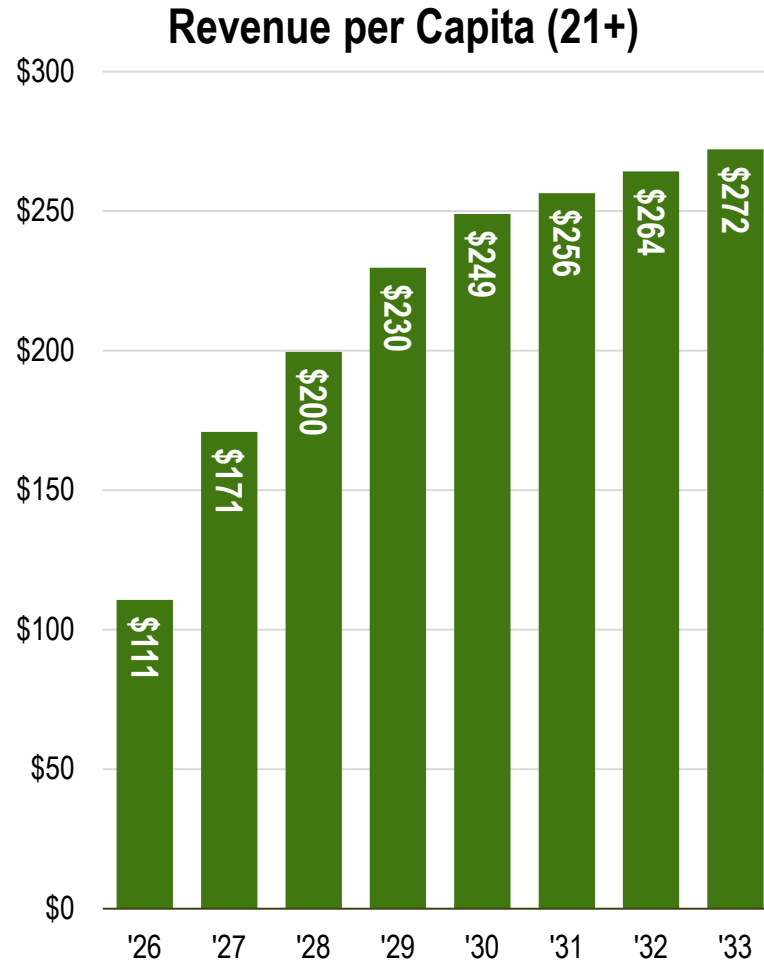
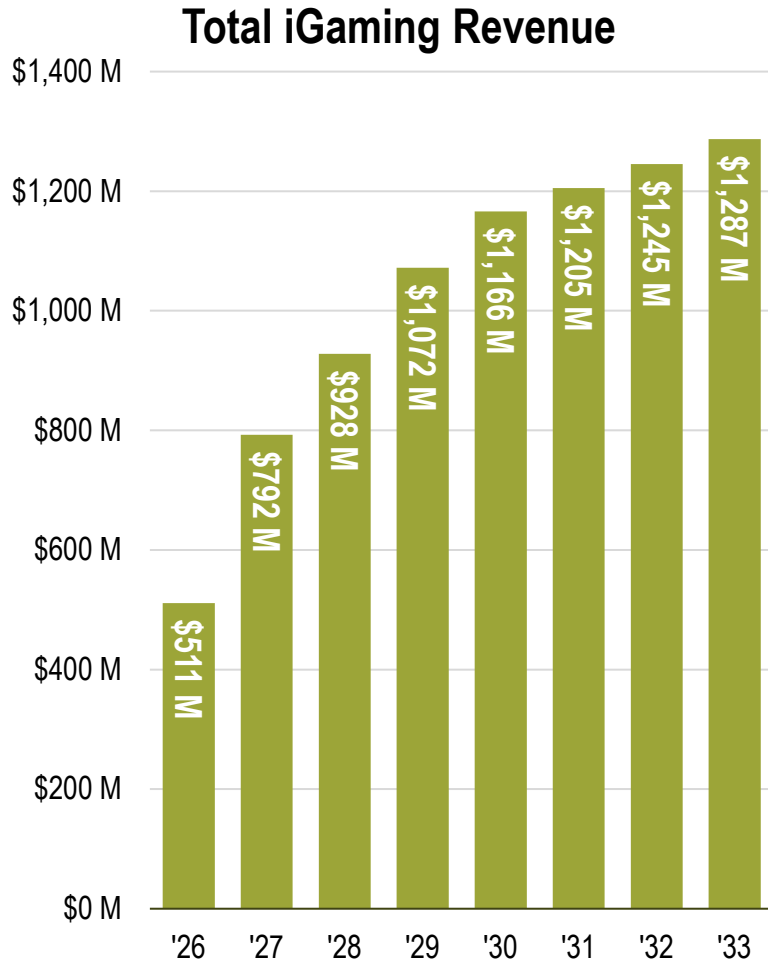
iGaming Revenue per Capita (21+)

Assumed Baseline for Maryland (Starting in 2026)



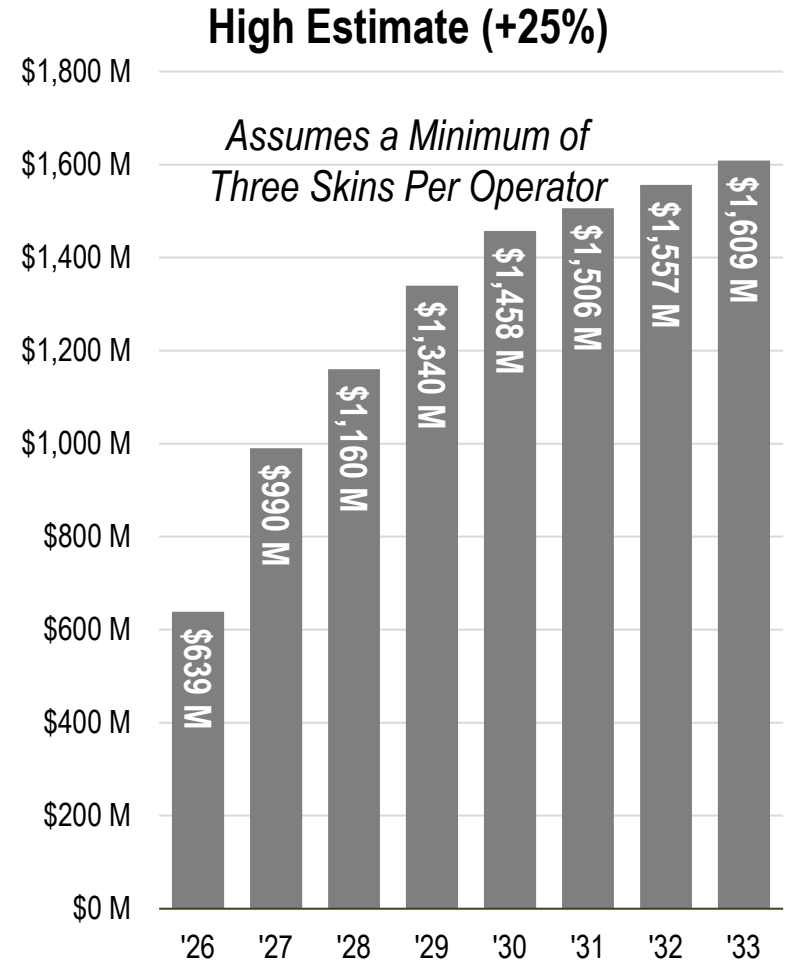
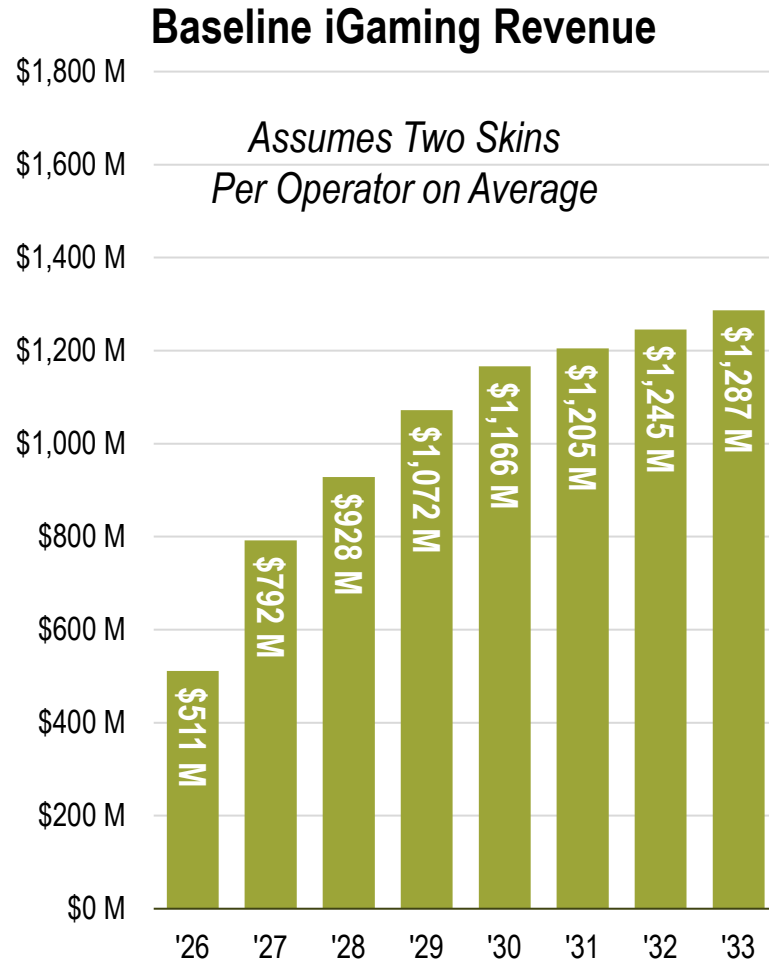
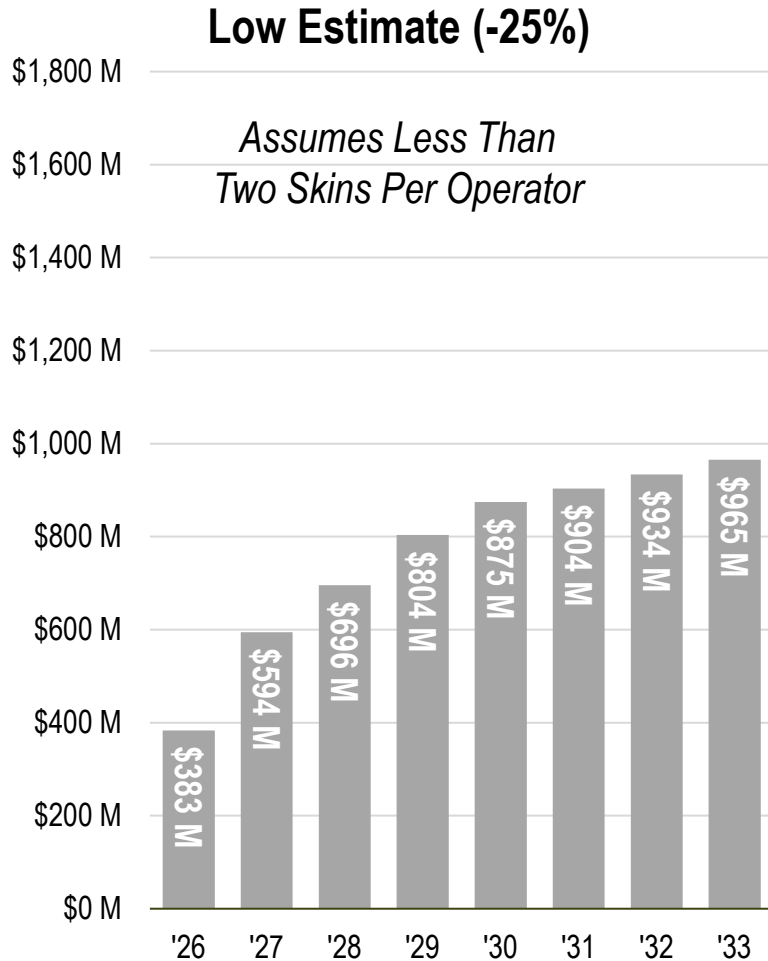
iGaming Performance Expectations

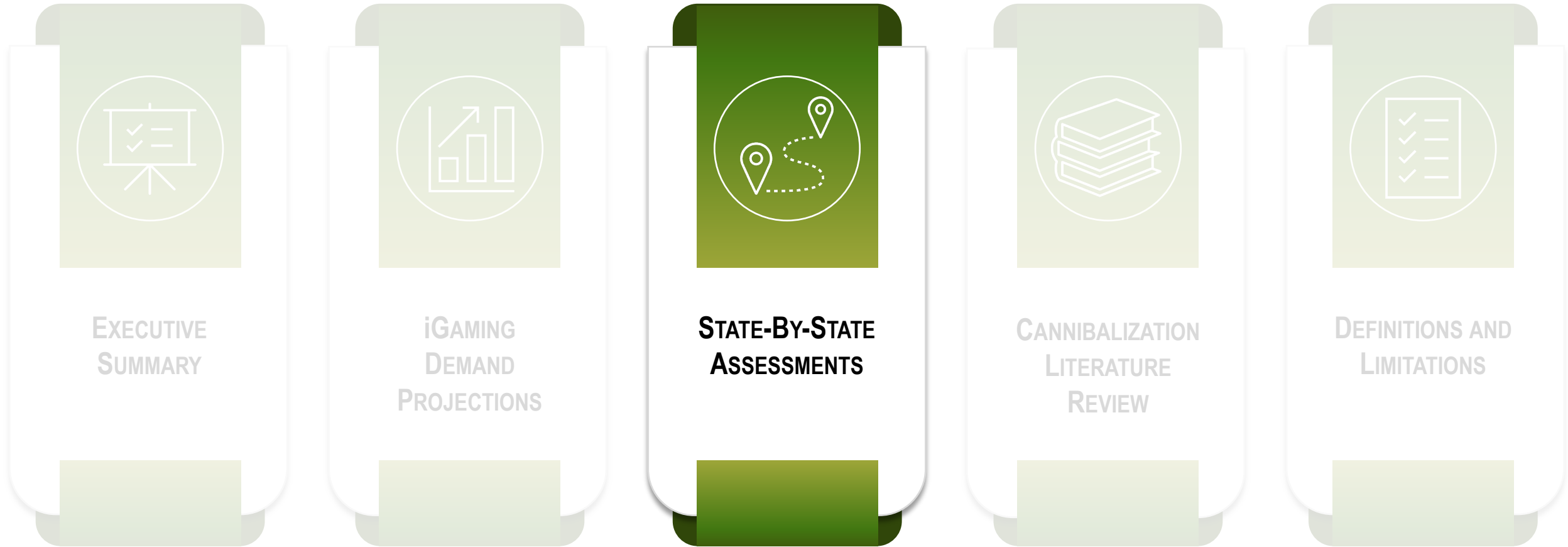
Baseline Maryland Trends



iGaming Performance Expectations

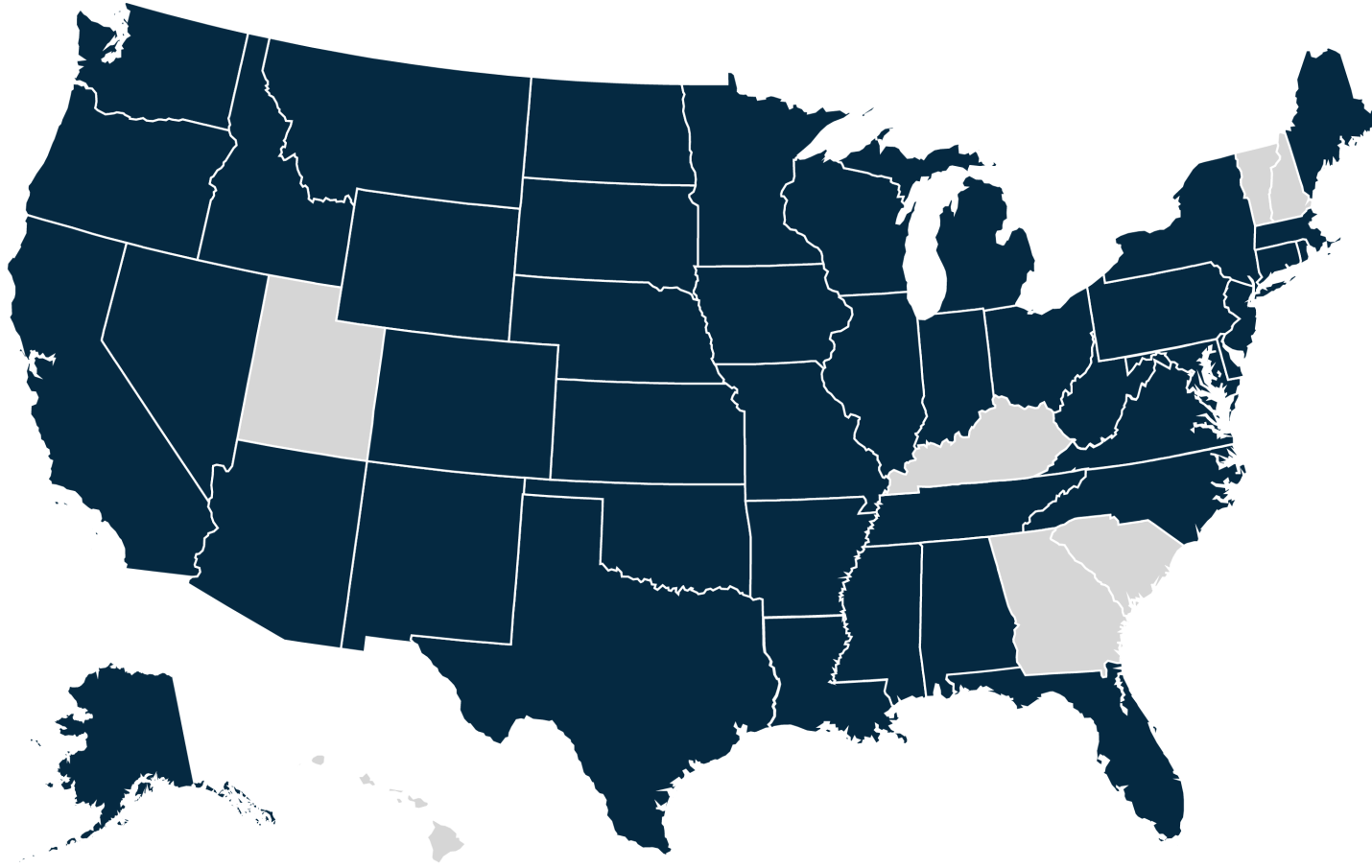
Alternative Maryland iGaming Revenue Trends





States With Brick-and-Mortar Casinos

Commercial and Tribal Casinos



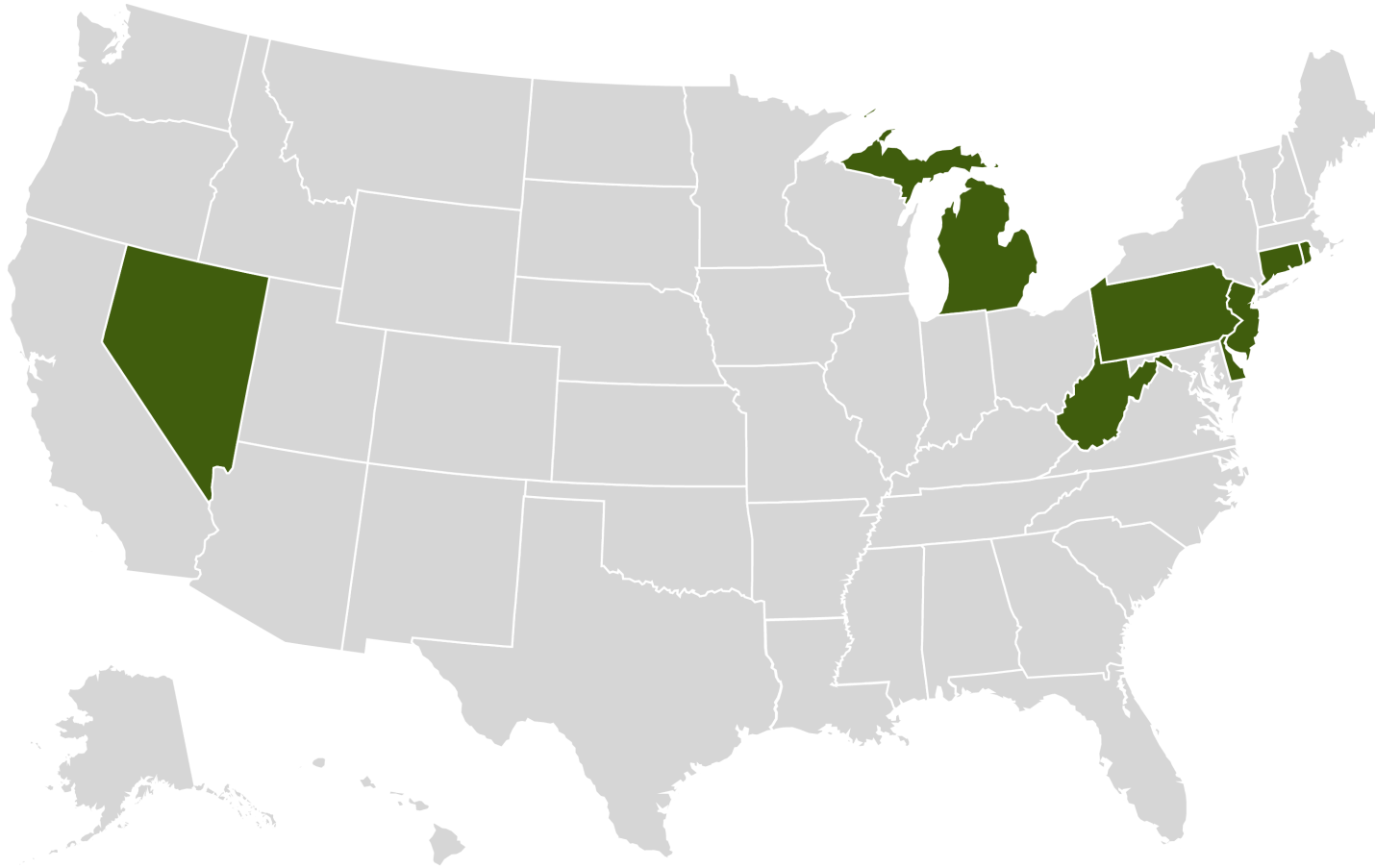
Reach	Value
Total Casino Locations	1,100
Commercial Casinos	486
Tribal Casinos	525
No. of States Participating:	
Commercial Casinos	27
Tribal Casinos	29
Legal Sports Betting	38
Legal iGaming	8

Commercial casino locations do not include other forms of commercial gaming locations, such as bars, taverns or truck stops with video lottery terminals, or other locations in which gaming is incidental to the location's primary business.

Source: American Gaming Association

States With iGaming

Authorized States



States	Authorized Activity	Date Authorized
Connecticut	Slots, Tables, Poker, Live Dealer	Oct 2021
Delaware	Slots, Tables, Poker, Cash Games	Nov 2013
Michigan	Slots, Tables, Video Poker, Live Dealer, Bingo, Slingo	Jan 2021
Nevada	Poker Only	Apr 2013
New Jersey	Slots, Tables, Video Poker, Live Dealer, Bingo, Slingo	Nov 2013
Pennsylvania	Slots, Tables, Video Poker, Live Dealer, Bingo, Slingo	Jul 2019
Rhode Island	Slots, Tables, Poker, Live Dealer	Mar 2024
West Virginia	Slots, Tables, Video Poker, Live Dealer, Bingo, Slingo	Jul 2020

Source: American Gaming Association

Licensing Structure

State-by-State Comparison

In all six states where iGaming is available, it is managed by existing physical casino operators, except for Rhode Island, where it has not yet started. Some states have a "closed" model, permitting online gaming exclusively under one brand, which could be that of an established casino or a partnered brand through an arrangement called a "skin." Other states adopted a "hybrid" model, allowing several third-party companies to offer iGaming services through these skins.

The availability of more skins translates to more access points for consumers to engage in online gaming. Notably, states with a larger number of skins, such as New Jersey, Michigan, and Pennsylvania, report higher volumes of online gaming activity.

State	Licensing Model	Number of Skins	Number of Skins Per License
New Jersey	Hybrid	33	5
Delaware	Closed	3	1
Pennsylvania	Hybrid	19	Unlimited
West Virginia	Hybrid	11	3
Michigan	Closed	16	2
Connecticut	Closed	2	1
Rhode Island	Closed	1	1

Source: NJ Division of Gaming Enforcement; Delaware Lottery; WV Lottery; PA Gaming Control Board; MI Gaming Control Board; CT General Assembly; Note: Delaware iGaming is run by the Delaware Lottery; sites for the three racinos are run on top of the main platform.

iGaming Performance Metrics for 2023

State-by-State Comparison

State	Year Authorized	Revenue	Revenue Per Capita (21+)	Share of Personal Income	Number of Skins	Revenue Per Skin
New Jersey	2013	\$1.9 Billion	\$276.62	0.26%	33	\$58.3 Million
Delaware	2013	\$14.1 Million	\$18.10	0.02%	3	\$4.7 Million
Pennsylvania	2019	\$1.7 Billion	\$177.73	0.20%	19	\$91.7 Million
West Virginia	2020	\$156.7 Million	\$115.79	0.17%	11	\$14.2 Million
Michigan	2021	\$1.7 Billion	\$229.86	0.29%	16	\$108.2 Million
Connecticut	2021	\$334.6 Million	\$122.32	0.11%	2	\$167.3 Million

Source: State gaming agencies; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis.

Skins/Sublicenses

Key Considerations

Expand Brand Reach of Brick-and-Mortar Casinos	Establish a Competitive Marketplace	Attract New Demographics	Access to Wider Database
<ul style="list-style-type: none"> ▪ Third-party brands bring their own marketing budgets and content channels to reach new users. ▪ Provide rewards programs and promotions that draw new customers. 	<ul style="list-style-type: none"> ▪ A large number of skins in the market allows for more specialized sites that cater to niche demographics. ▪ These groups may have been previously inaccessible without with the additional resources of a third-party partner. 	<ul style="list-style-type: none"> ▪ Online players tend to be younger than brick-and-mortar casino customers. ▪ National brands could reach new groups not previously exposed to brick-and-mortar gaming, leading to physical visitation at existing or new facilities. 	<ul style="list-style-type: none"> ▪ Casinos could gain access to the databases of their partners to better identify and access potential customers.

Source: Spectrum; Innovation Group

Tax Rates by Activity

State-by-State Comparative Analysis

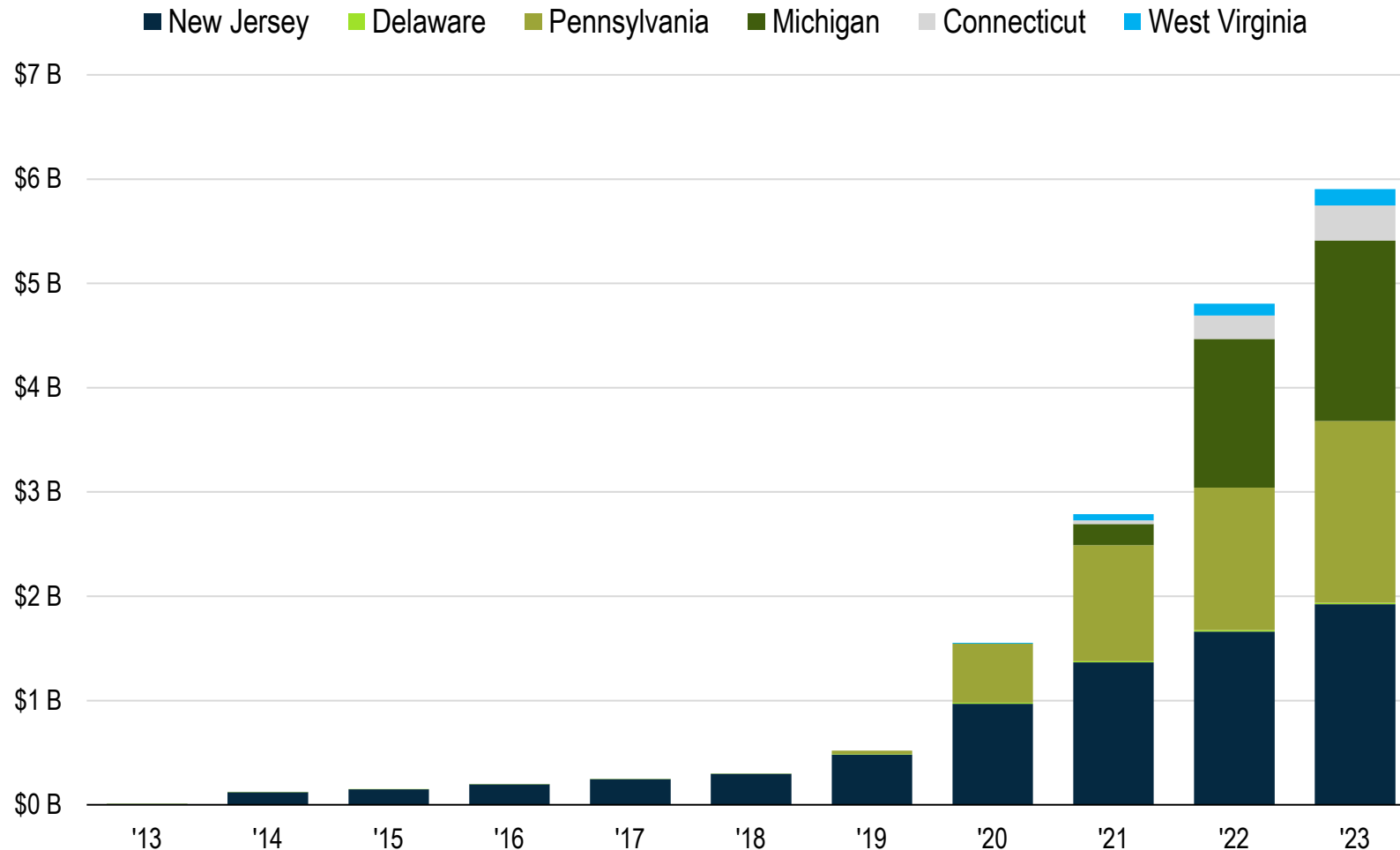
Much of the discussion around the taxation of iGaming involves two issues: Ensuring the rate is not so high as to be prohibitive to expansion and ensuring the rate is not so low that operators are incentivized to disinvest from brick-and-mortar operations. Most states have determined that 'sweet spot' to be between 15 and 20 percent for table games, while tax rates for other games vary to a wide degree depending on the state.

State	Slots	Table Games	Retail Electronic Gaming	Retail Table Game
New Jersey	17.5%	17.5%	9.25%	9.25%
Delaware	43.5%	34.0%	57.0%	20.0%
Pennsylvania	54.0%	16.0%	55.0%	16.0%
West Virginia	15.0%	15.0%	53.5%	35.0%
Michigan	20.0-28.0%	20.0-28.0%	19.0%	19.0%
Connecticut	18.0%	18.0/20.0%	0.0%	0.0%
Rhode Island	62.45%	16.5%	68.85-74.0%	17.0-19.0%

Source: American Gaming Association; Spectrum. Note: In Delaware the first \$3.75 million gross gaming revenue is taxed at 100 percent. Michigan's rate is tiered based on revenue. Connecticut's tax rate is scheduled to increase to 20 percent in 2026.

iGaming Revenue

Aggregated Performances by State



Source: Various state gaming regulatory agencies

New Jersey accounted for the vast majority of iGaming revenue through 2019, the point at which Pennsylvania introduced iGaming. Growth in iGaming revenue expanded rapidly after 2019. In New Jersey and Pennsylvania, growth rates increased amid the pandemic in 2020 and have continued a similar trajectory through 2023.

The trend in online gaming growth mirrors the shift to online shopping during the pandemic, when reduced operational capacities and public health concerns moved consumers to favor online activity at home.

The addition of three other states with iGaming since 2020 have added to the growth in revenue over the past few years.

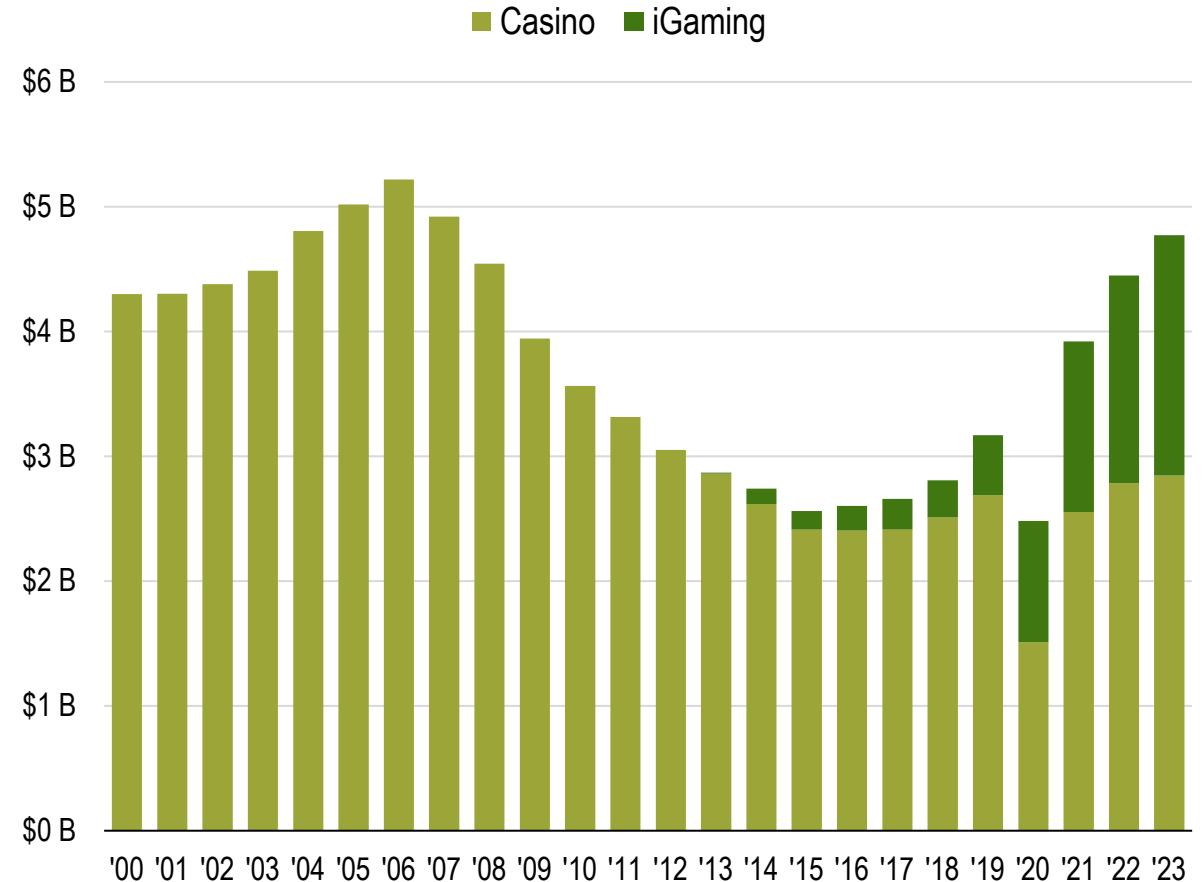
Gaming

New Jersey



2023 Snapshot	Value	Per Capita	Share of Income
Population (21+)	6,954,600	N/A	N/A
Income	\$739.62 Billion	N/A	N/A
Casino Revenue	\$2.85 Billion	\$409.50	0.39%
iGaming Revenue	\$1.92 Billion	\$276.62	0.26%
Combined Revenue	\$4.77 Billion	\$686.12	0.65%

Gaming Revenue

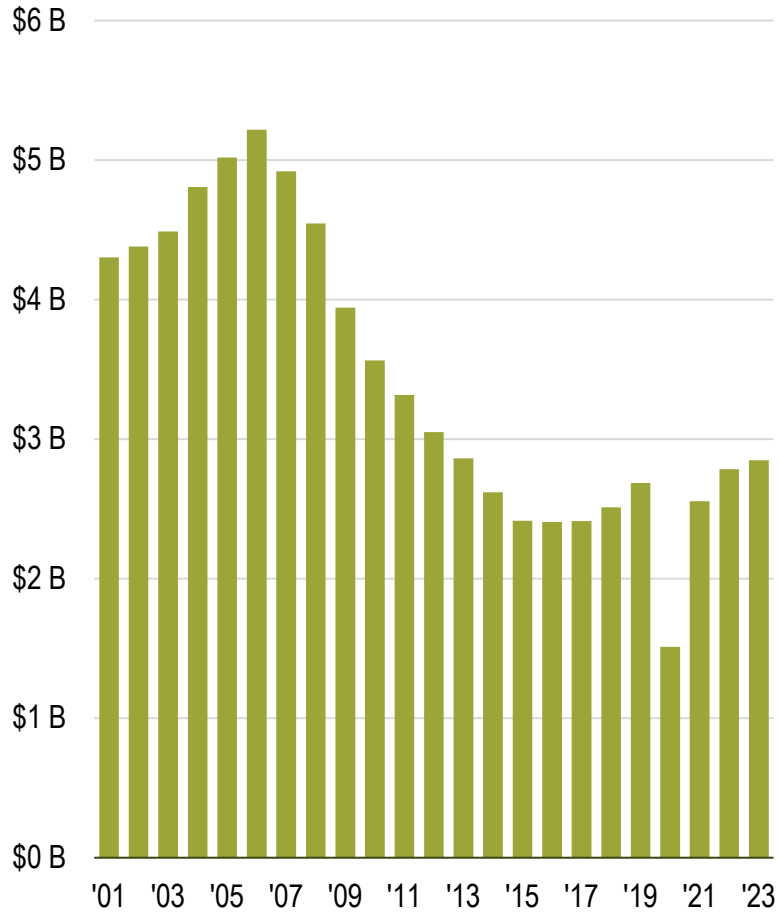


Source: New Jersey Division of Gaming Enforcement; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

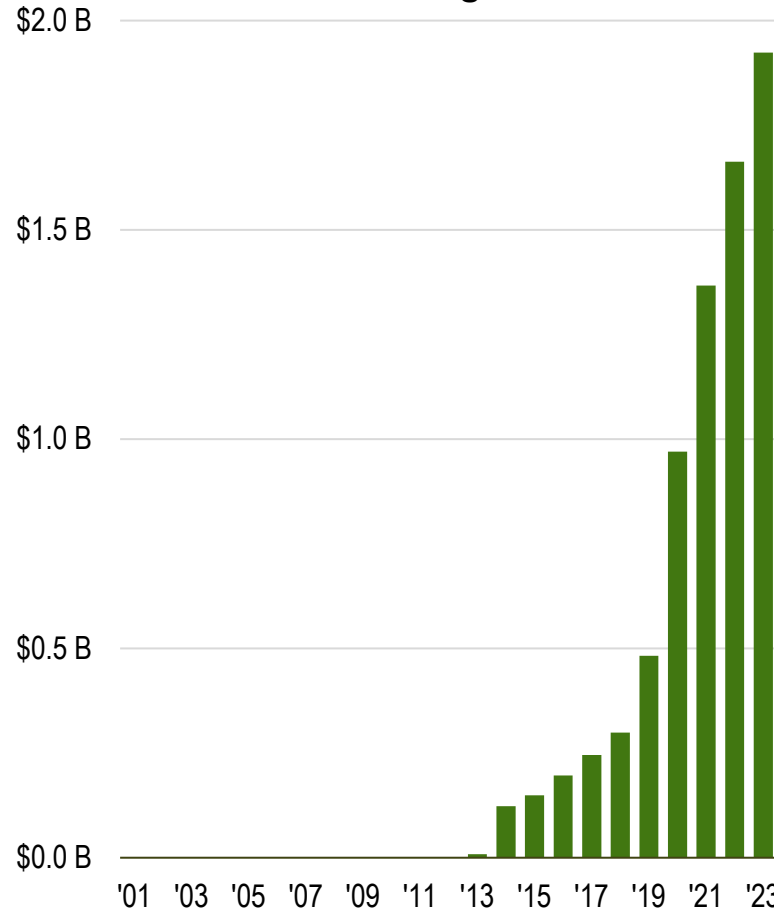
Gaming Revenue

New Jersey

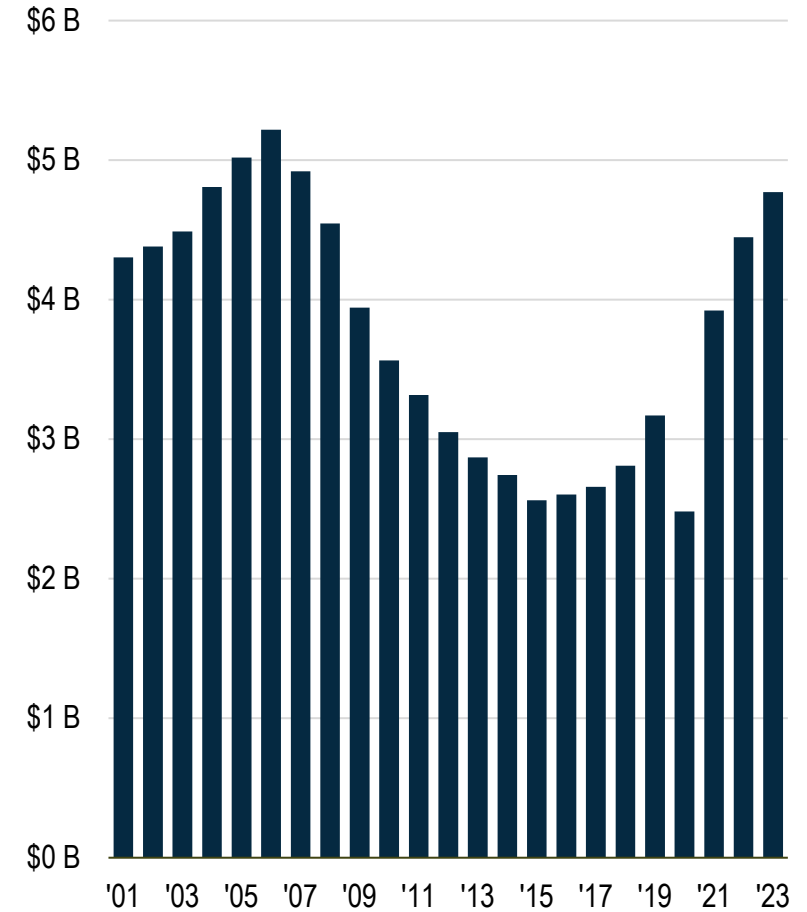
Casino



iGaming



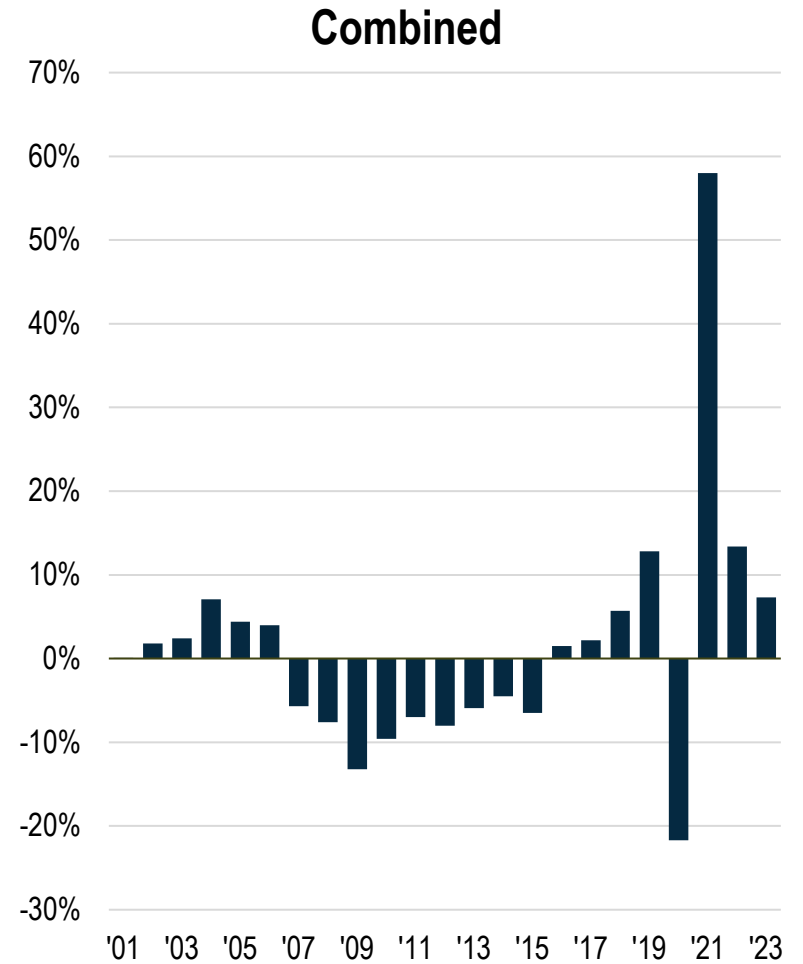
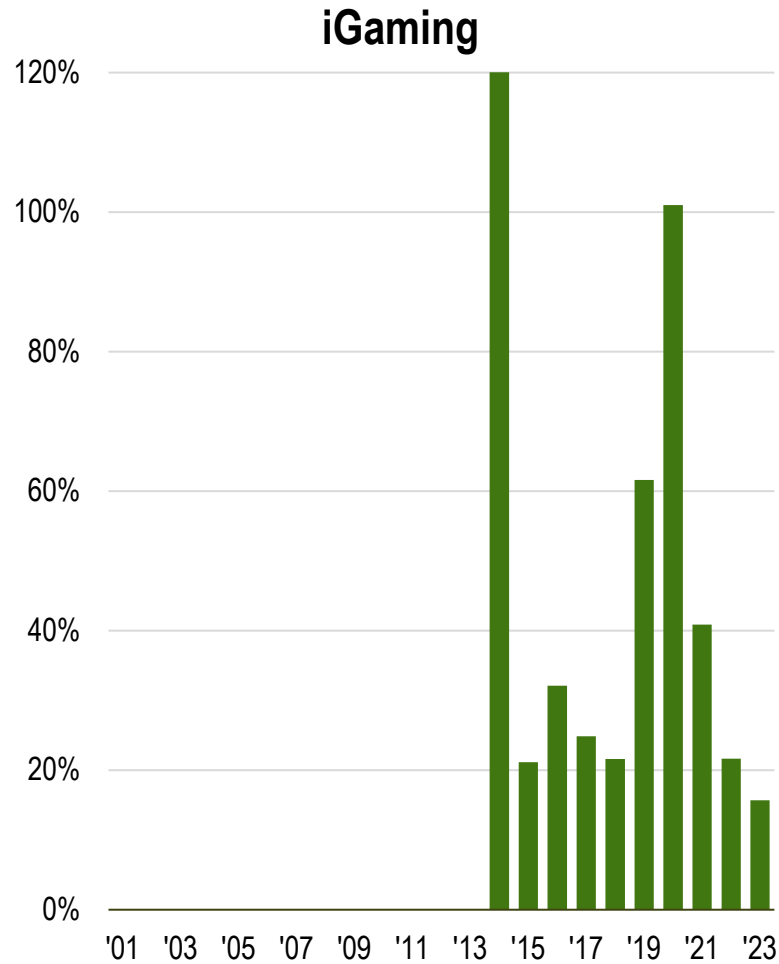
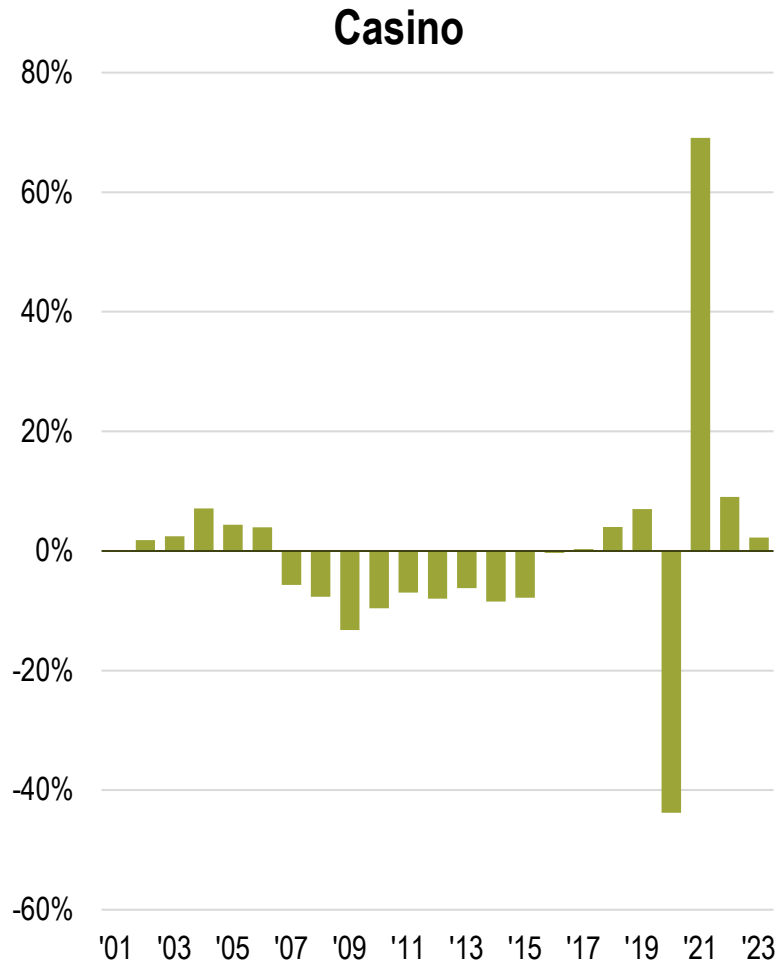
Combined



Source: New Jersey Division of Gaming Enforcement

Gaming Revenue Annual Growth (%)

New Jersey

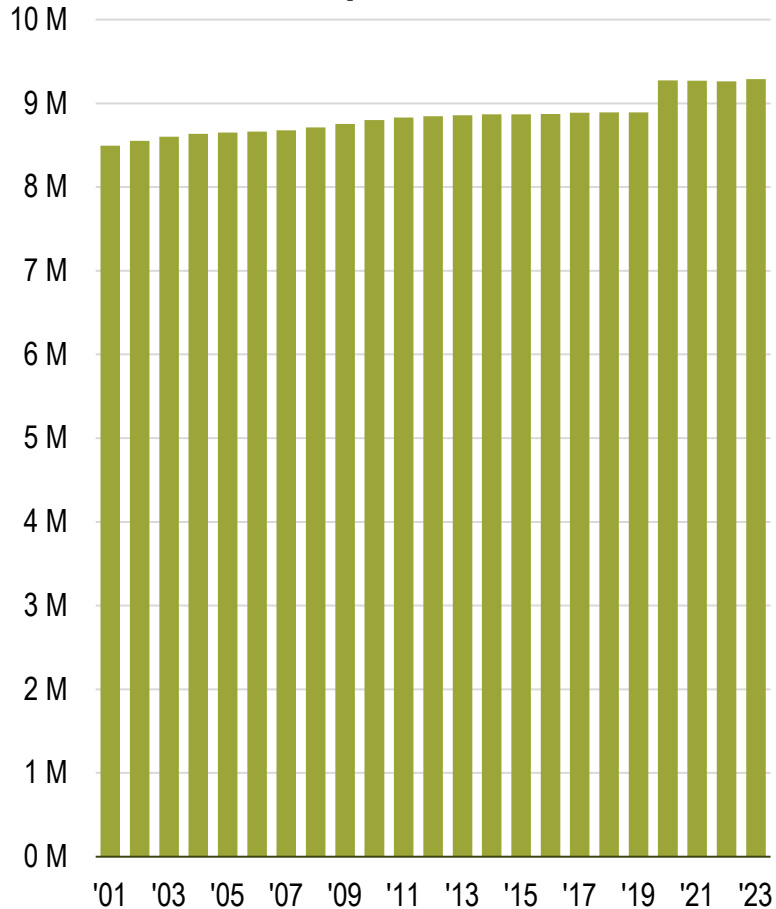


Source: New Jersey Division of Gaming Enforcement; Applied Analysis. Note: Some chart axes adjusted for clarity.

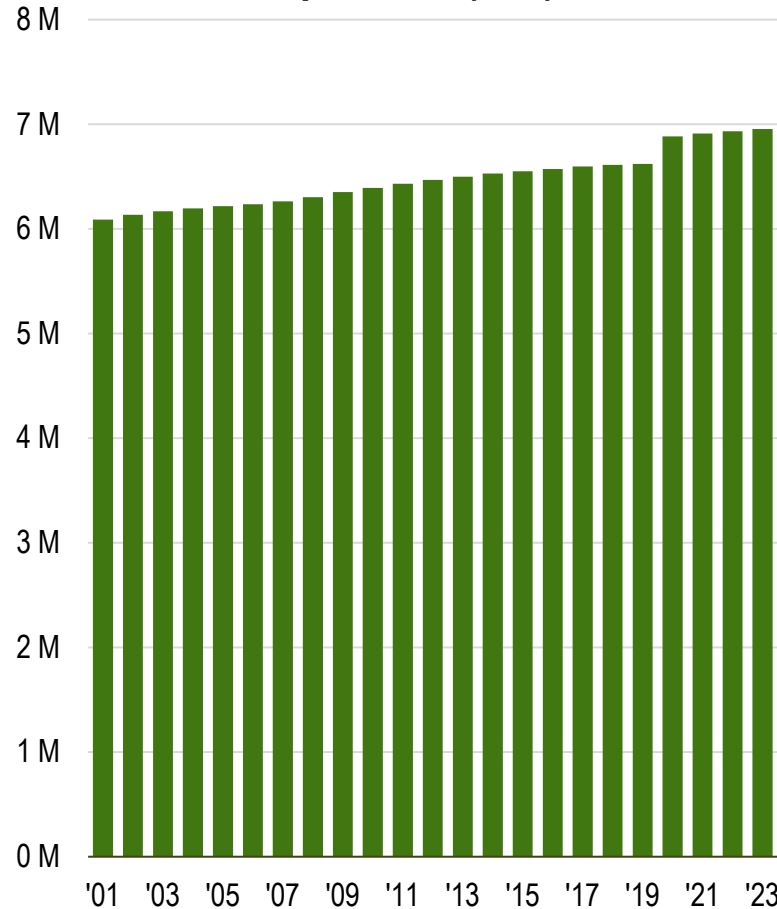
Economic Base

New Jersey

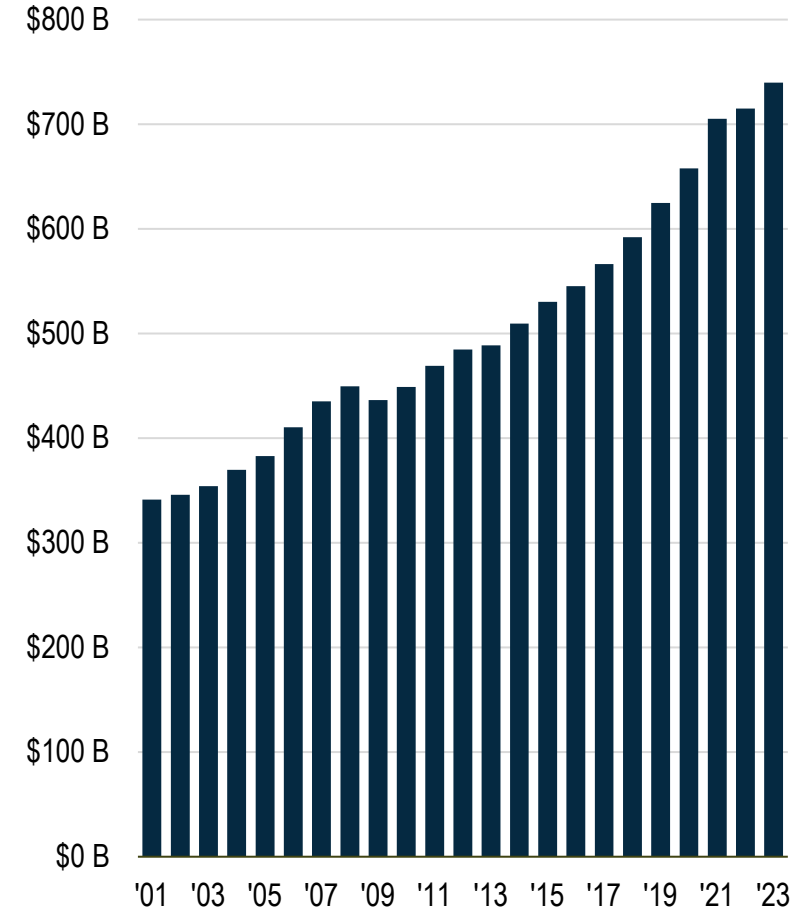
Population



Population (21+)



Personal Income

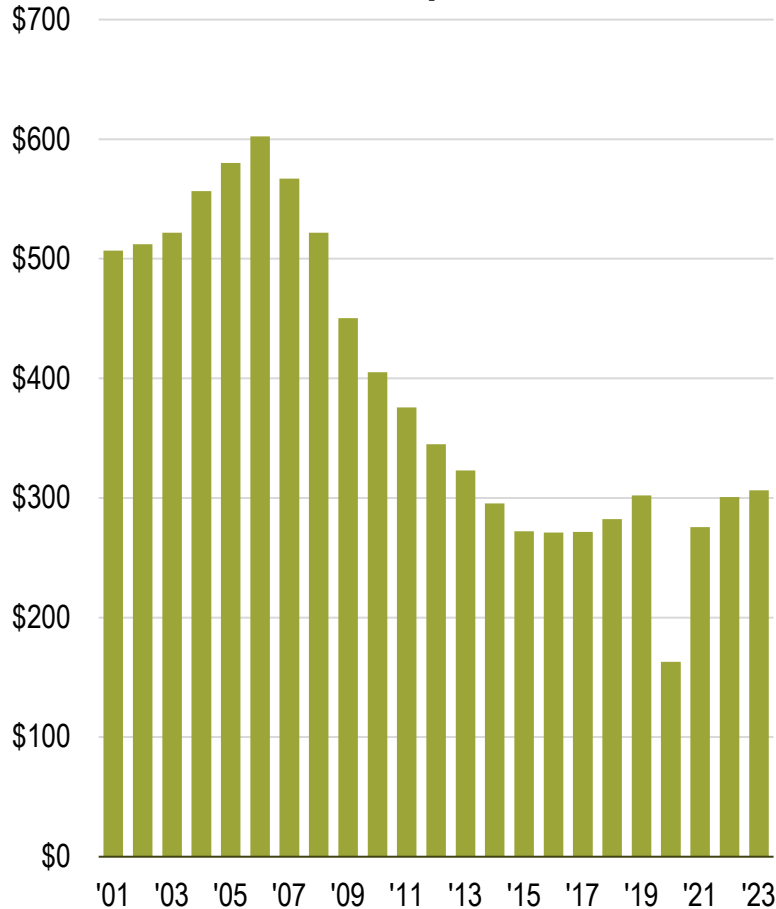


Source: U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

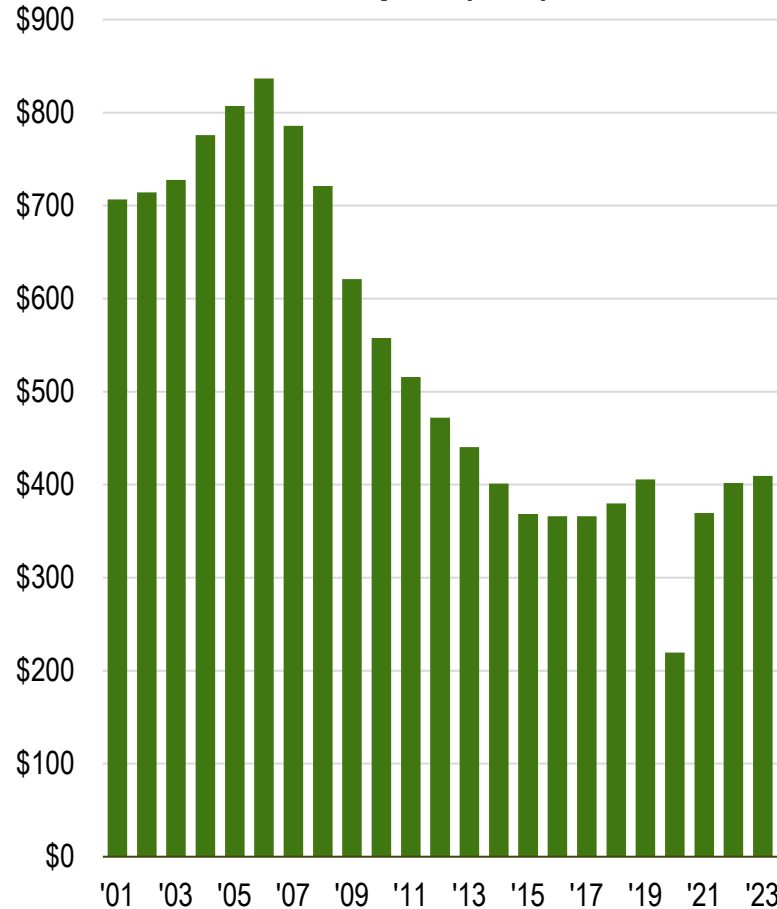
Casino Revenue per Metric

New Jersey

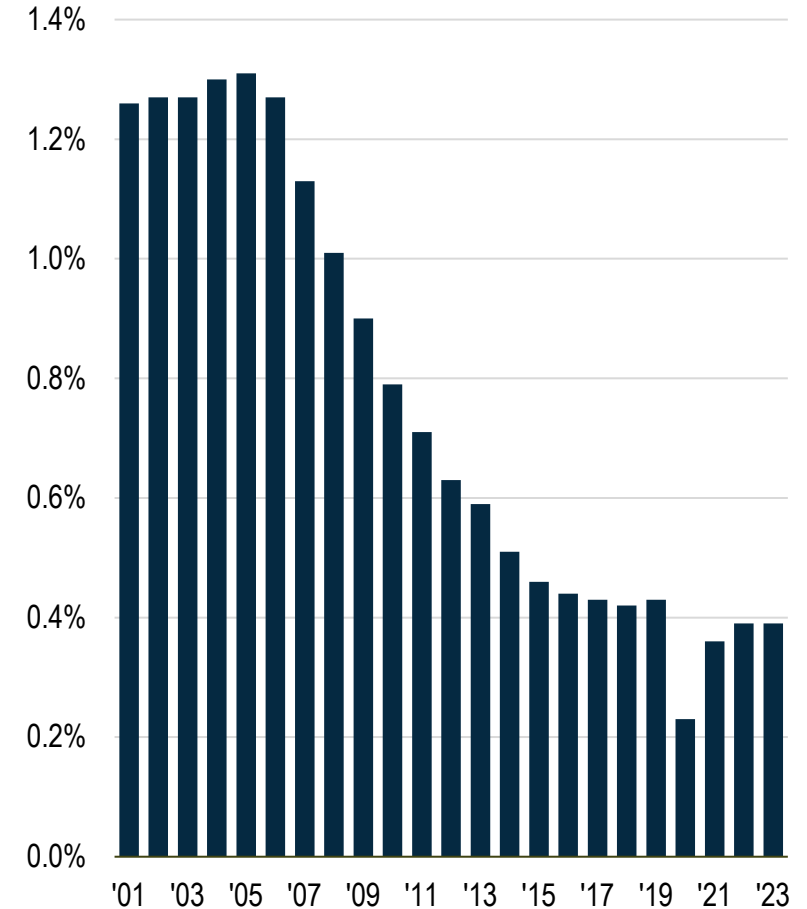
Per Capita



Per Capita (21+)



Share of Personal Income

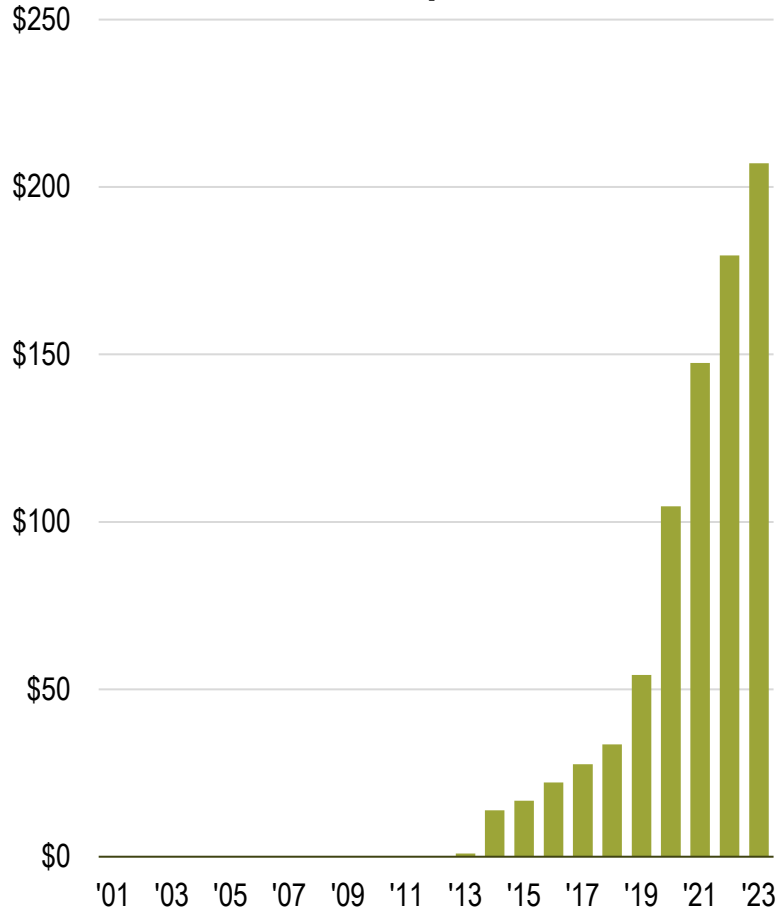


Source: New Jersey Division of Gaming Enforcement; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

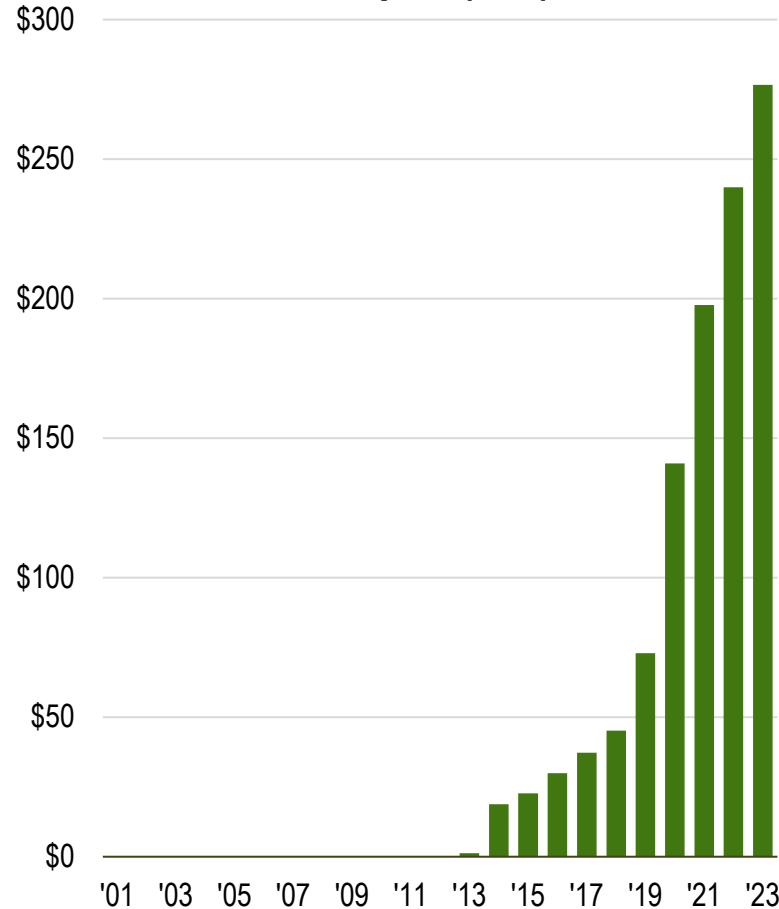
iGaming Revenue per Metric

New Jersey

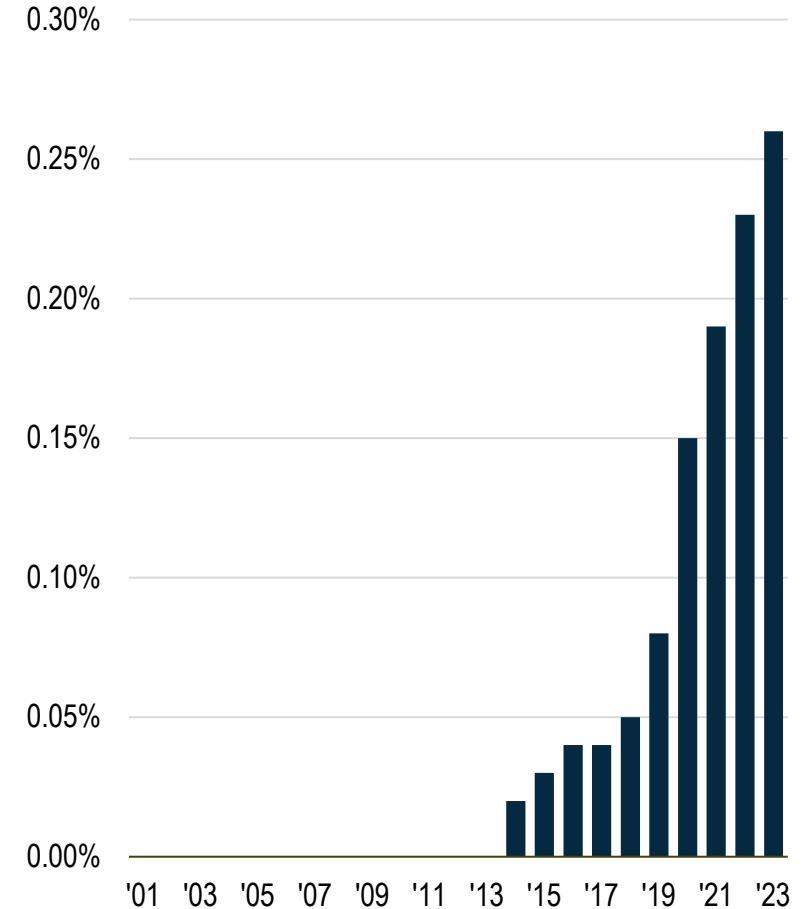
Per Capita



Per Capita (21+)



Share of Personal Income

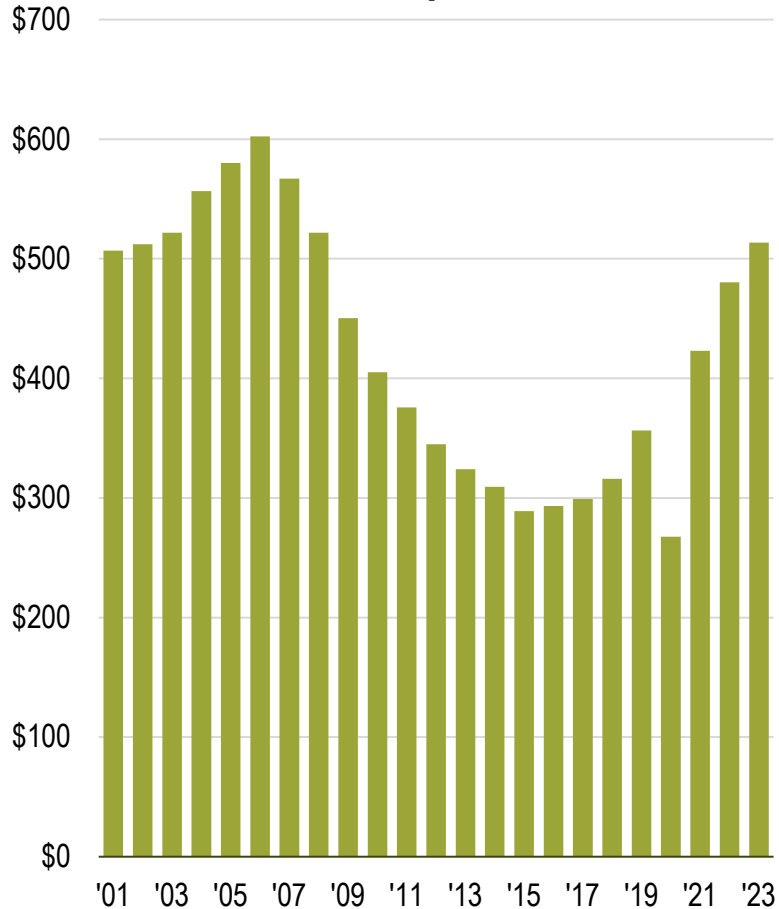


Source: New Jersey Division of Gaming Enforcement; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

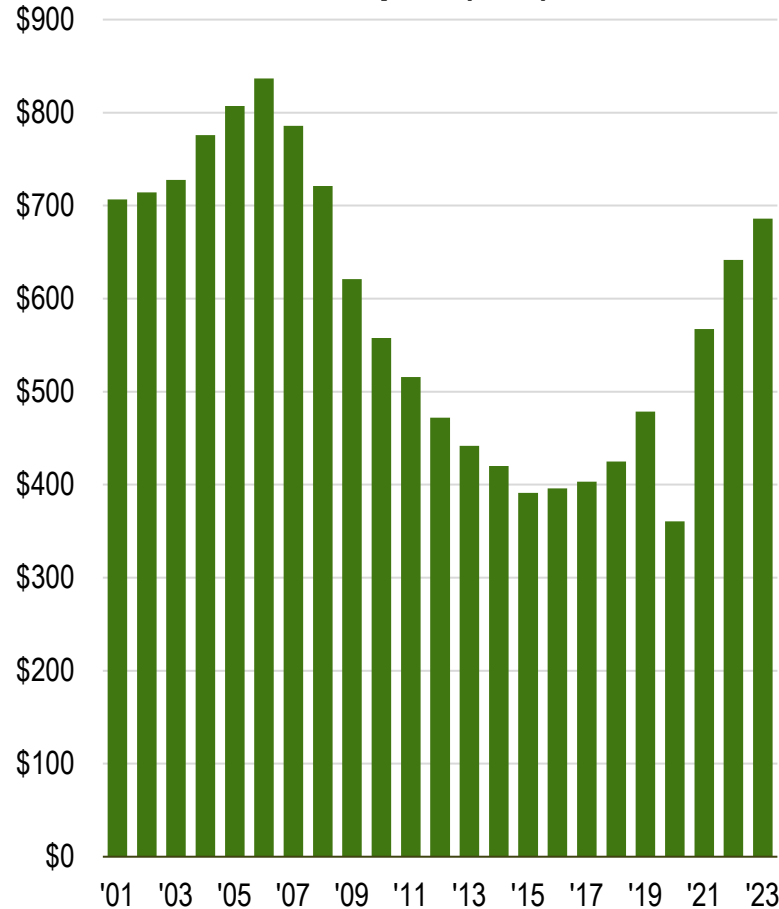
Combined Gaming Revenue per Metric

New Jersey

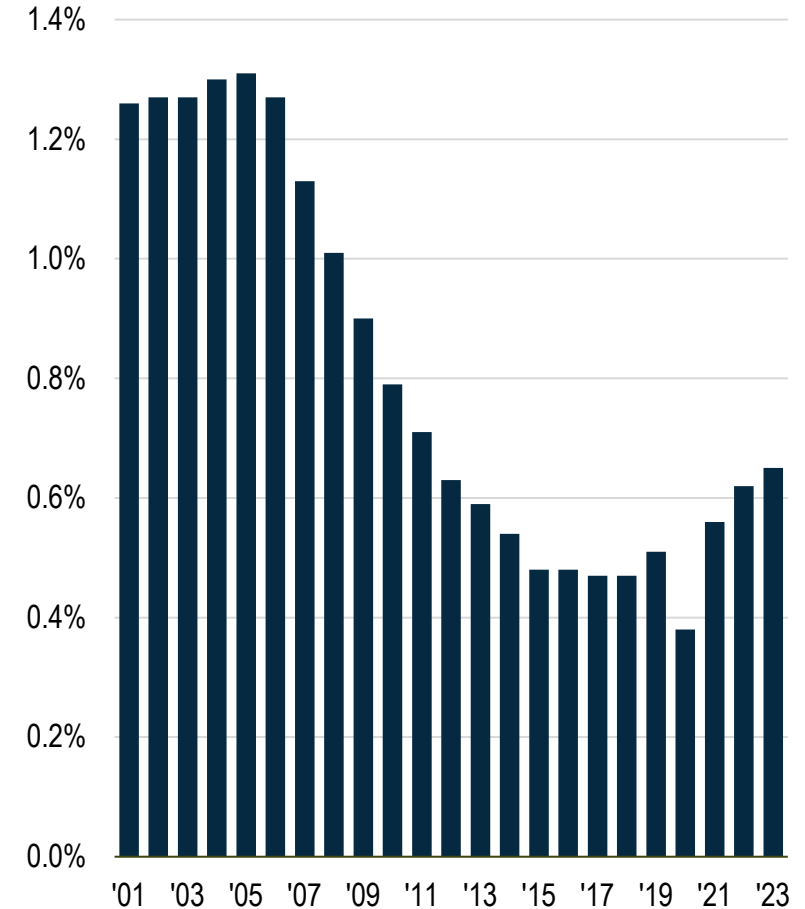
Per Capita



Per Capita (21+)



Share of Personal Income



Source: New Jersey Division of Gaming Enforcement; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

Gaming

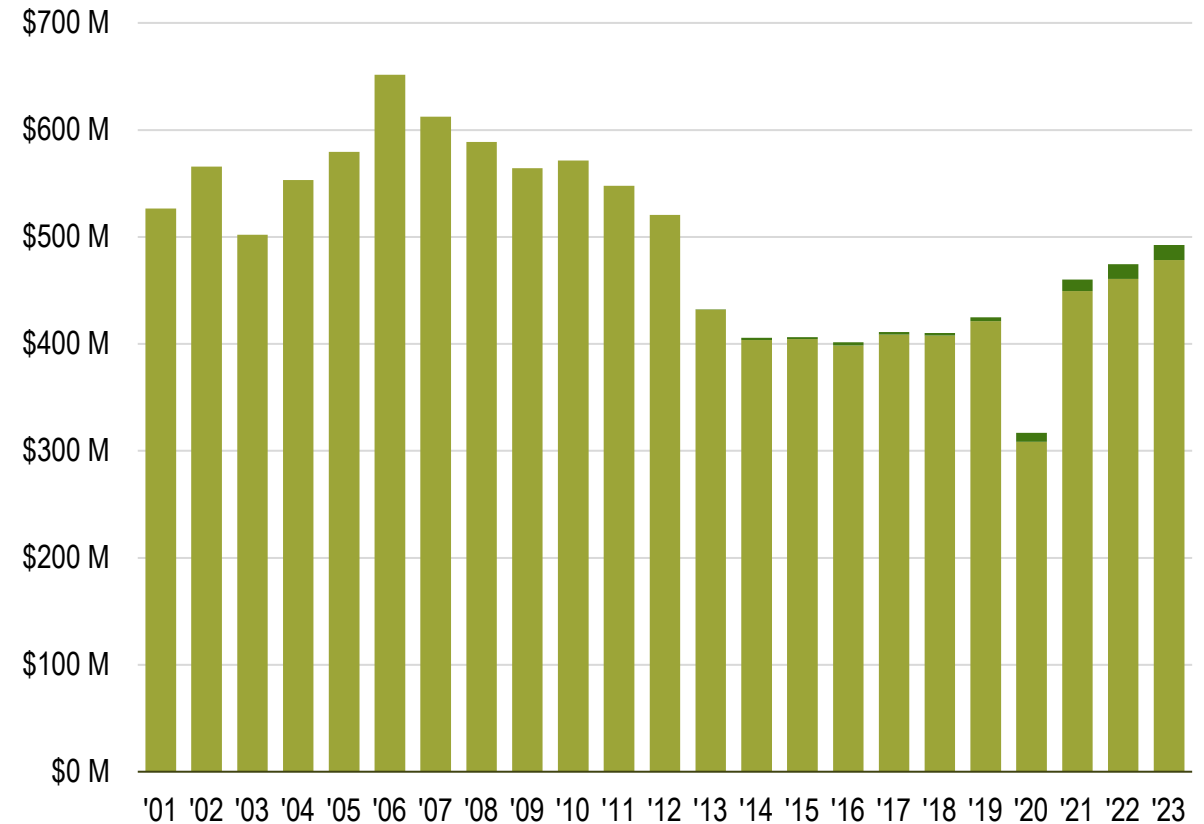
Delaware



2023 Snapshot	Value	Per Capita	Share of Income
Population (21+)	777,700	N/A	N/A
Income	\$66.95 Billion	N/A	N/A
Casino Revenue	\$478.41 Million	\$463.62	0.71%
iGaming Revenue	\$14.07 Million	\$18.10	0.02%
Combined Revenue	\$492.48 Million	\$477.26	0.74%

Gaming Revenue

■ Casino ■ iGaming

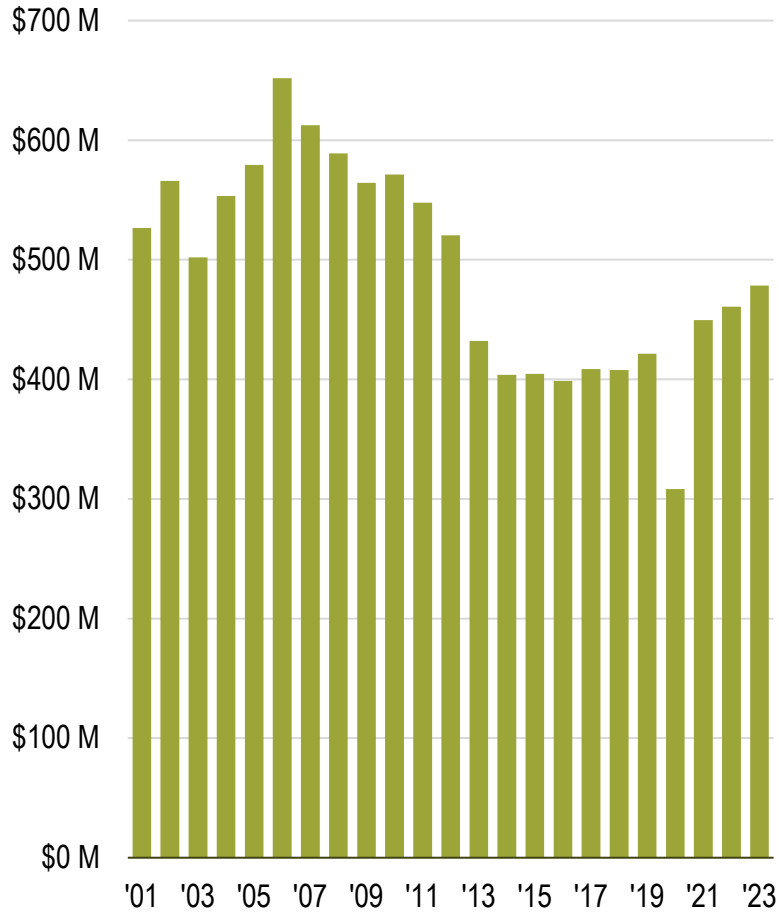


Source: Delaware Lottery; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

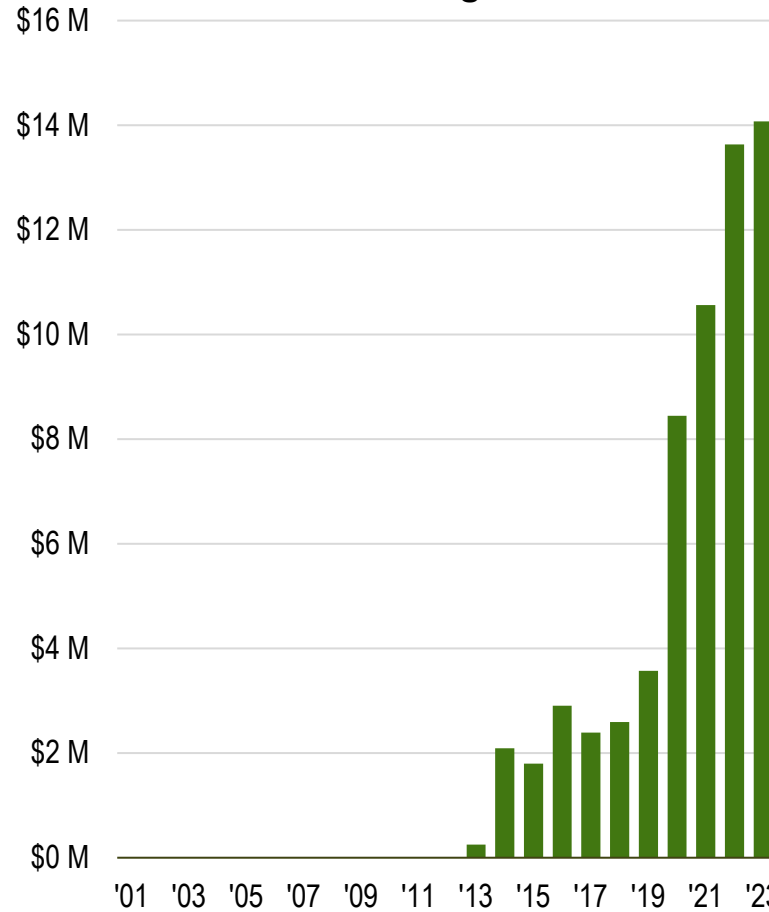
Gaming Revenue

Delaware

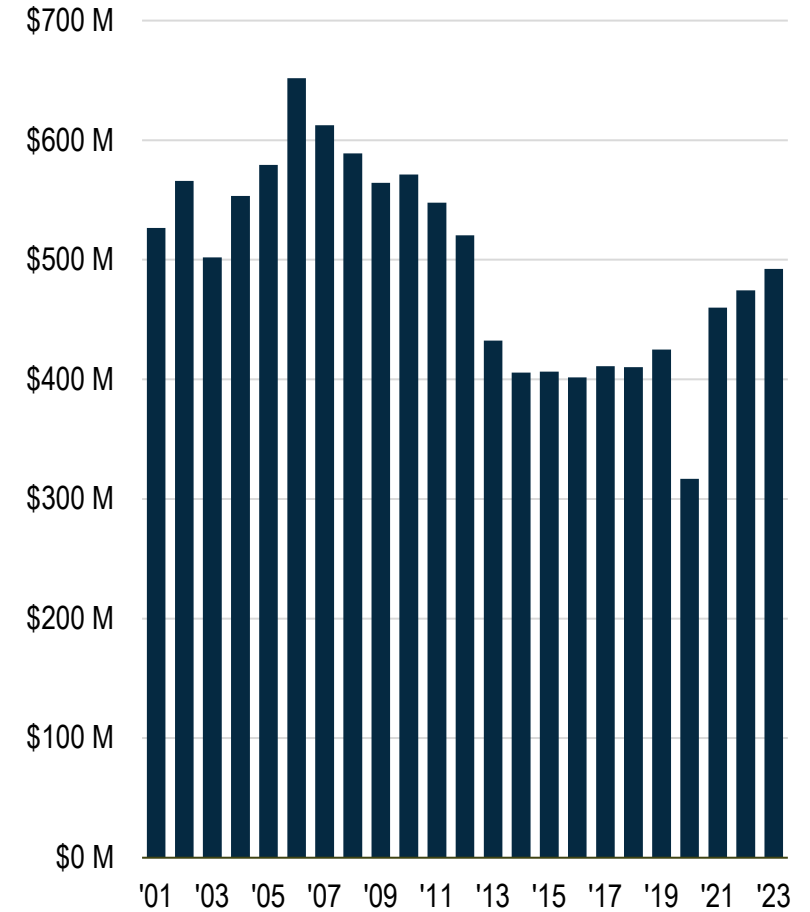
Casino



iGaming



Combined

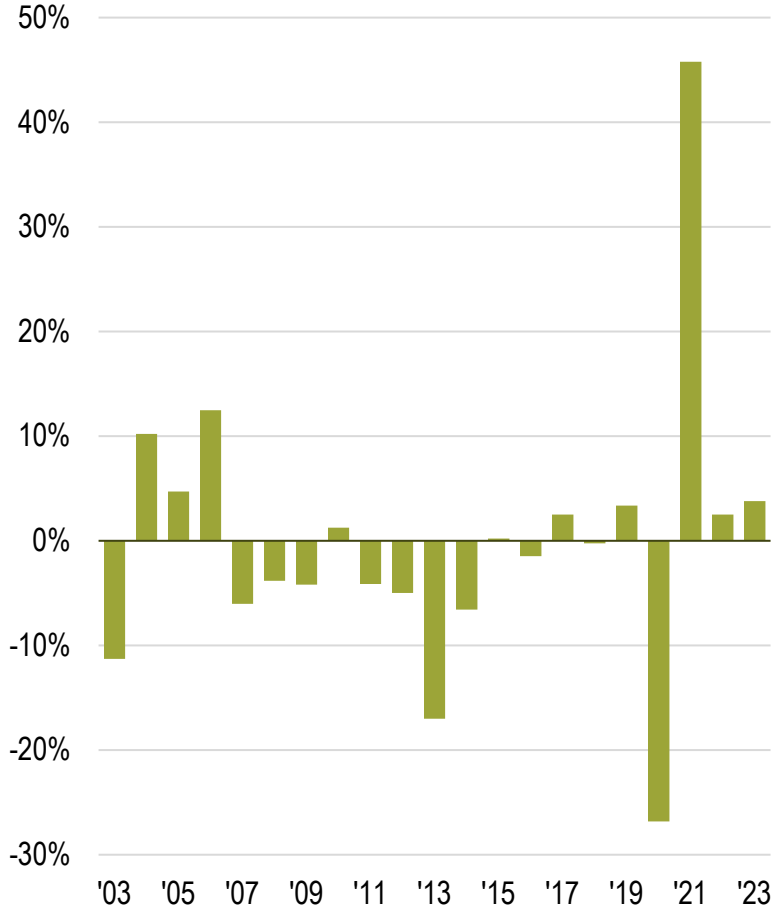


Source: Delaware Lottery

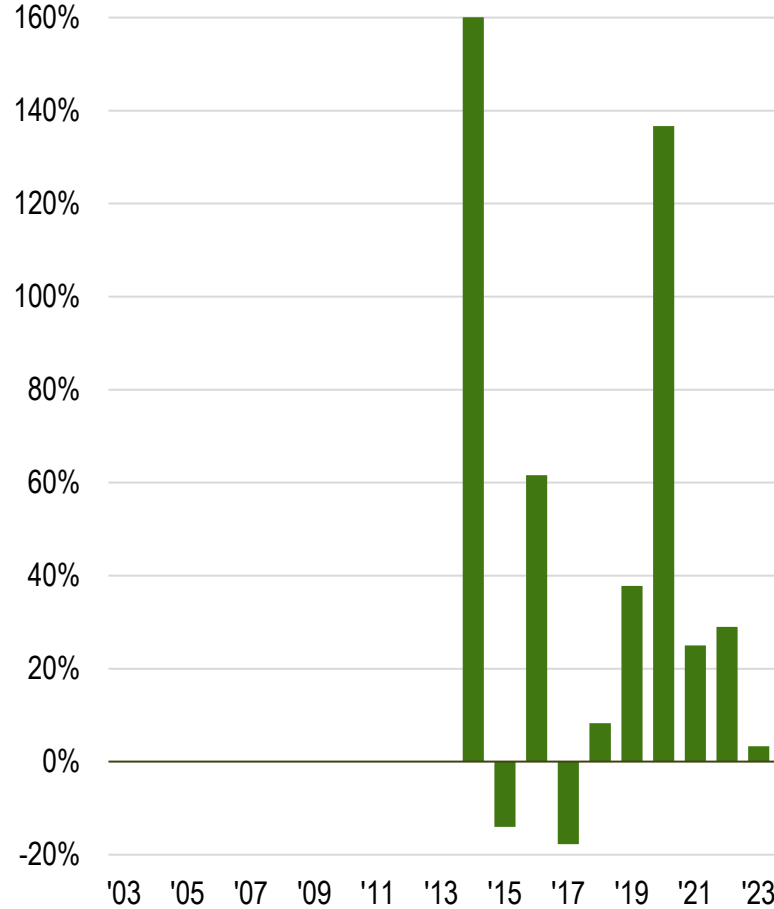
Gaming Revenue Annual Growth (%)

Delaware

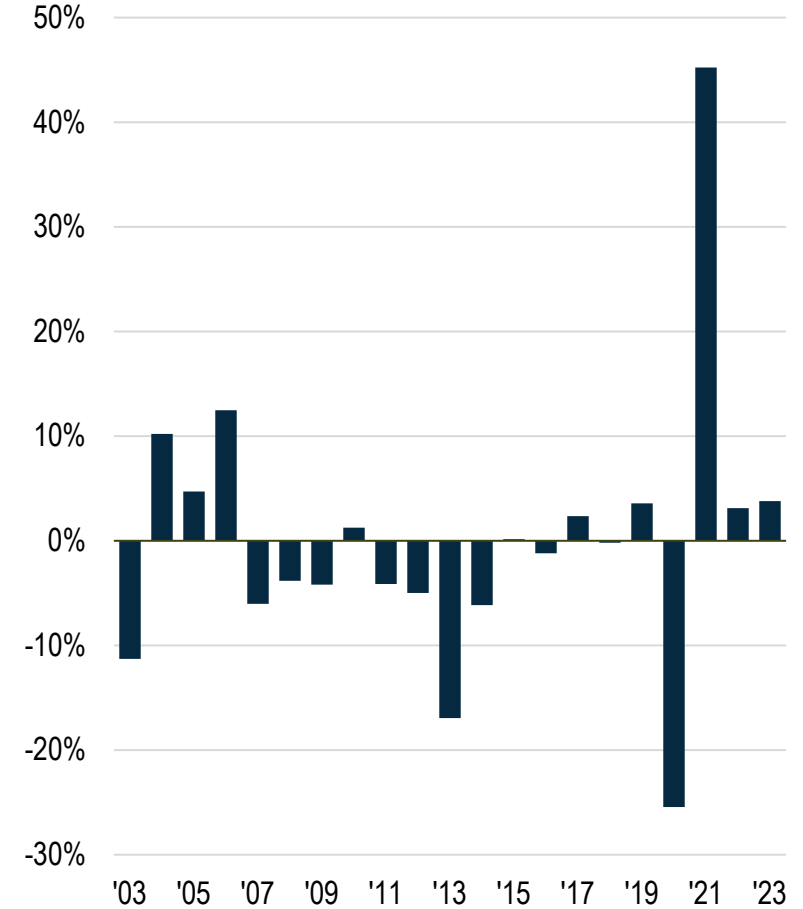
Casino



iGaming



Combined

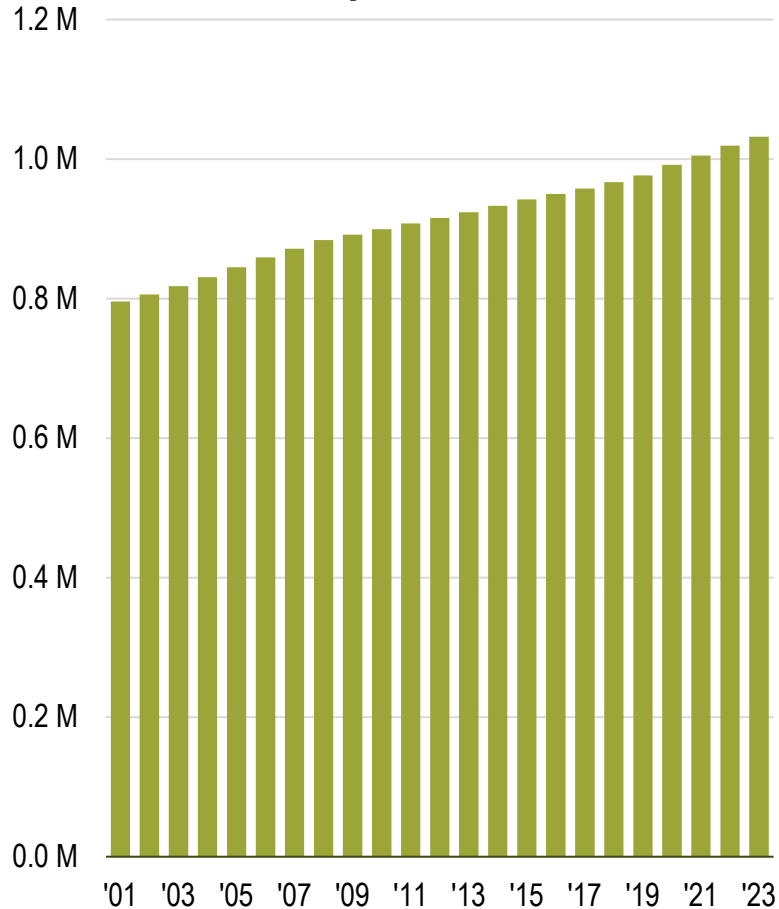


Source: Delaware Lottery; Applied Analysis. Note: Some chart axes adjusted for clarity.

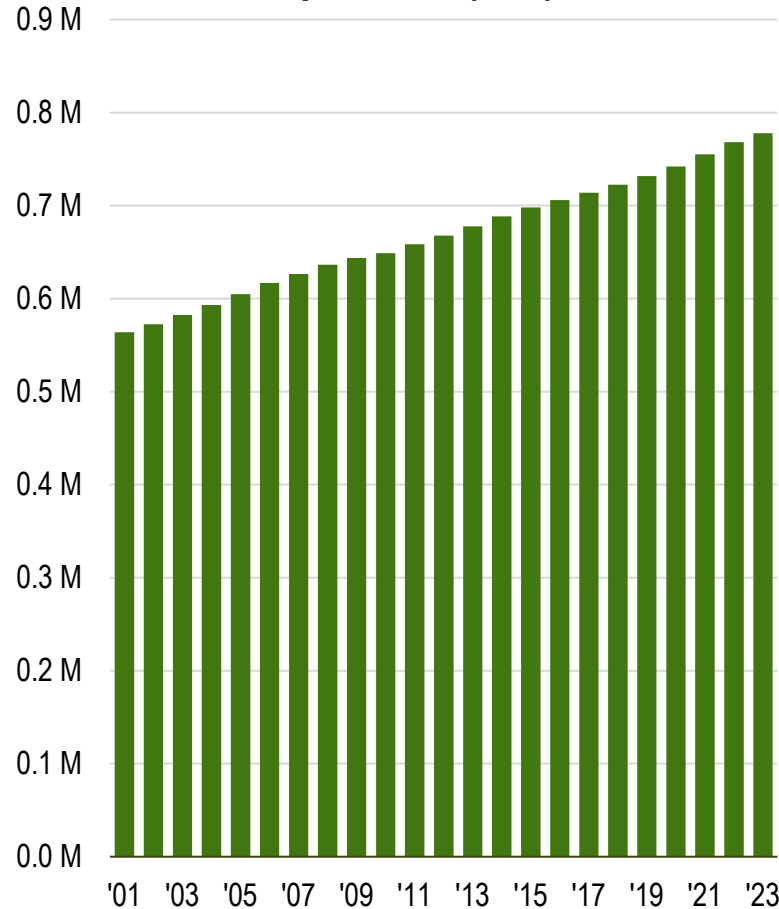
Economic Base

Delaware

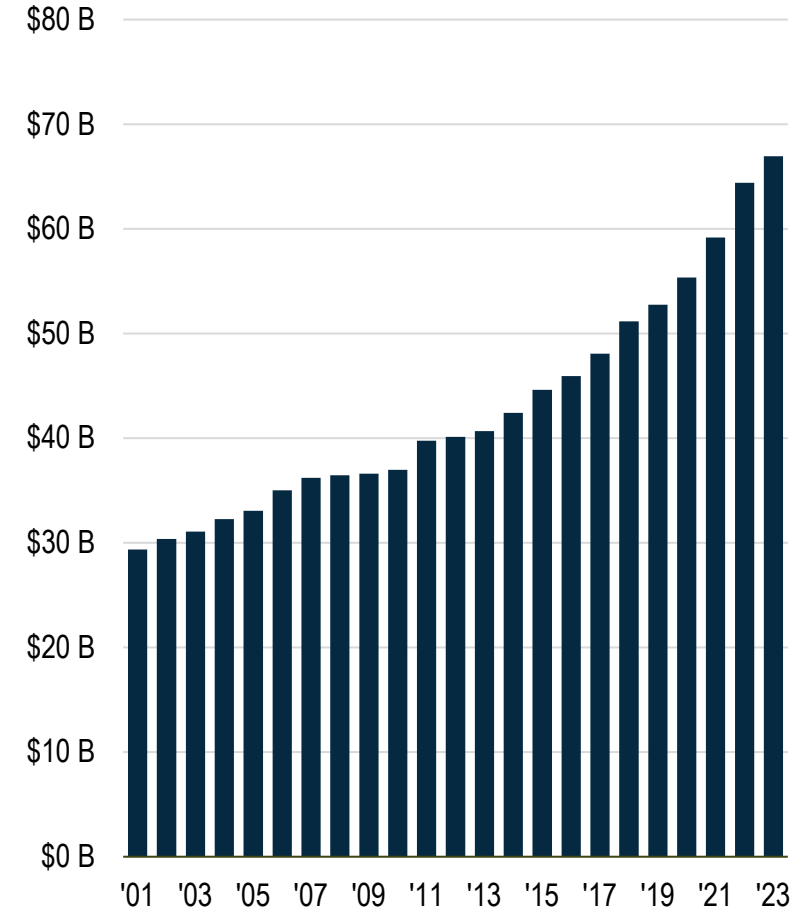
Population



Population (21+)



Personal Income

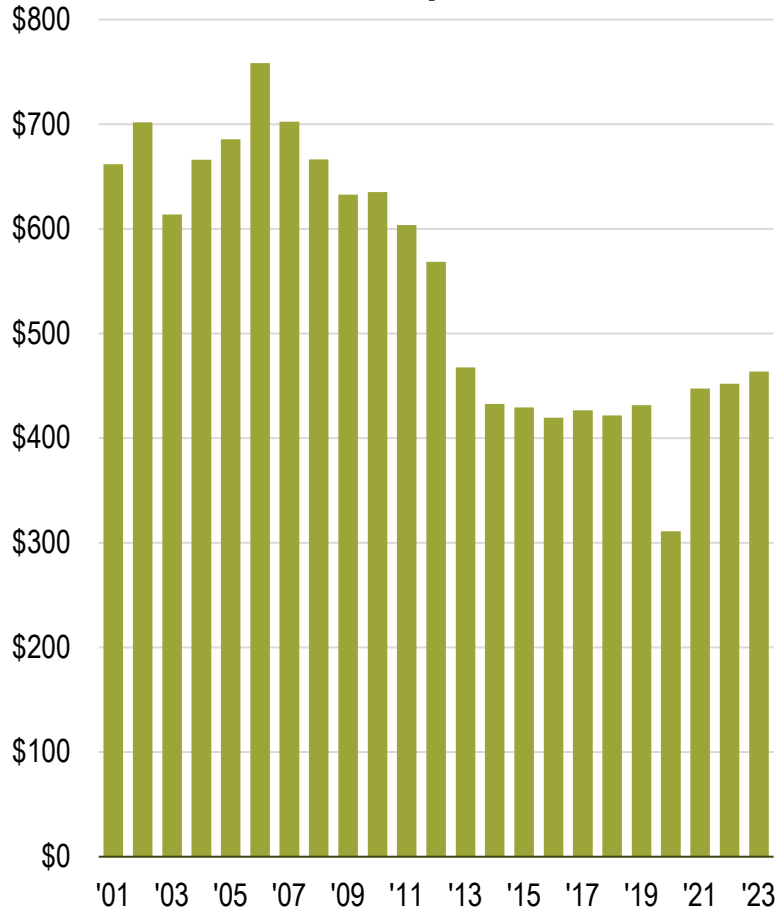


Source: U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

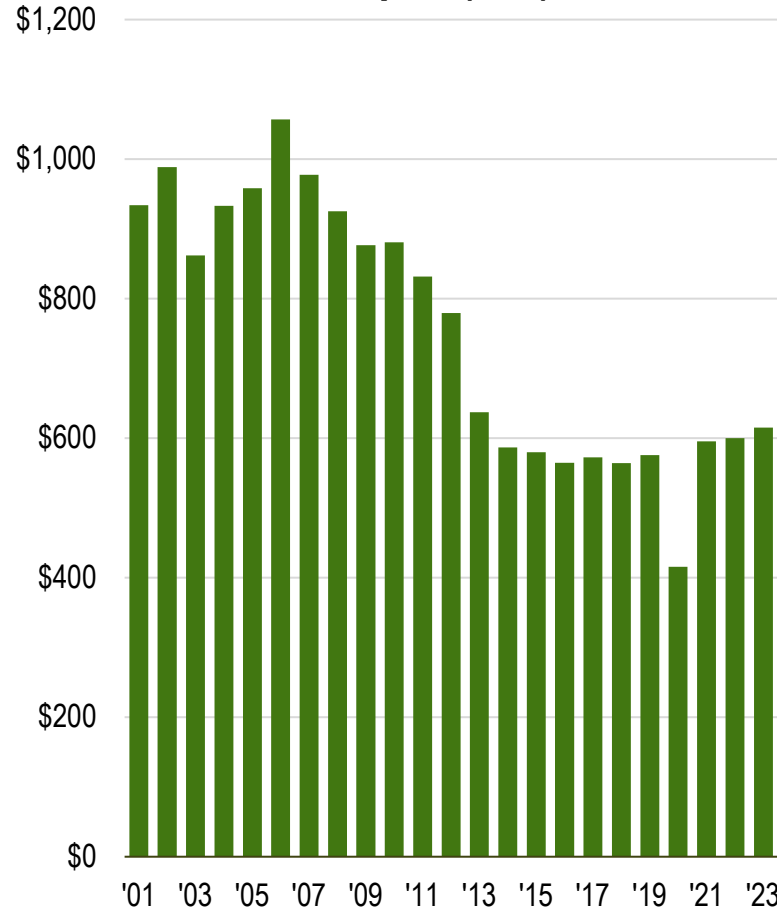
Casino Revenue per Metric

Delaware

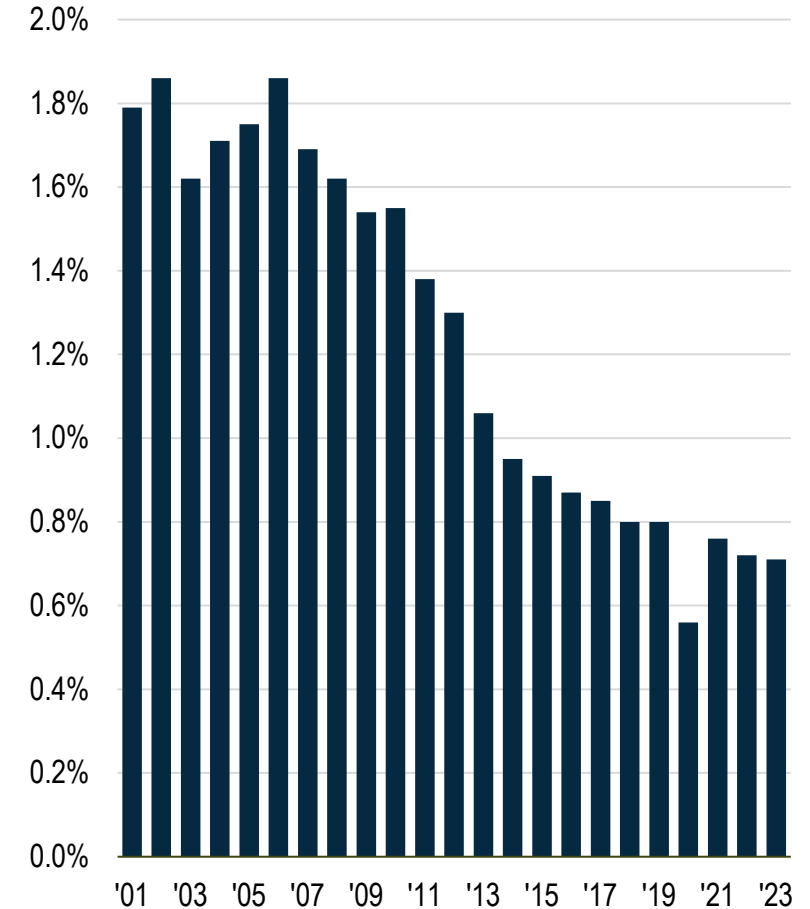
Per Capita



Per Capita (21+)



Share of Personal Income

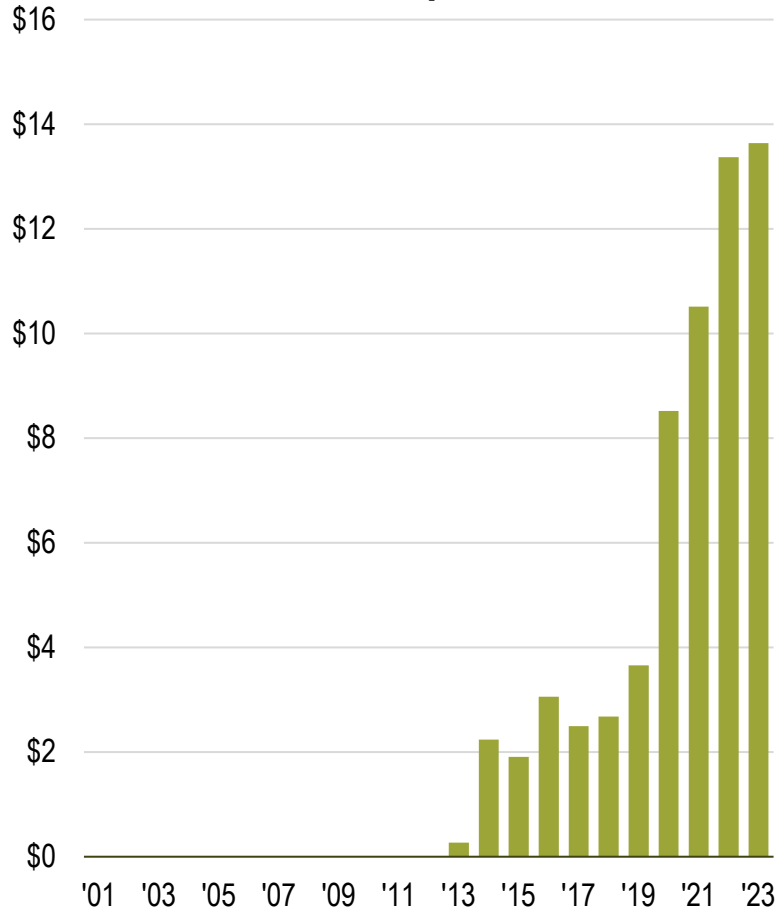


Source: Delaware Lottery; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

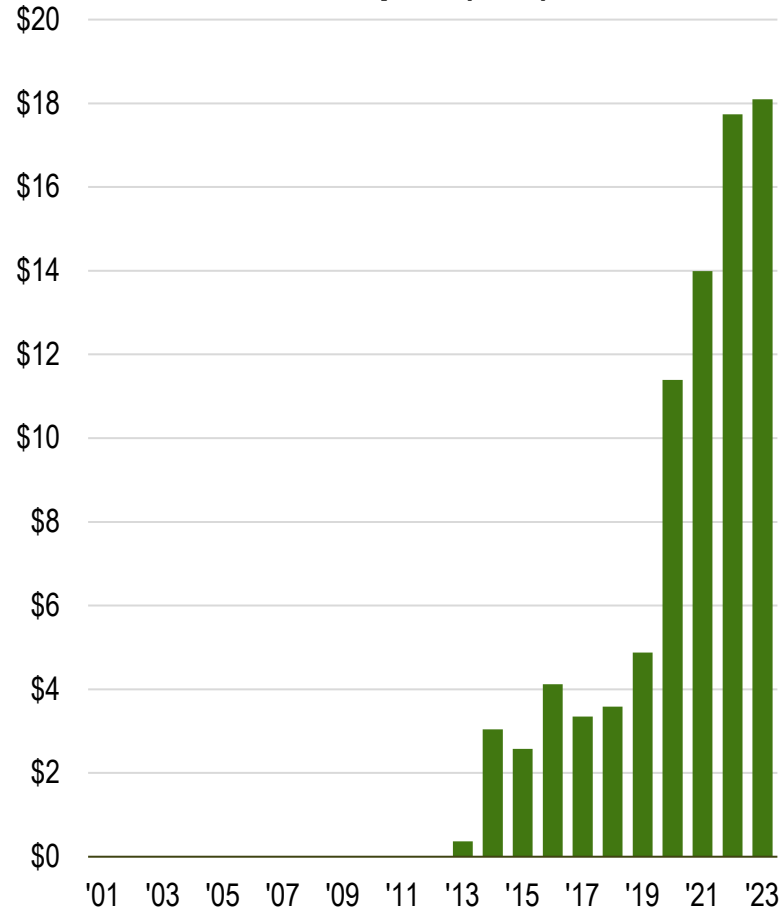
iGaming Revenue per Metric

Delaware

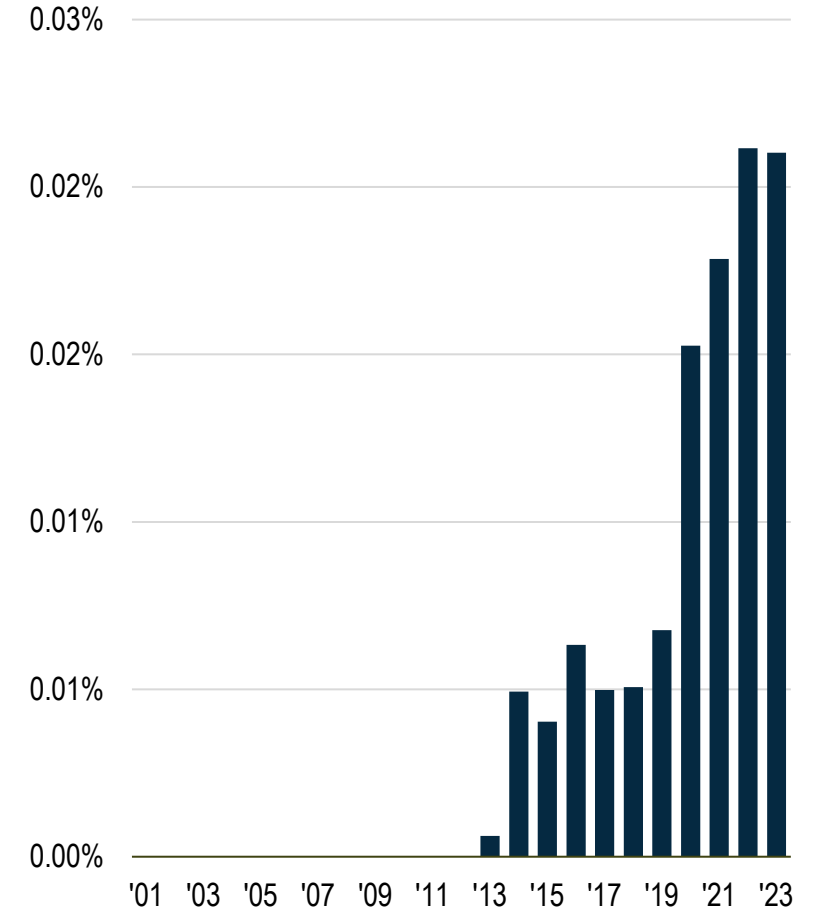
Per Capita



Per Capita (21+)



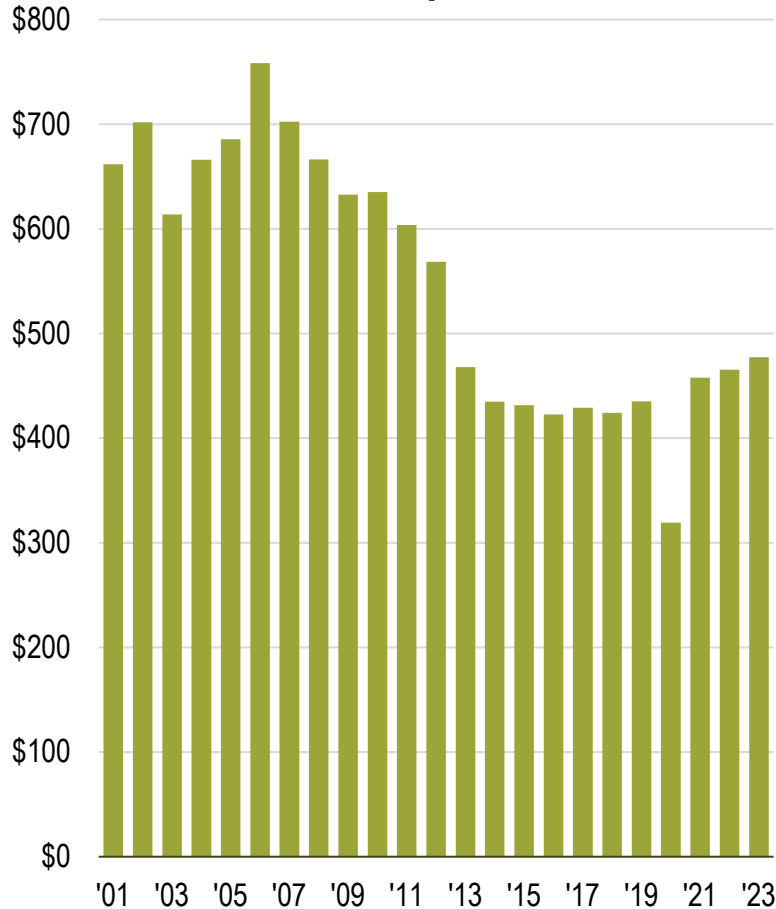
Share of Personal Income



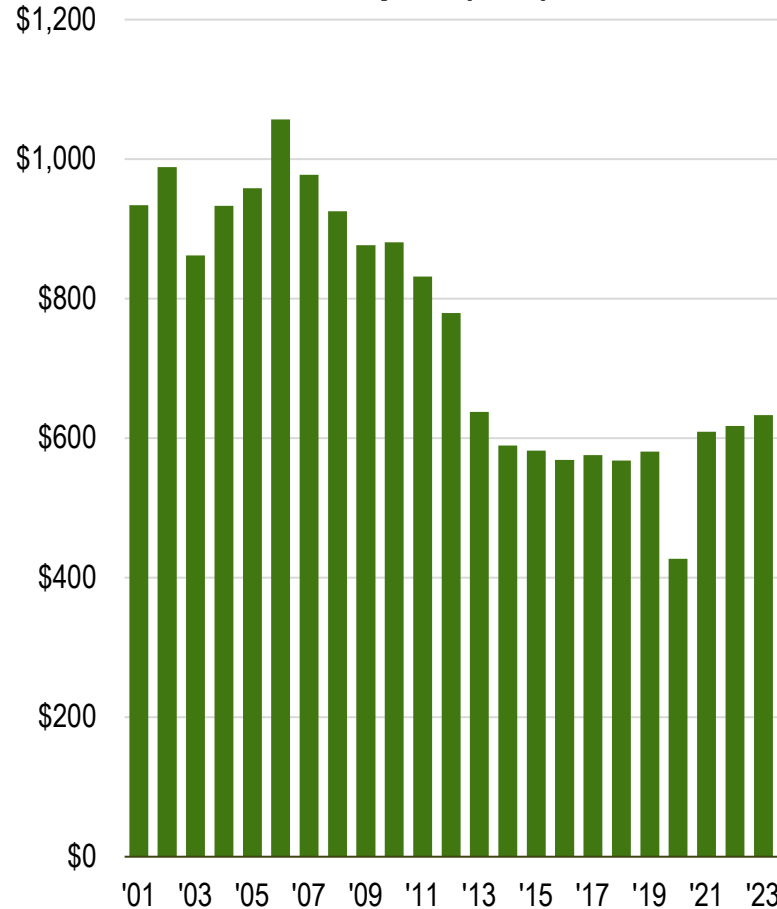
Source: Delaware Lottery; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

Combined Gaming Revenue per Metric Delaware

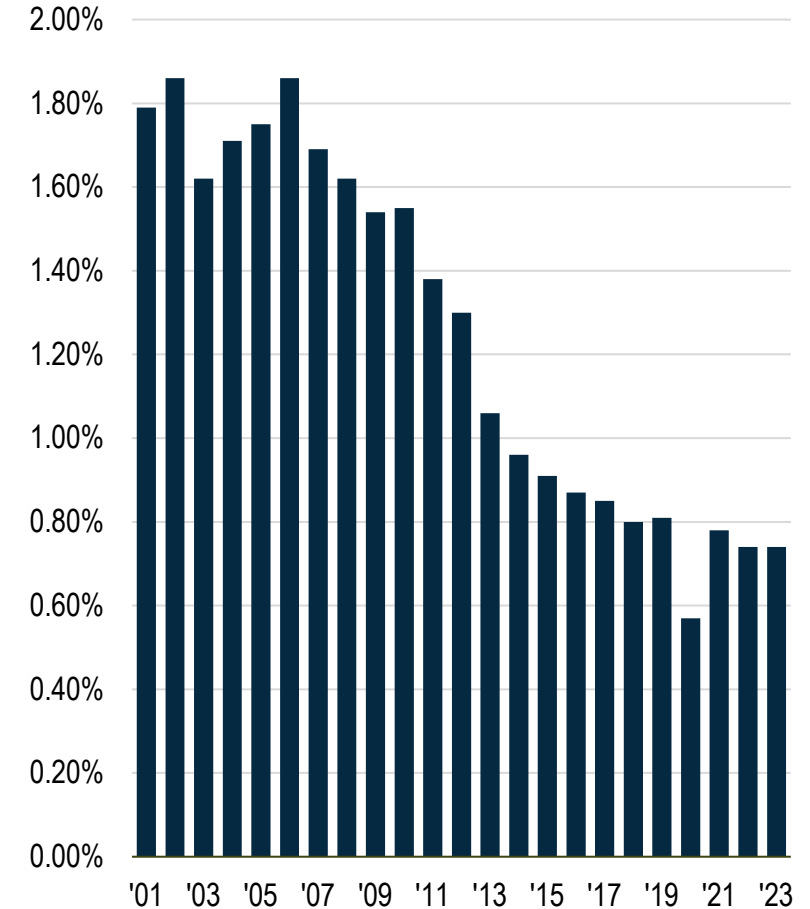
Per Capita



Per Capita (21+)



Share of Personal Income



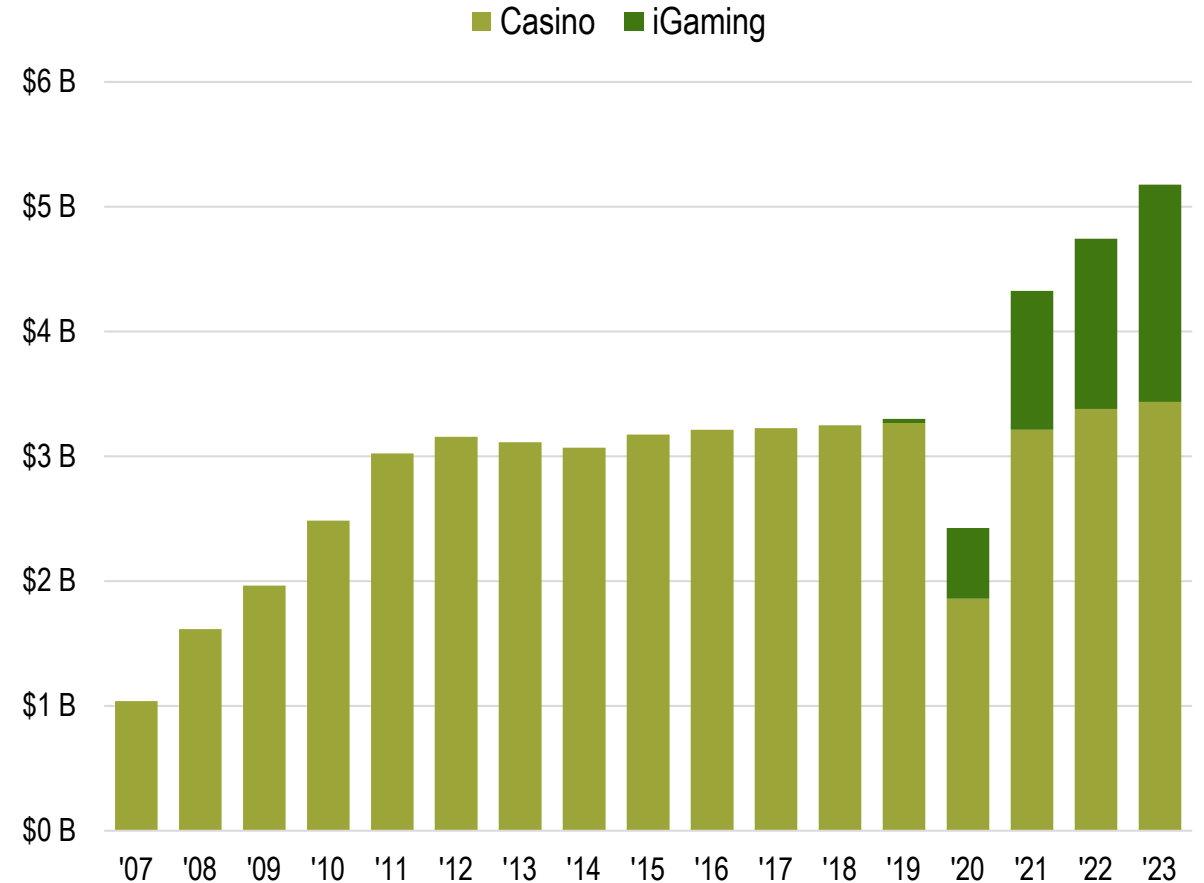
Source: Delaware Lottery; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

Gaming Pennsylvania



2023 Snapshot	Value	Per Capita	Share of Income
Population (21+)	9,800,200	N/A	N/A
Income	\$869.49 Billion	N/A	N/A
Casino Revenue	\$3.44 Billion	\$350.55	0.40%
iGaming Revenue	\$1.74 Billion	\$177.73	0.20%
Combined Revenue	\$5.18 Billion	\$528.28	0.60%

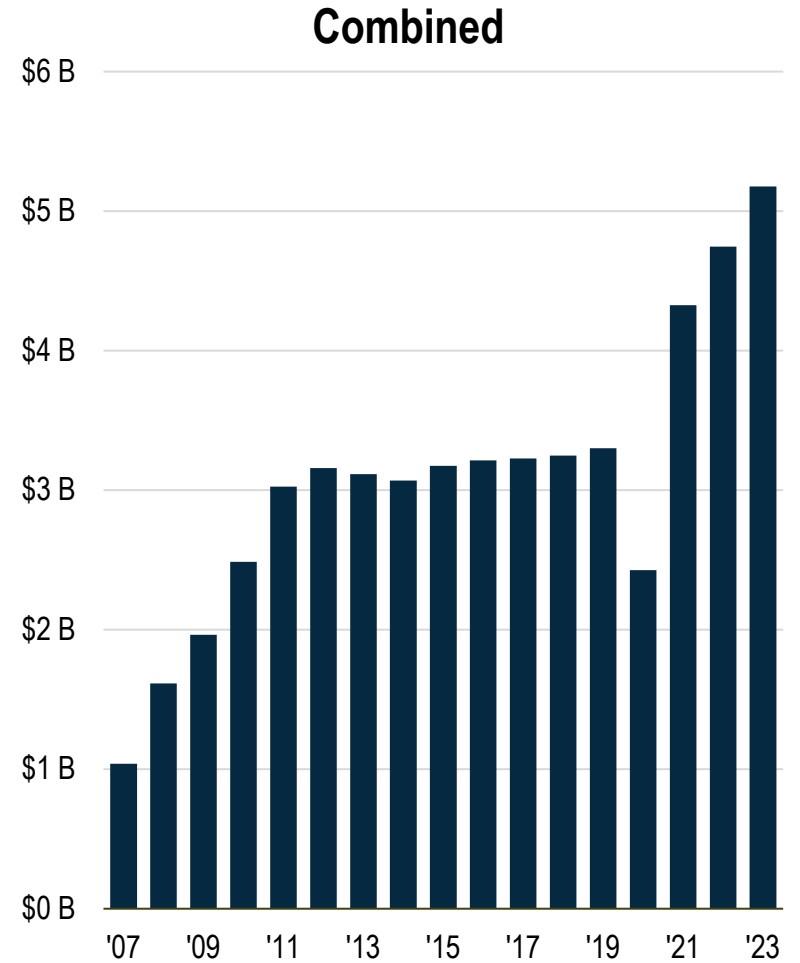
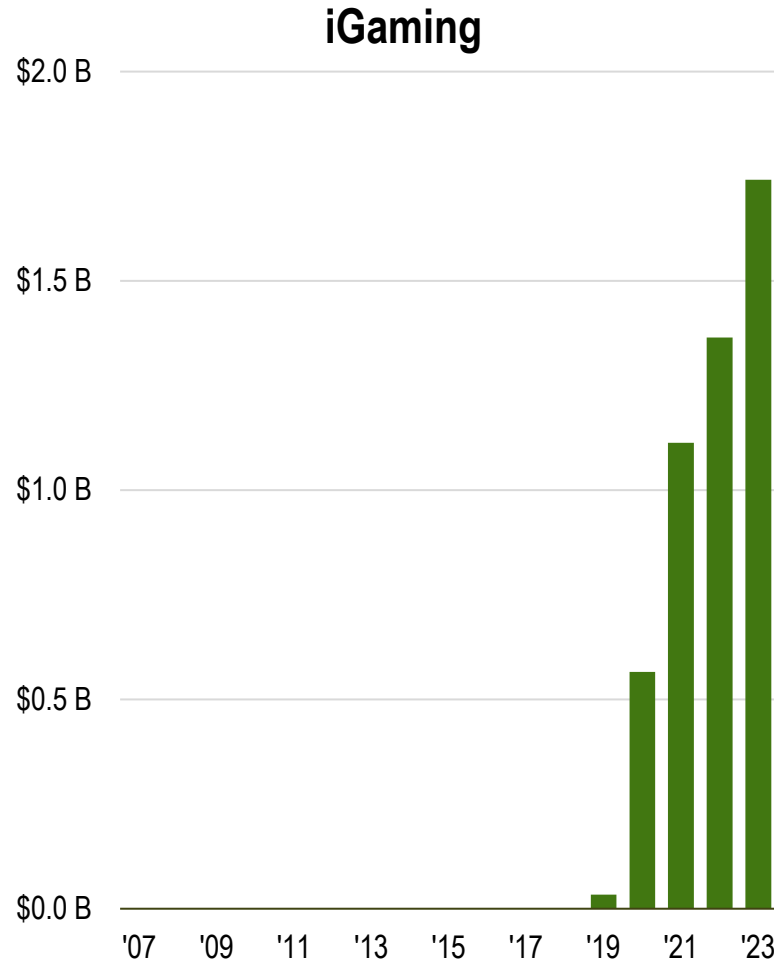
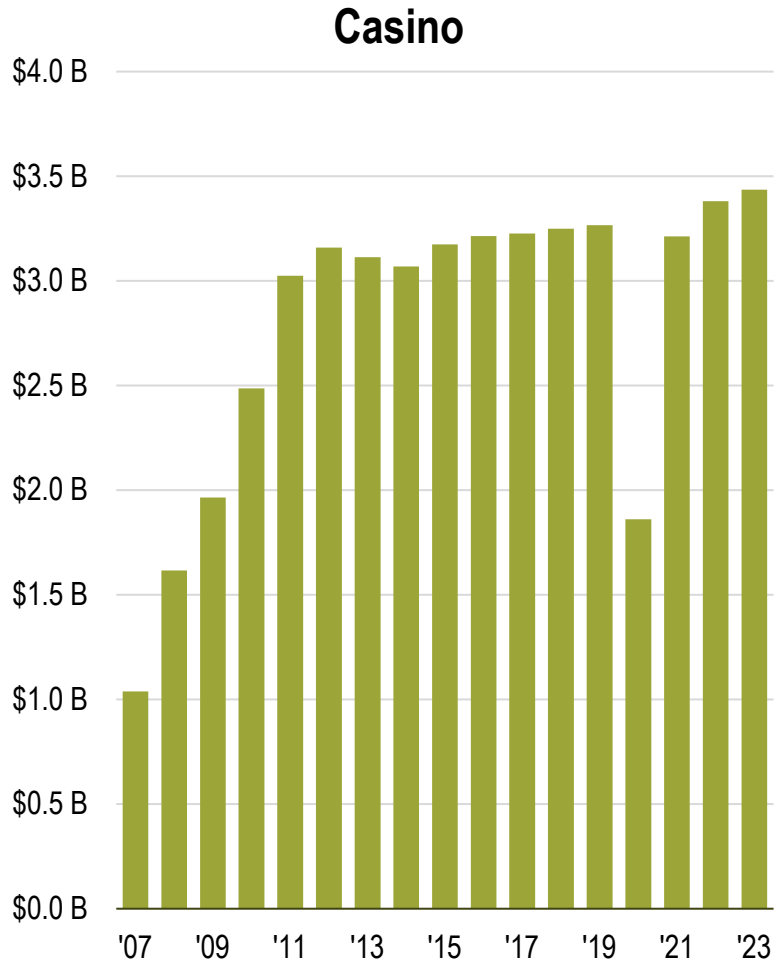
Gaming Revenue



Source: Pennsylvania Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

Gaming Revenue

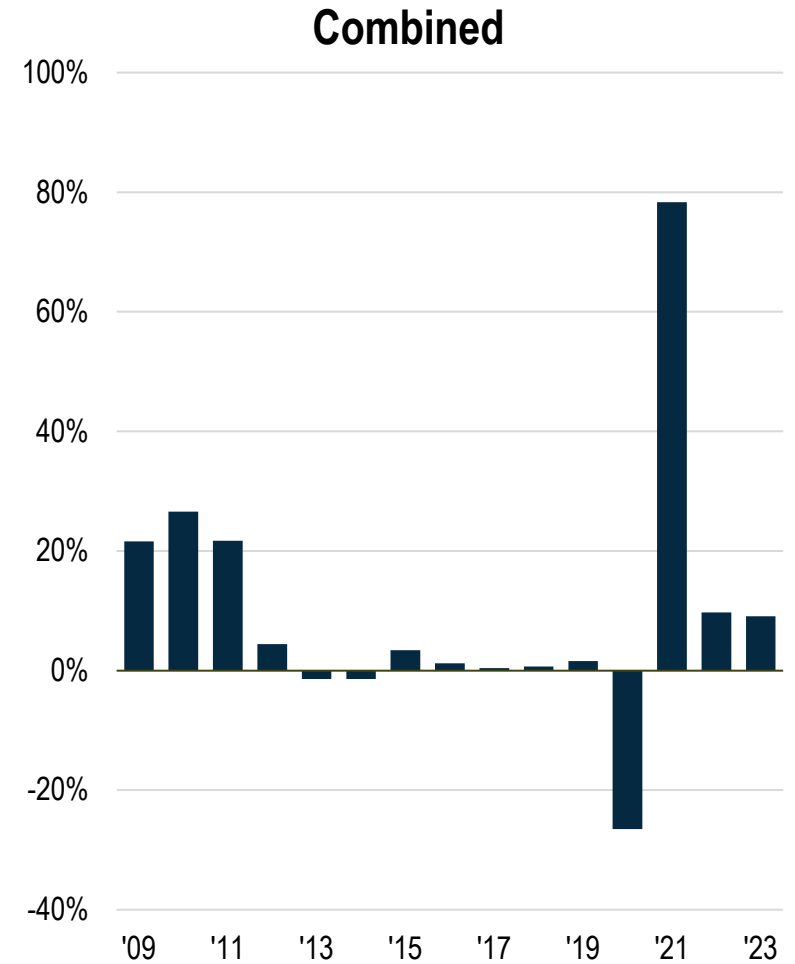
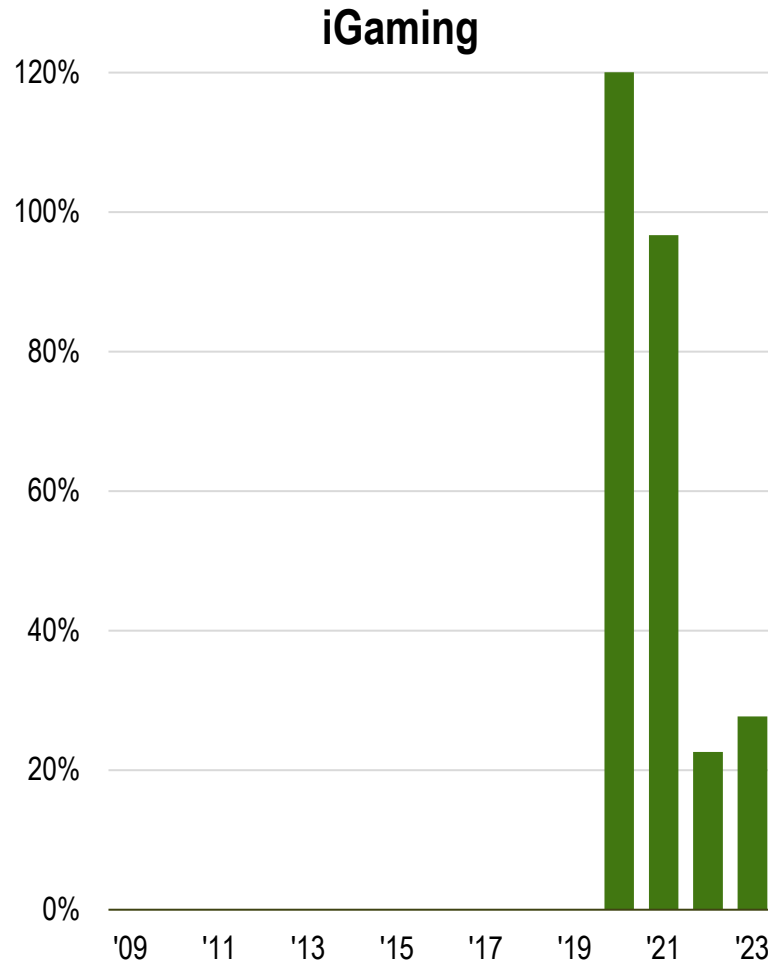
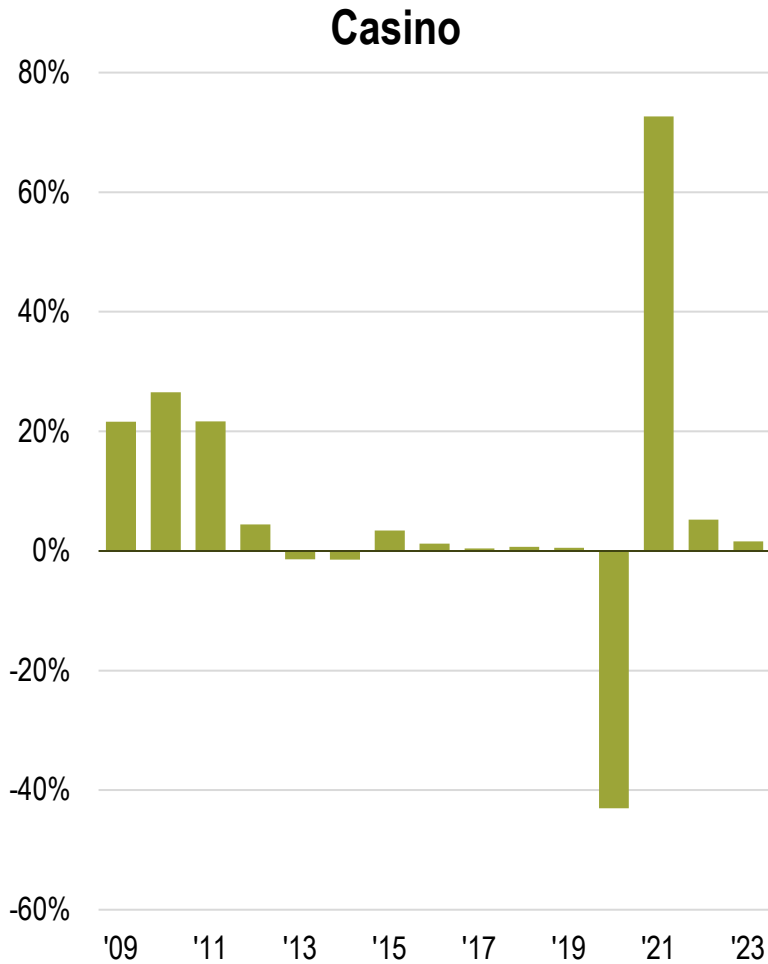
Pennsylvania



Source: Pennsylvania Gaming Control Board

Gaming Revenue Annual Growth (%)

Pennsylvania

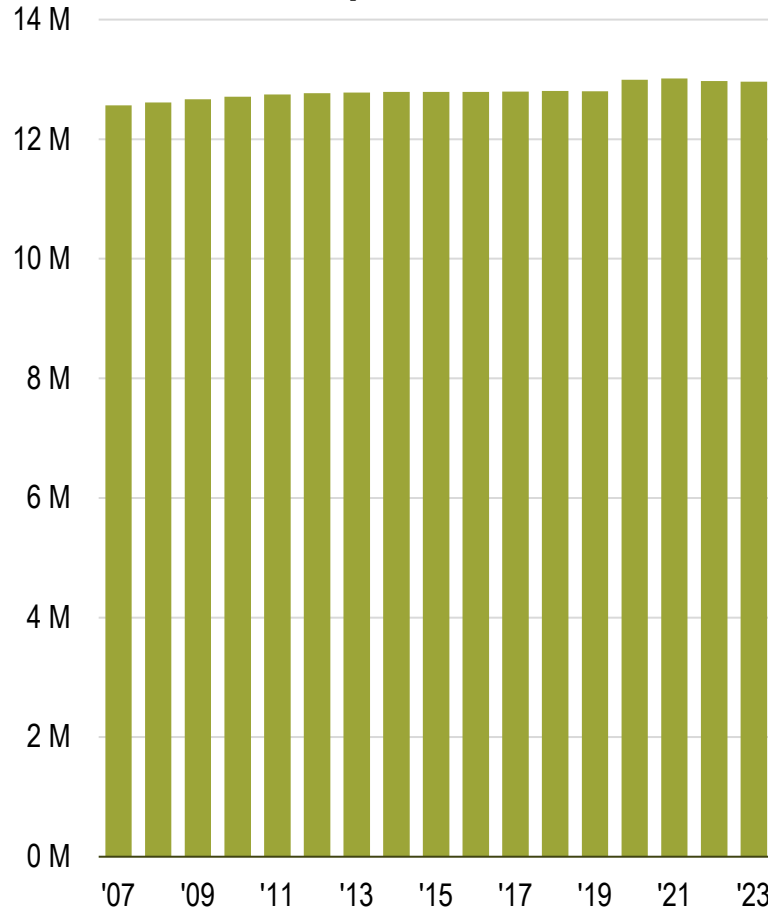


Source: Pennsylvania Gaming Control Board; Applied Analysis. Note: Some chart axes adjusted for clarity.

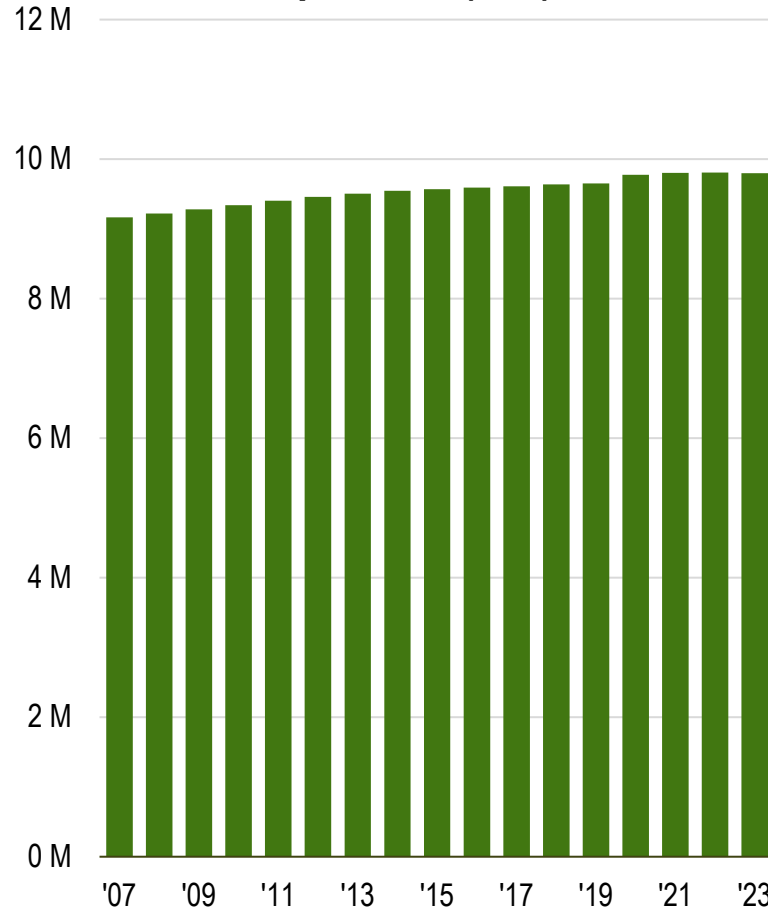
Economic Base

Pennsylvania

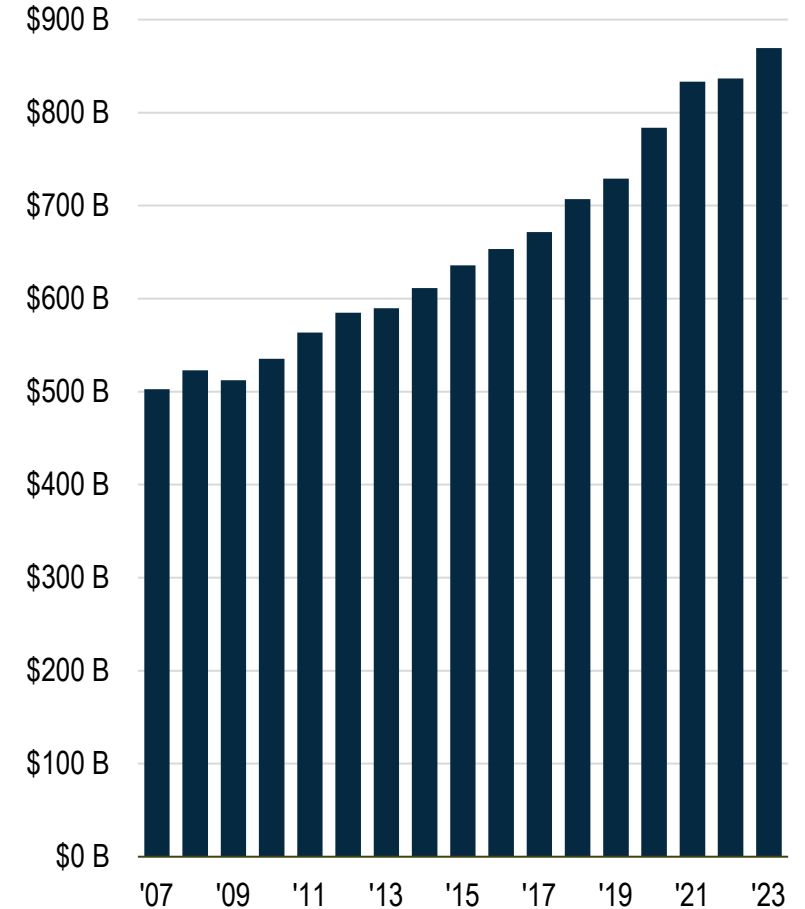
Population



Population (21+)



Personal Income



Source: U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

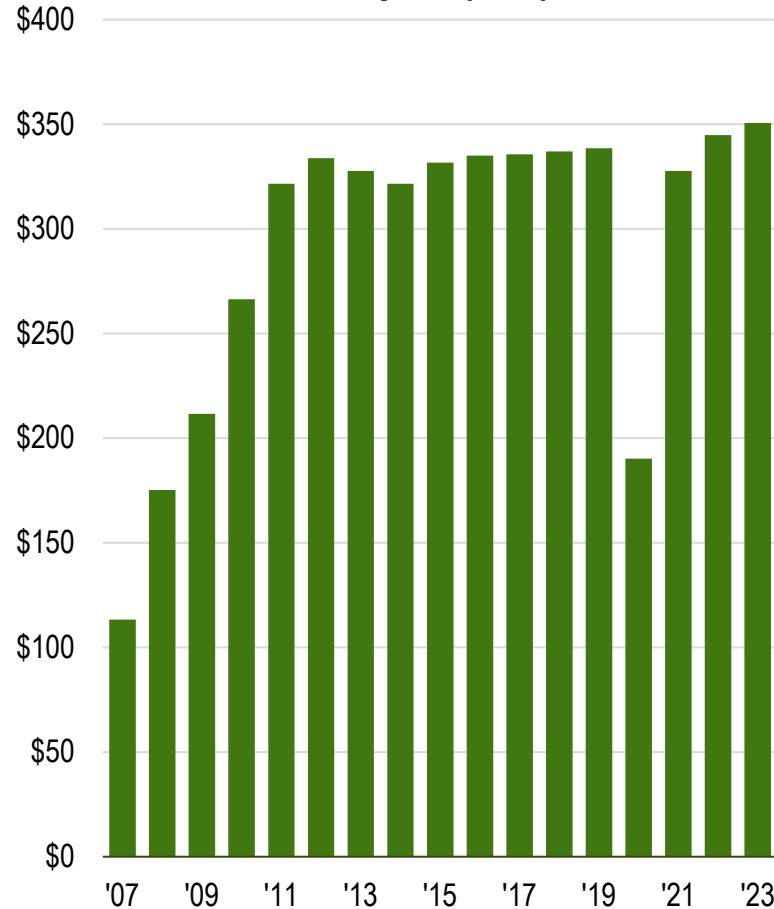
Casino Revenue per Metric

Pennsylvania

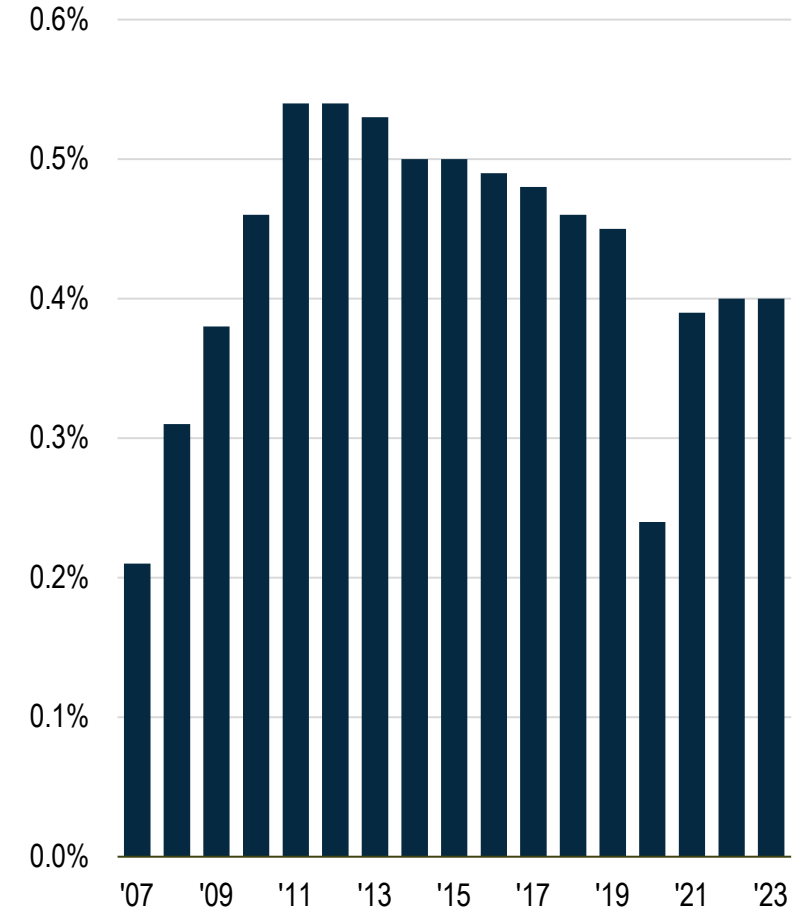
Per Capita



Per Capita (21+)



Share of Personal Income

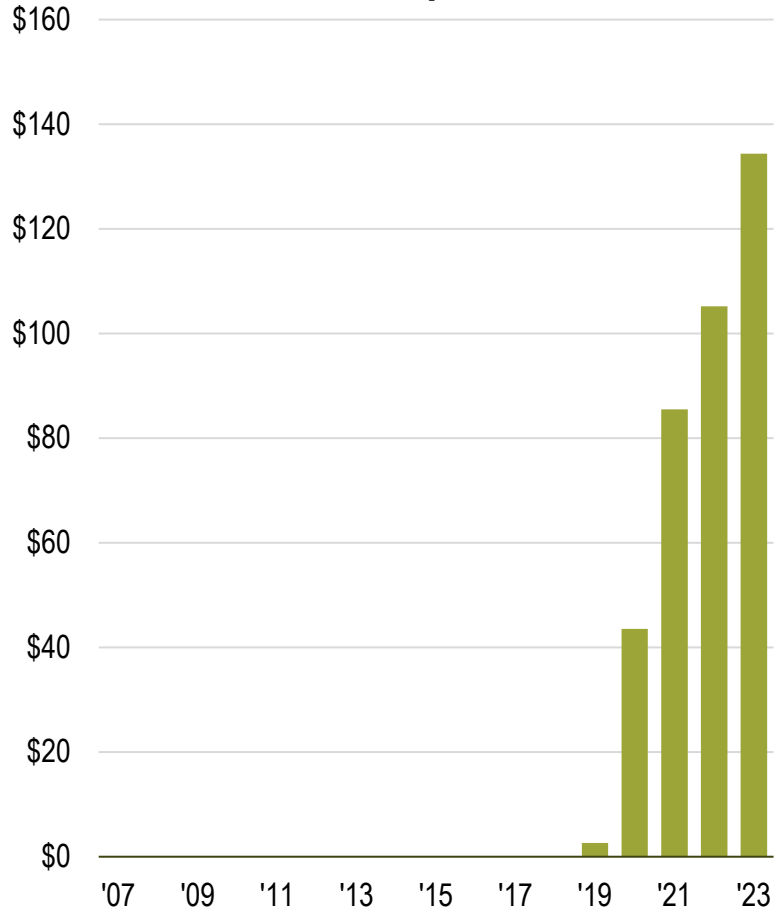


Source: Pennsylvania Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

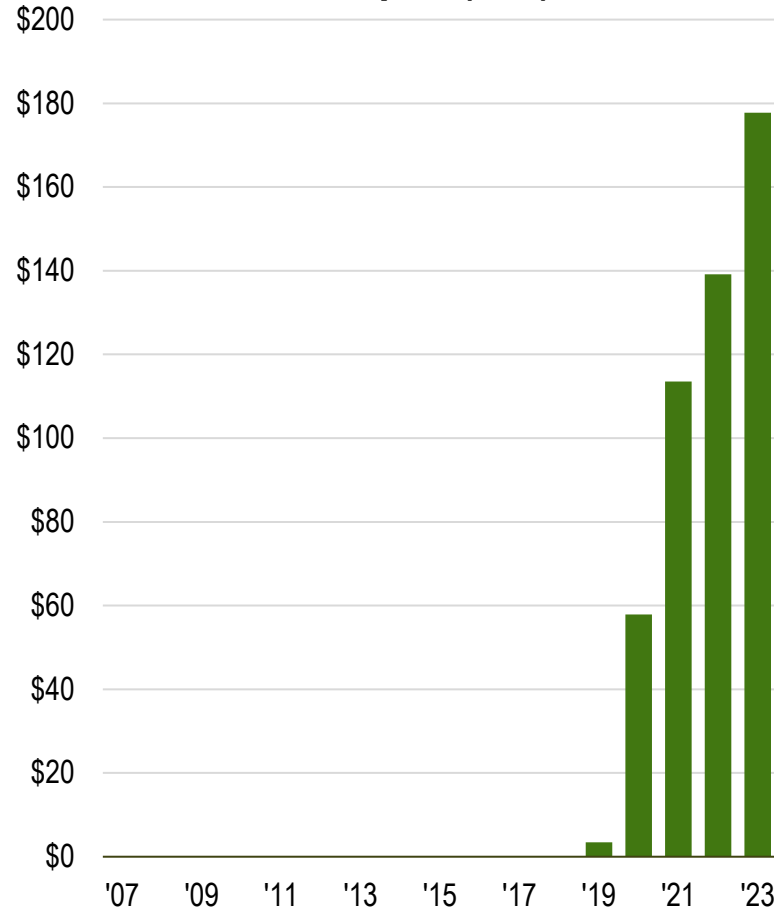
iGaming Revenue per Metric

Pennsylvania

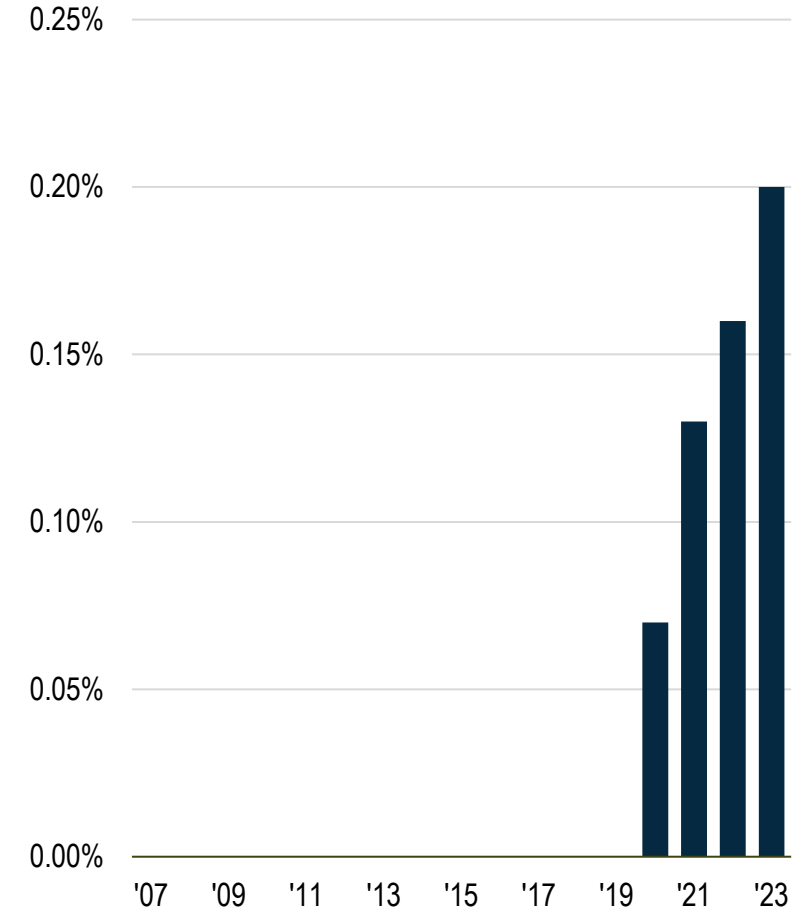
Per Capita



Per Capita (21+)



Share of Personal Income

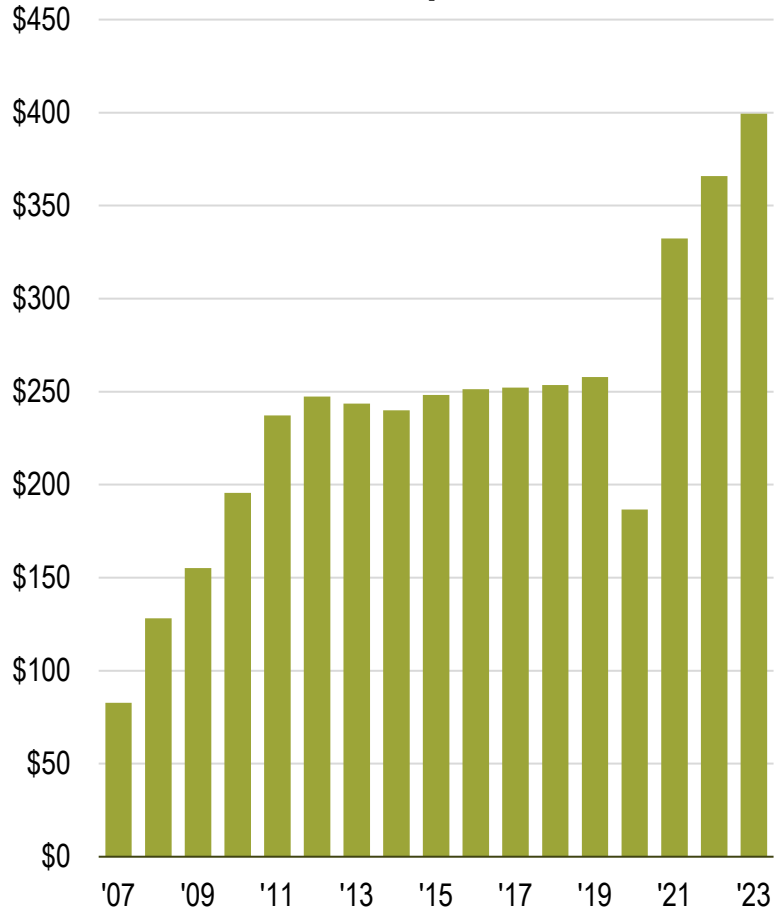


Source: Pennsylvania Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

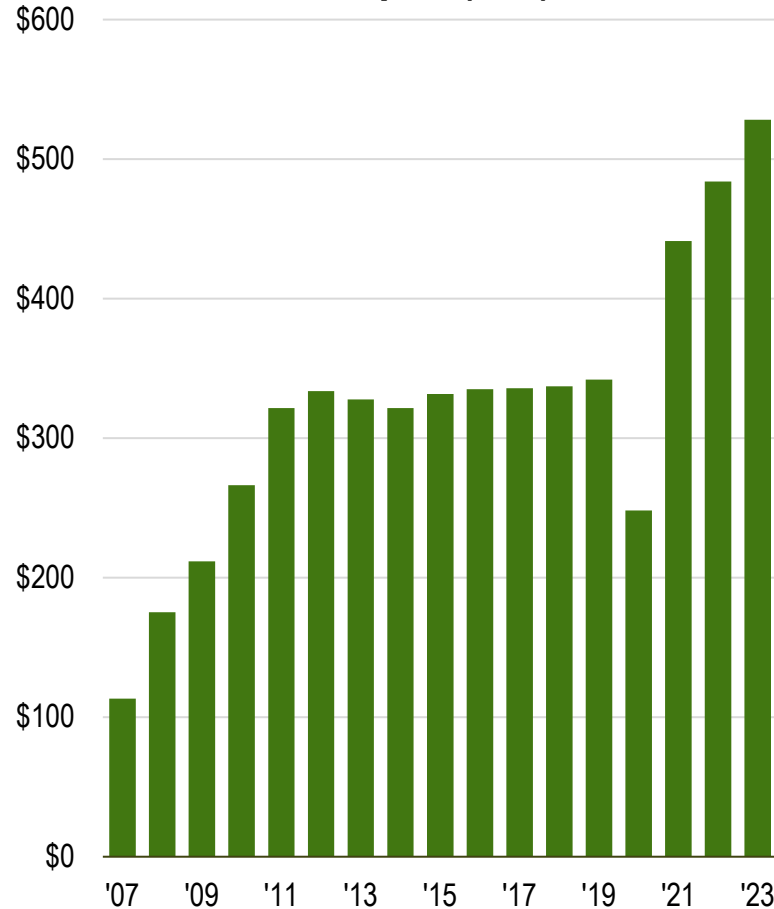
Combined Gaming Revenue per Metric

Pennsylvania

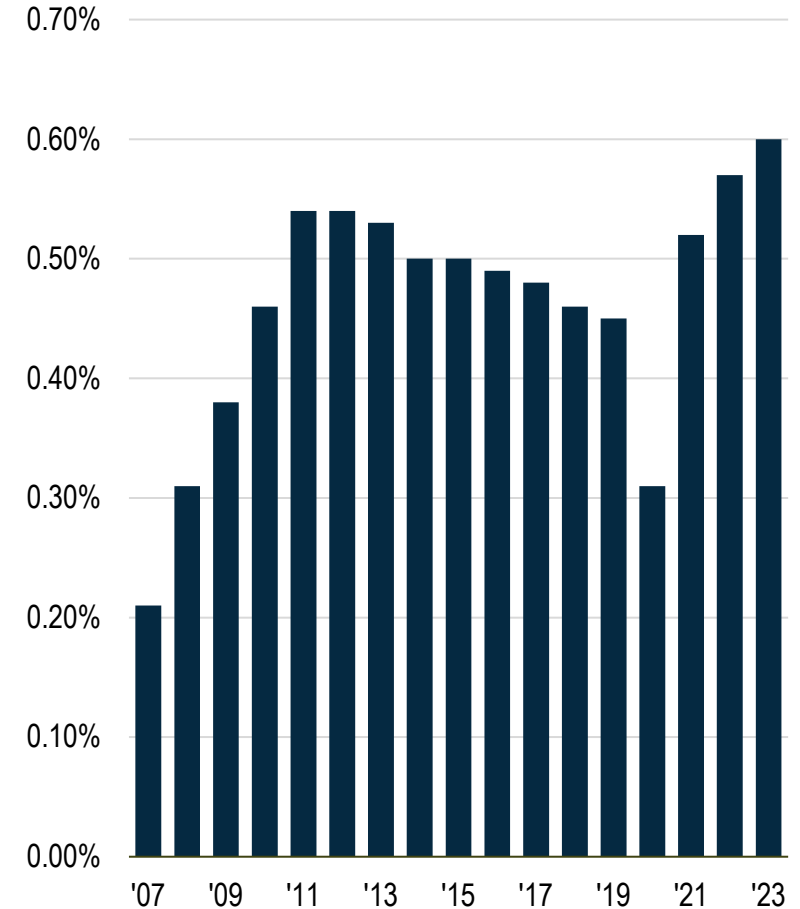
Per Capita



Per Capita (21+)



Share of Personal Income



Source: Pennsylvania Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

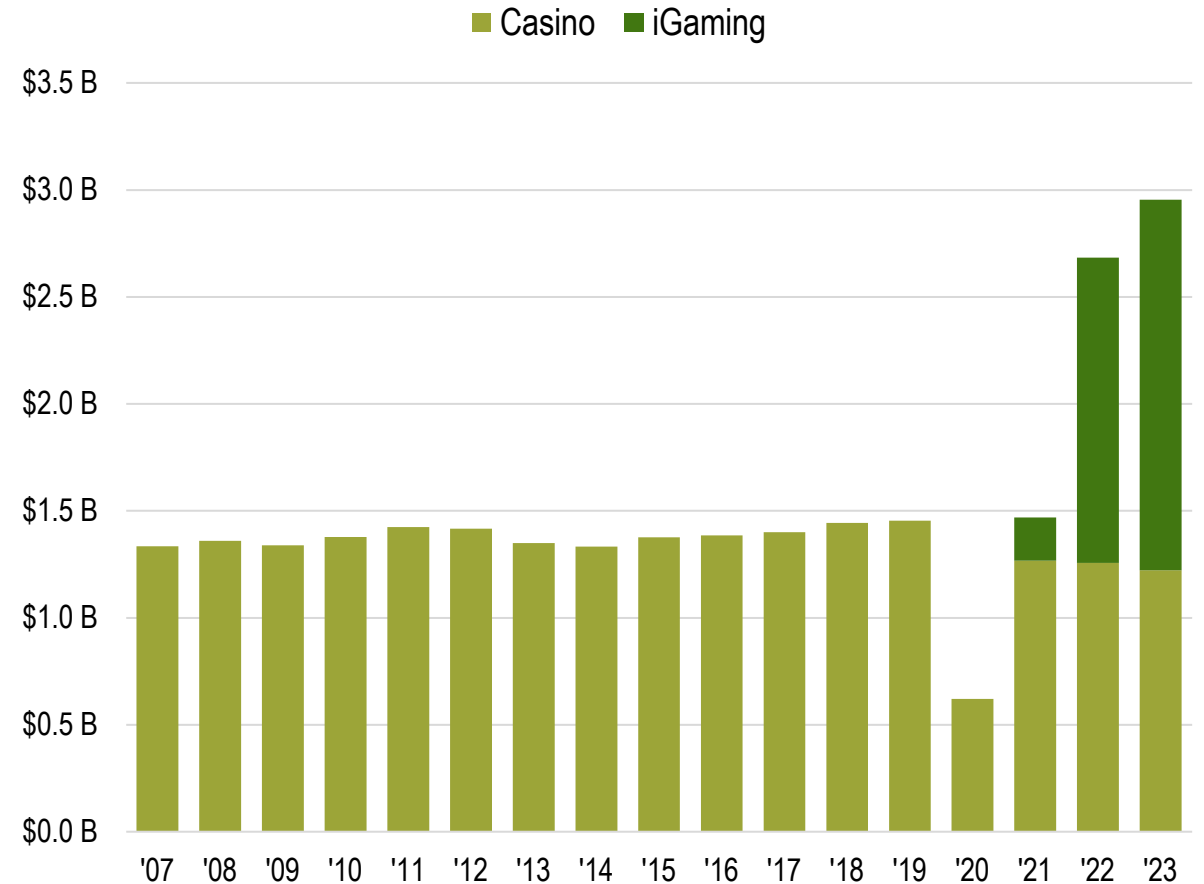
Gaming

Michigan



2023 Snapshot	Value	Per Capita	Share of Income
Population (21+)	7,537,200	N/A	N/A
Income	\$592.72 Billion	N/A	N/A
Casino Revenue	\$1.22 Billion	\$162.23	0.21%
iGaming Revenue	\$1.73 Billion	\$229.86	0.29%
Combined Revenue	\$2.96 Billion	\$392.09	0.50%

Gaming Revenue



Source: Michigan Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

Gaming Revenue

Michigan

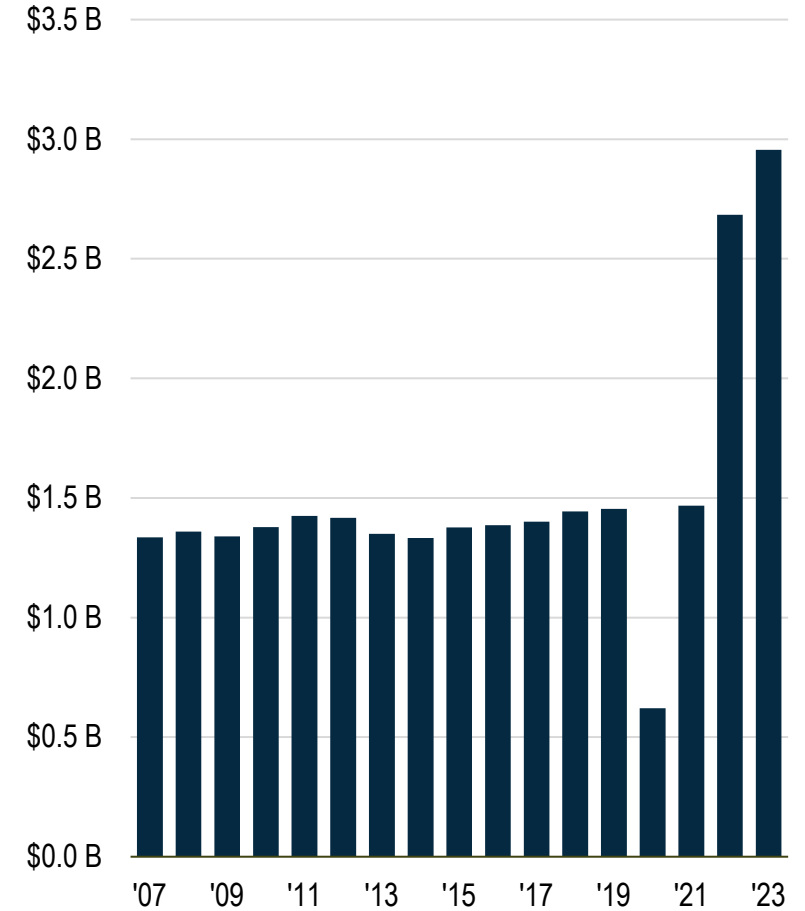
Casino



iGaming



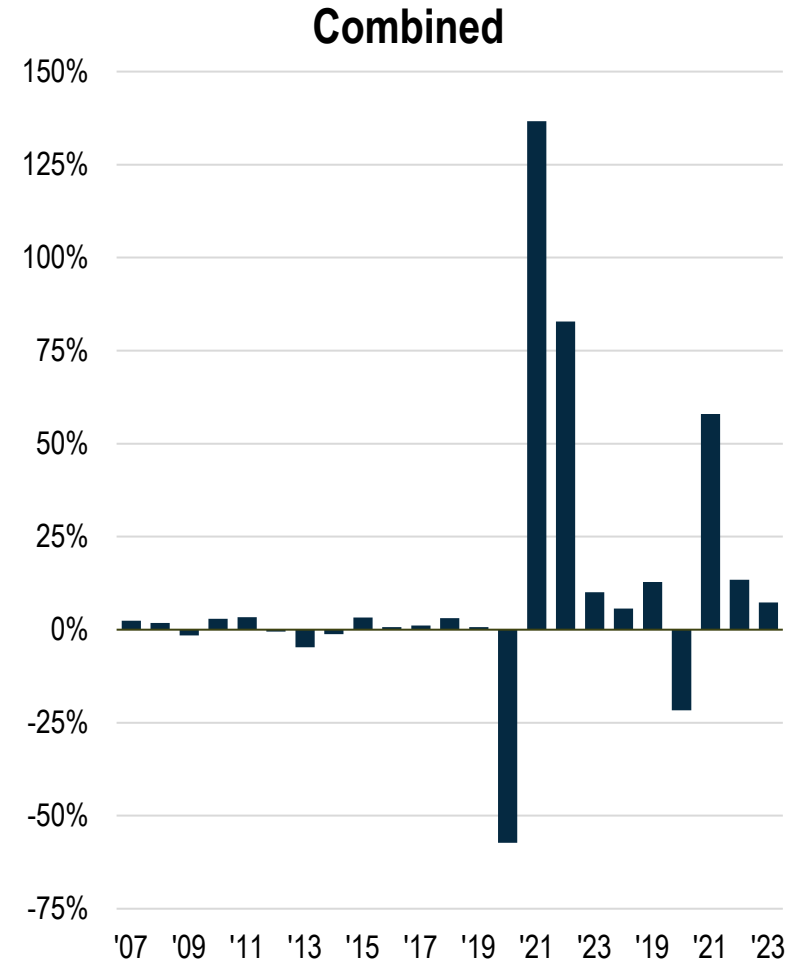
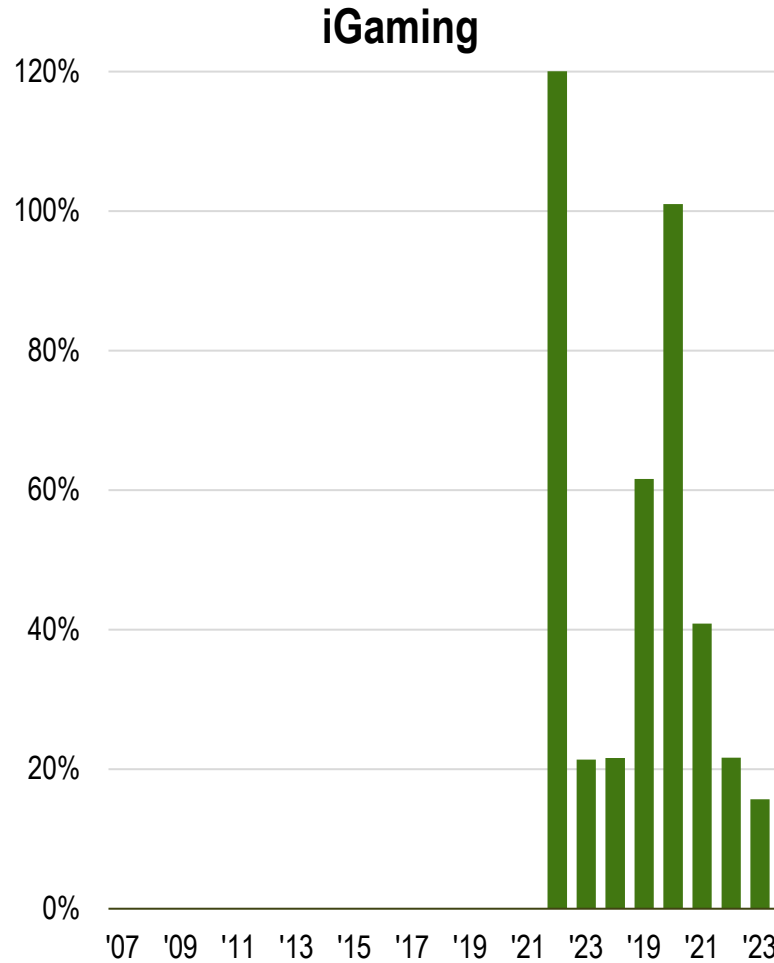
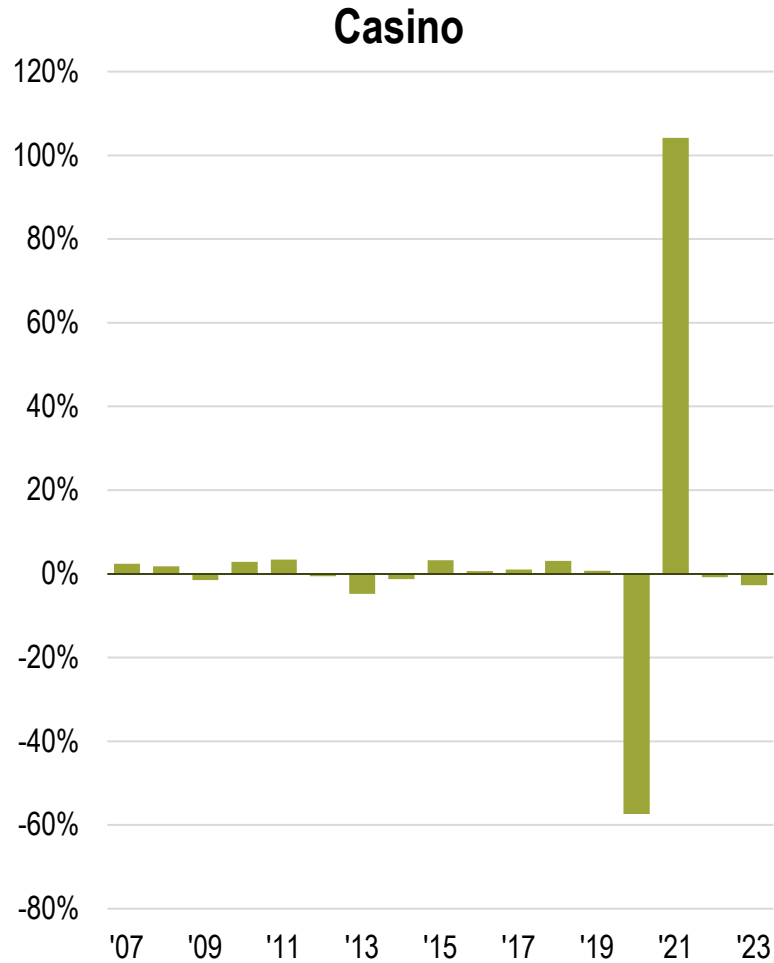
Combined



Source: Michigan Gaming Control Board; Applied Analysis

Gaming Revenue Annual Growth (%)

Michigan

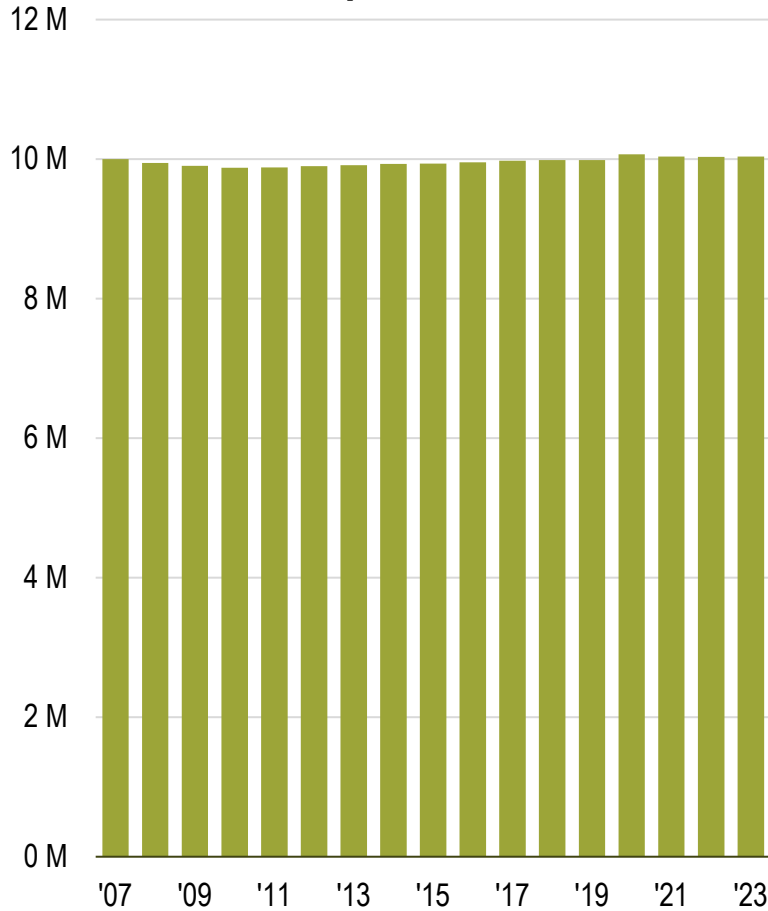


Source: Michigan Gaming Control Board; Applied Analysis. Note: Some chart axes adjusted for clarity.

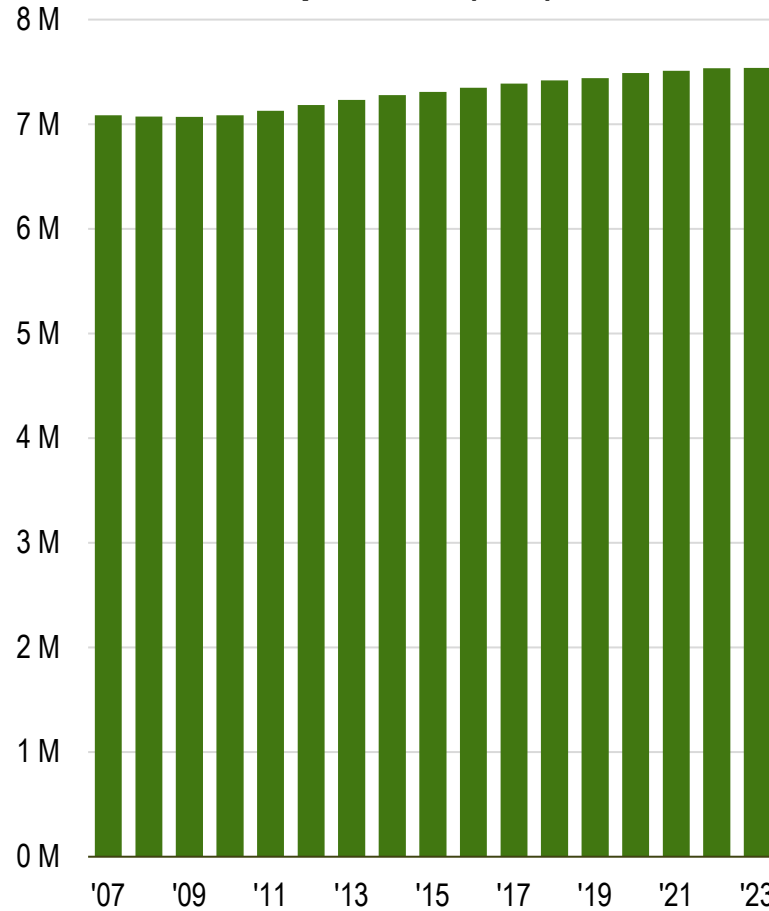
Economic Base

Michigan

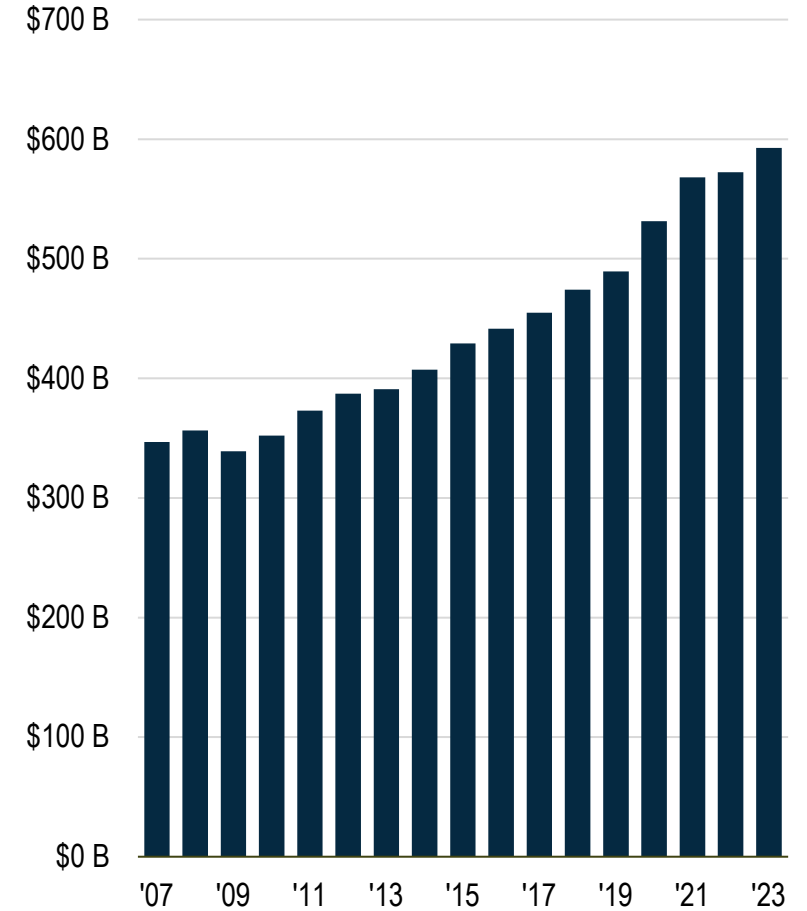
Population



Population (21+)



Personal Income



Source: U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

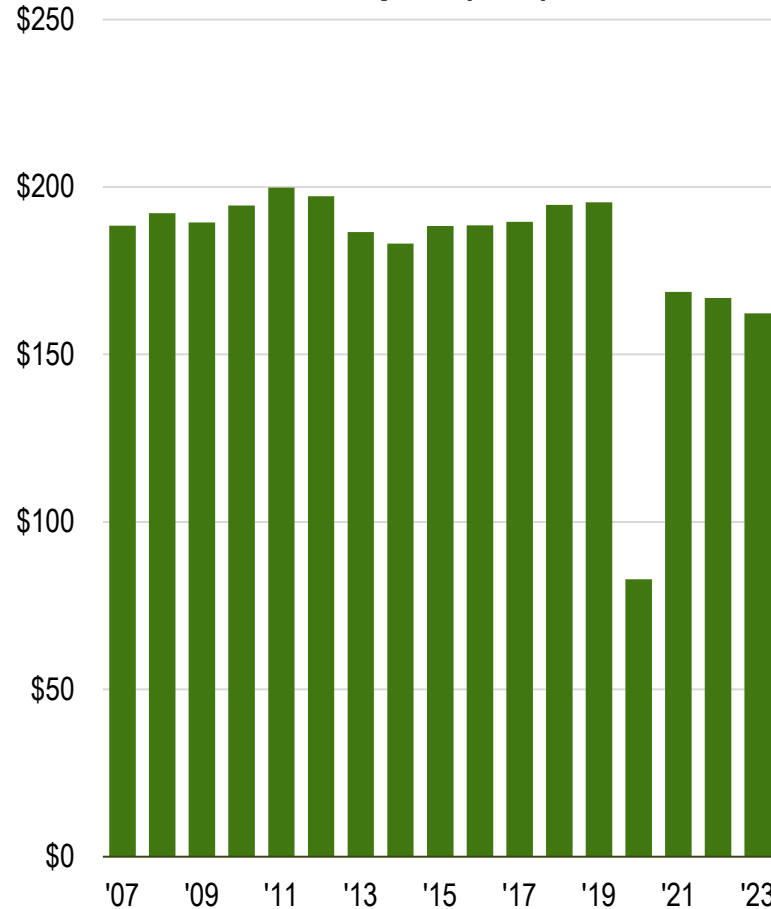
Casino Revenue per Metric

Michigan

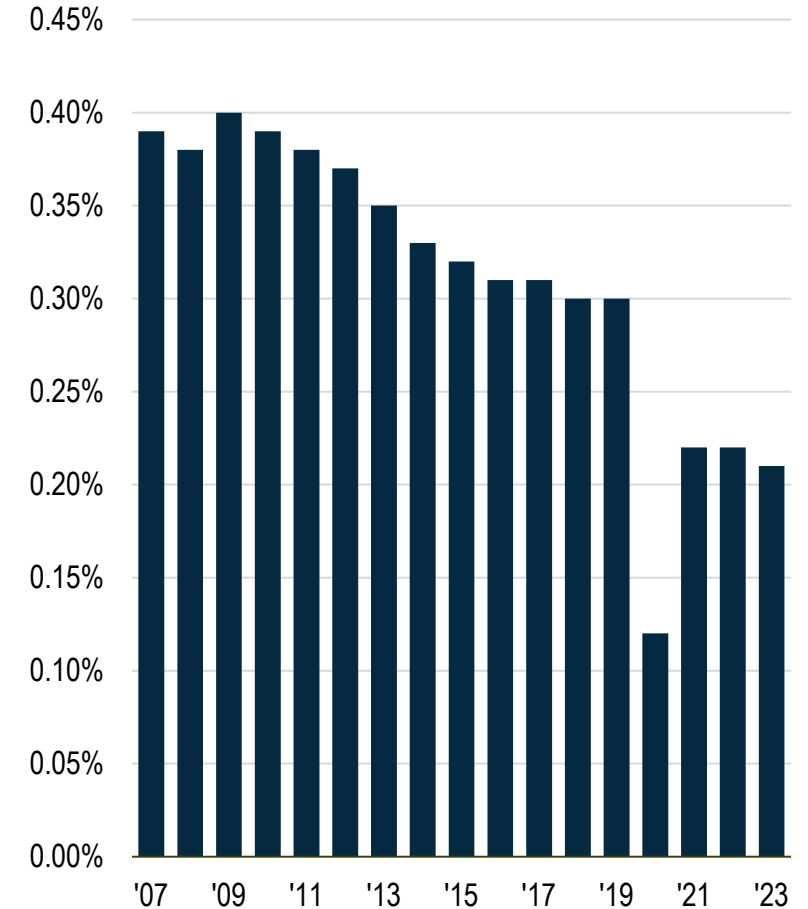
Per Capita



Per Capita (21+)



Share of Personal Income

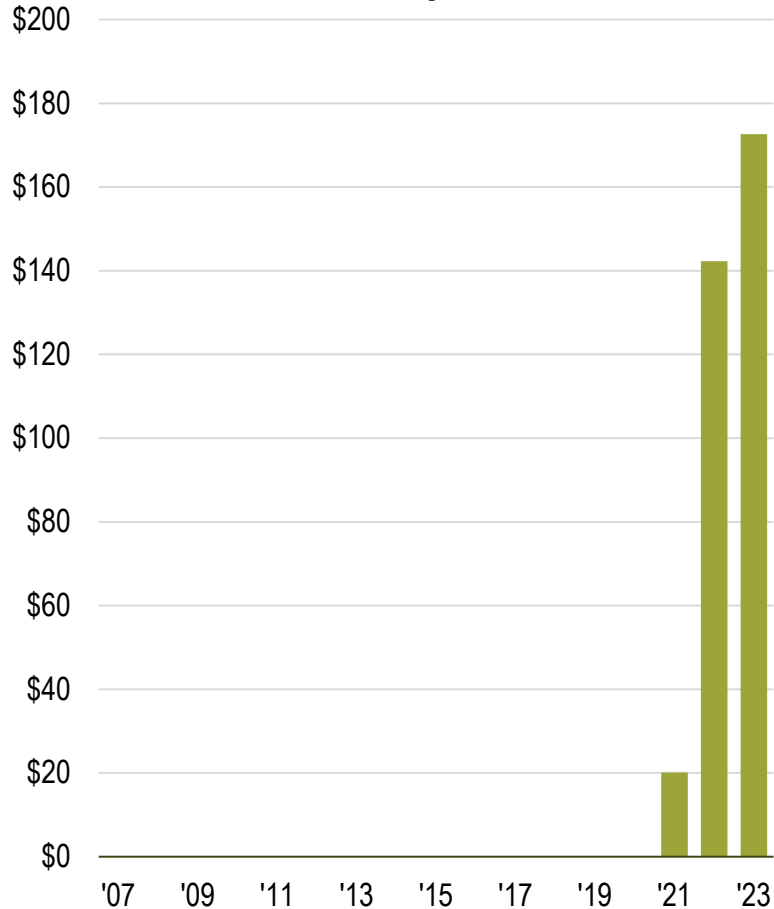


Source: Michigan Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

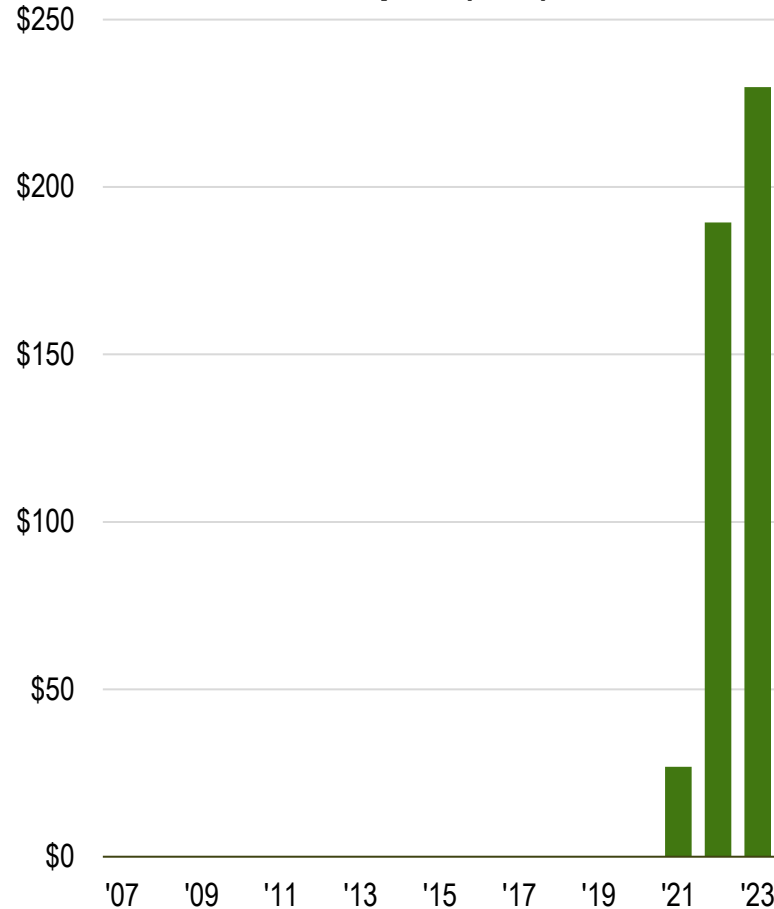
iGaming Revenue per Metric

Michigan

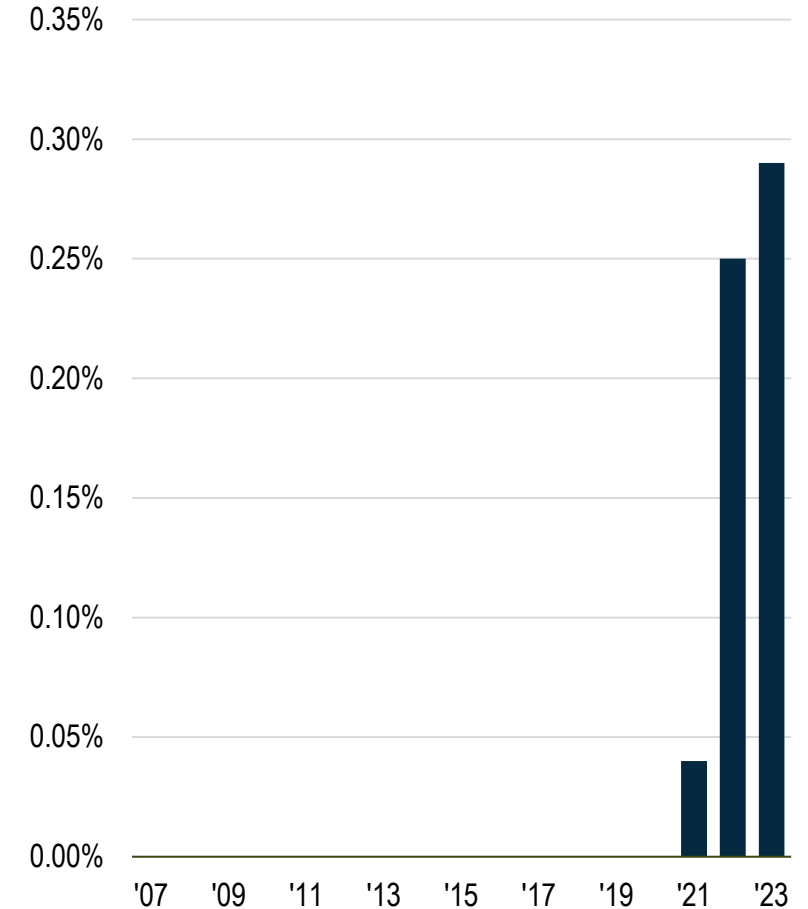
Per Capita



Per Capita (21+)



Share of Personal Income

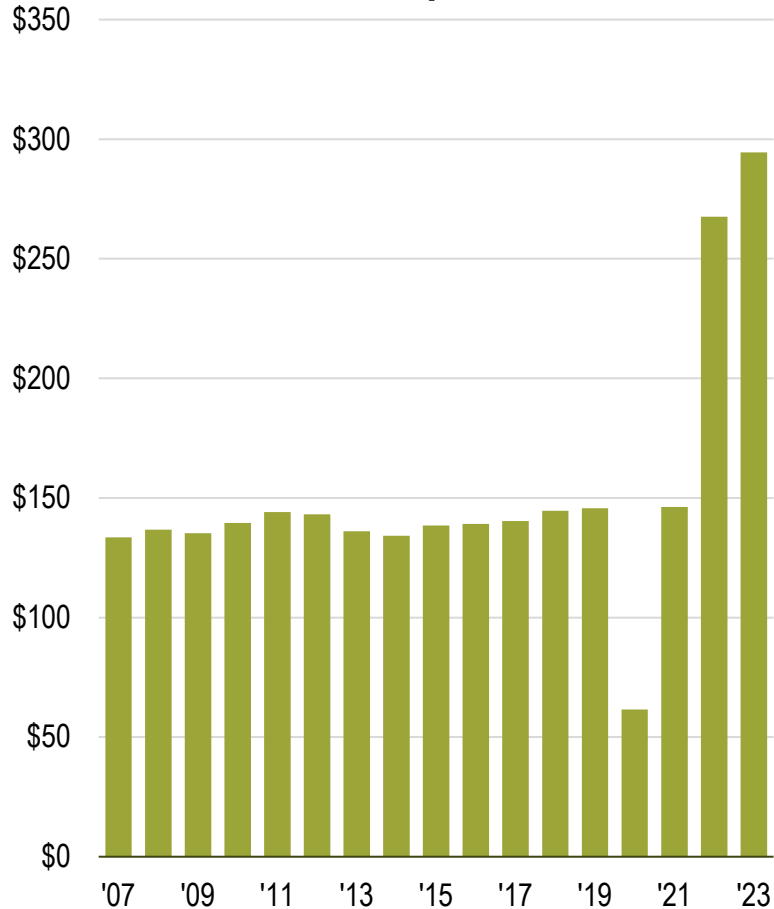


Source: Michigan Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

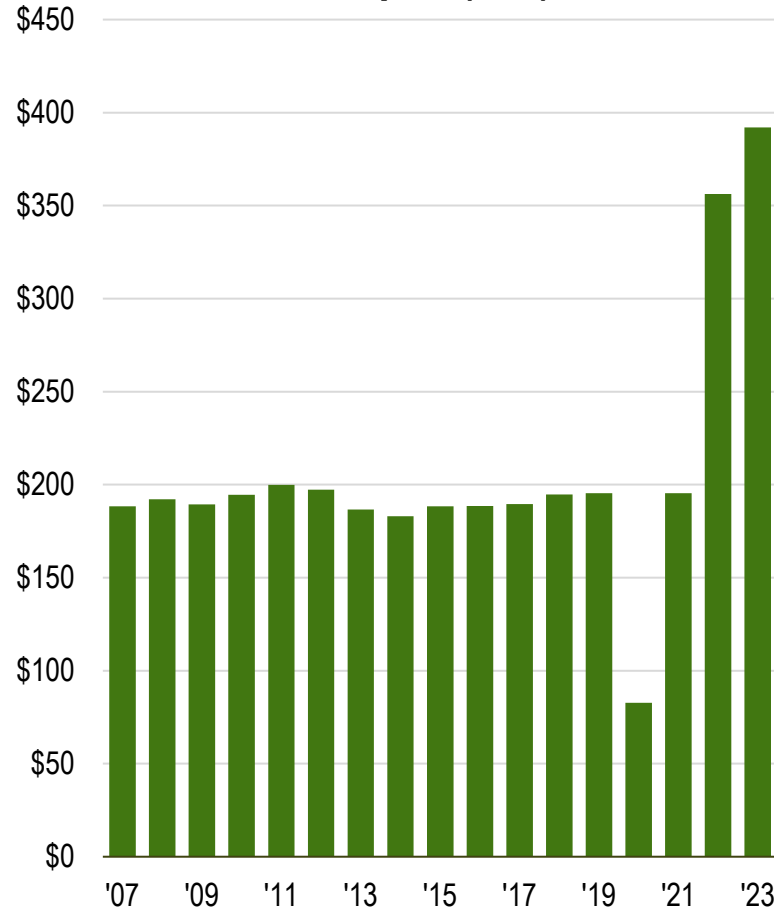
Combined Gaming Revenue per Metric

Michigan

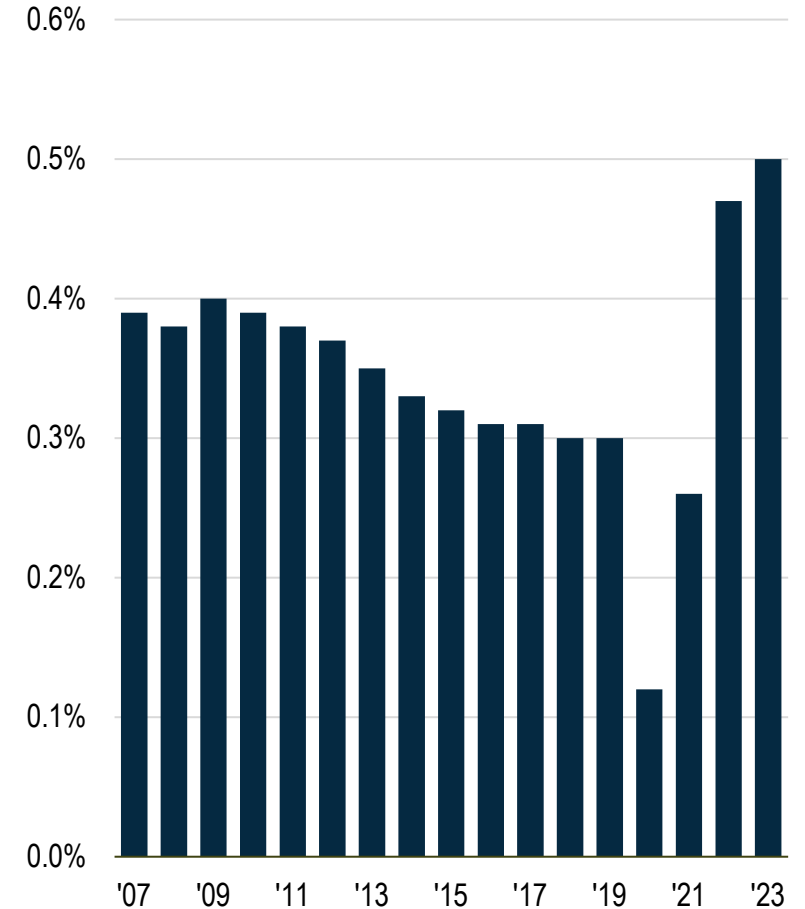
Per Capita



Per Capita (21+)



Share of Personal Income



Source: Michigan Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

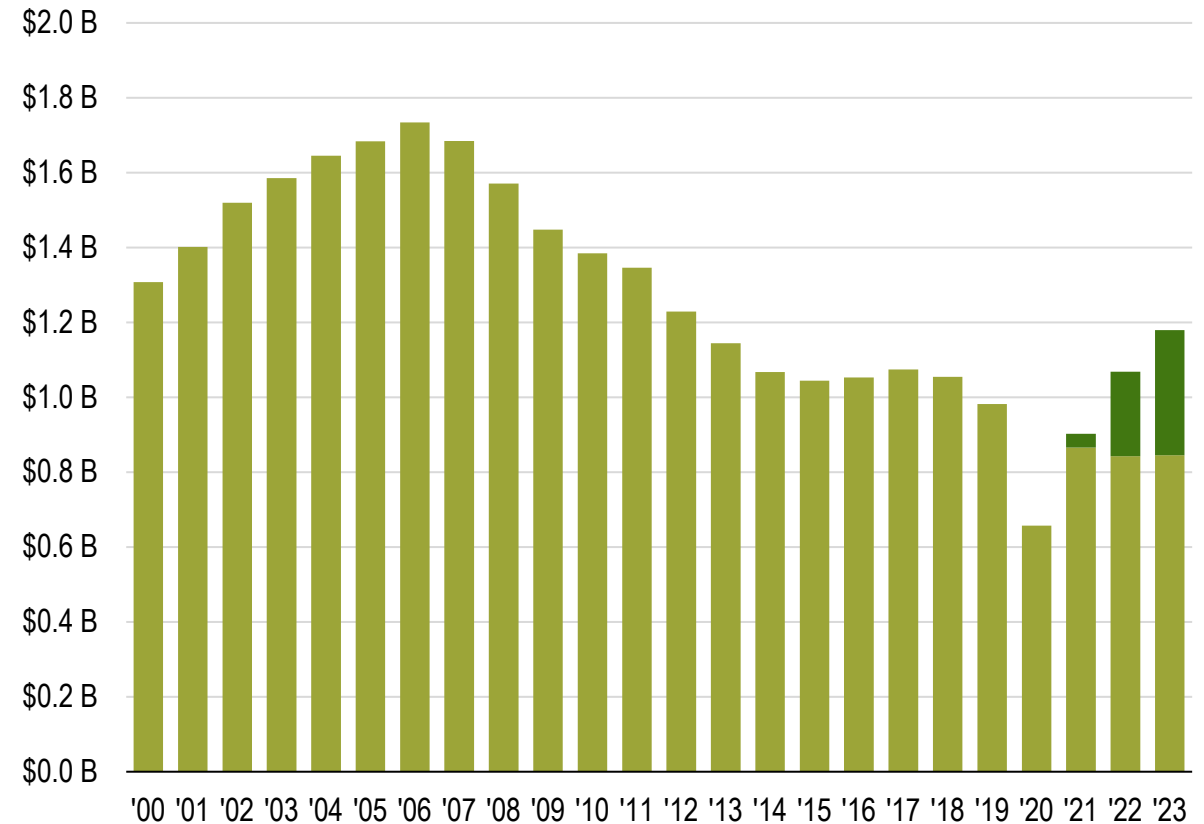
Gaming Connecticut



2023 Snapshot	Value	Per Capita	Share of Income
Population (21+)	2,735,500	N/A	N/A
Income	\$312.81 Billion	N/A	N/A
Casino Revenue	\$845.30 Million	\$309.01	0.27%
iGaming Revenue	\$334.60 Million	\$122.32	0.11%
Combined Revenue	\$1.18 Billion	\$479.27	0.38%

Gaming Revenue

■ Casino ■ iGaming

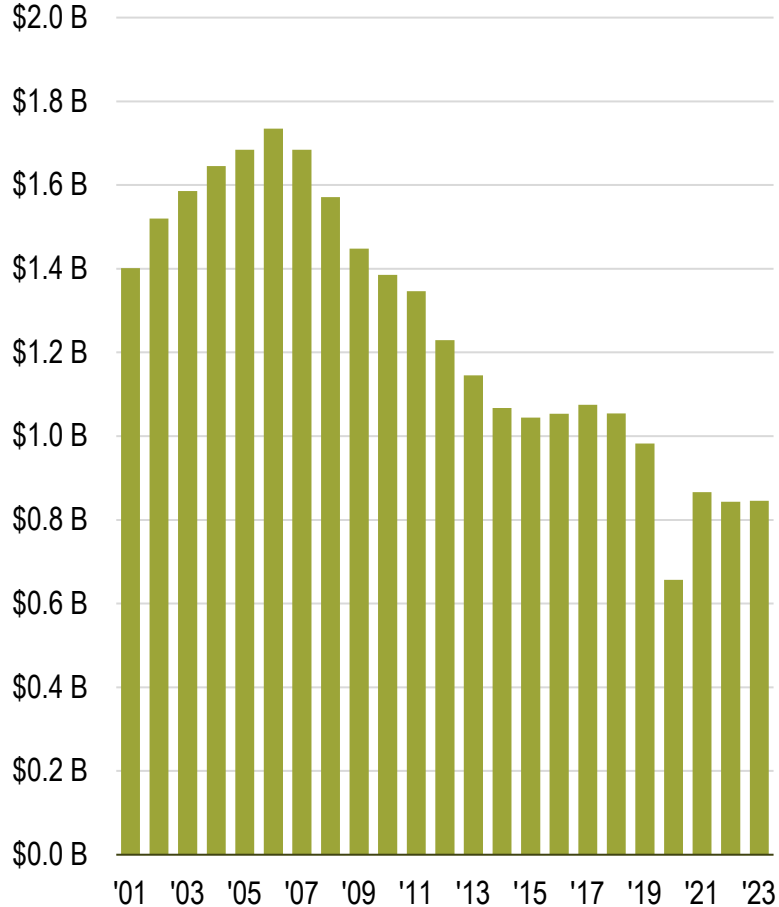


Source: Michigan Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

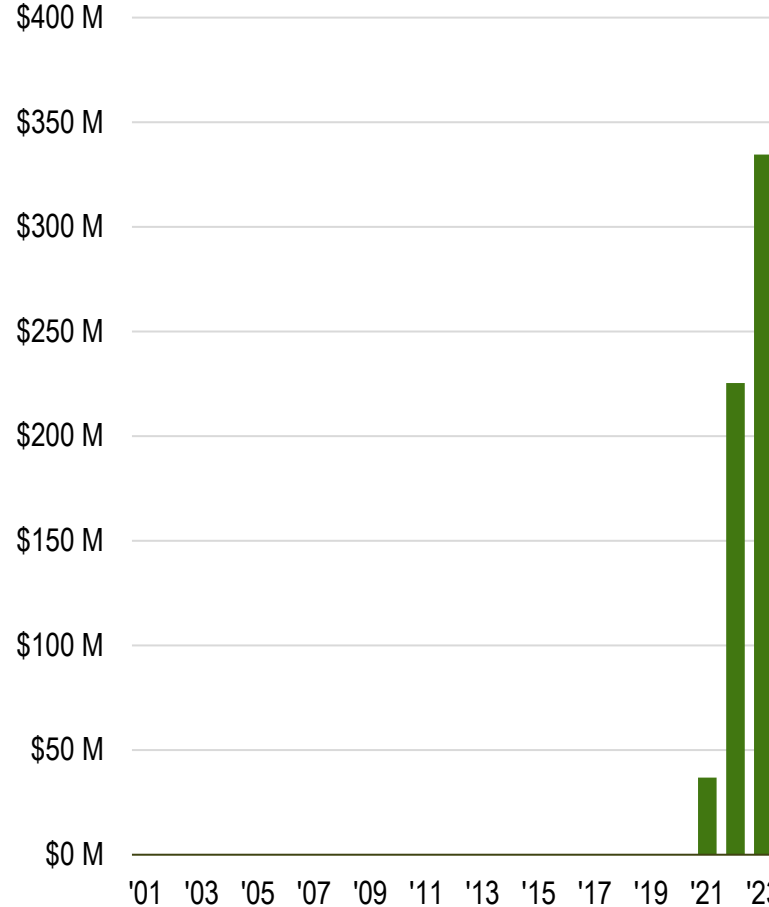
Gaming Revenue

Connecticut

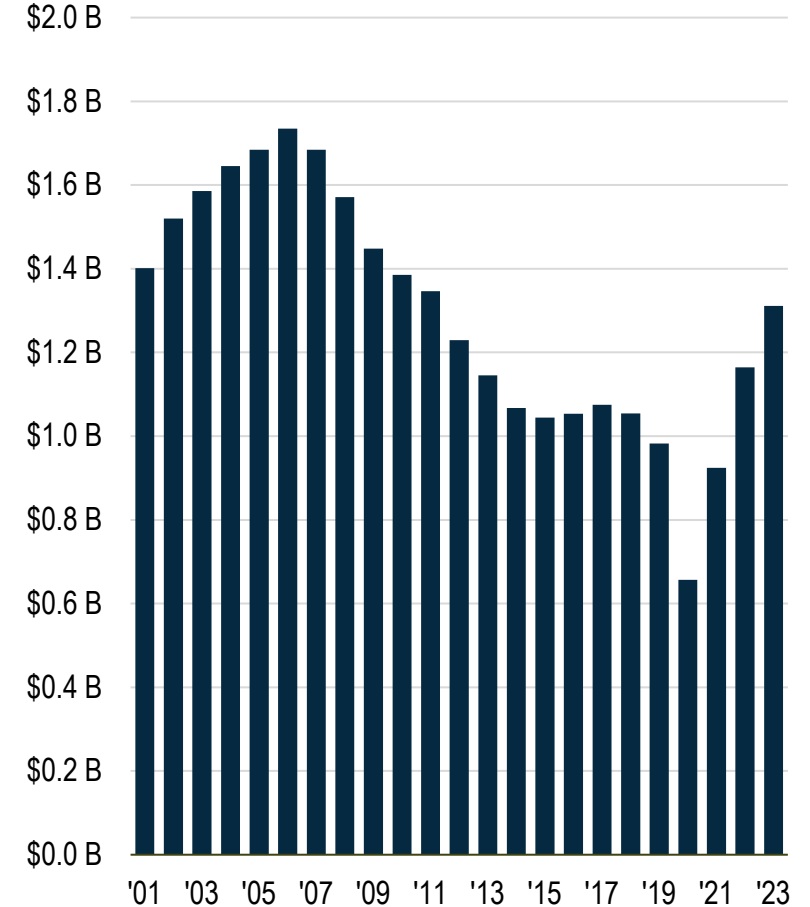
Casino



iGaming



Combined

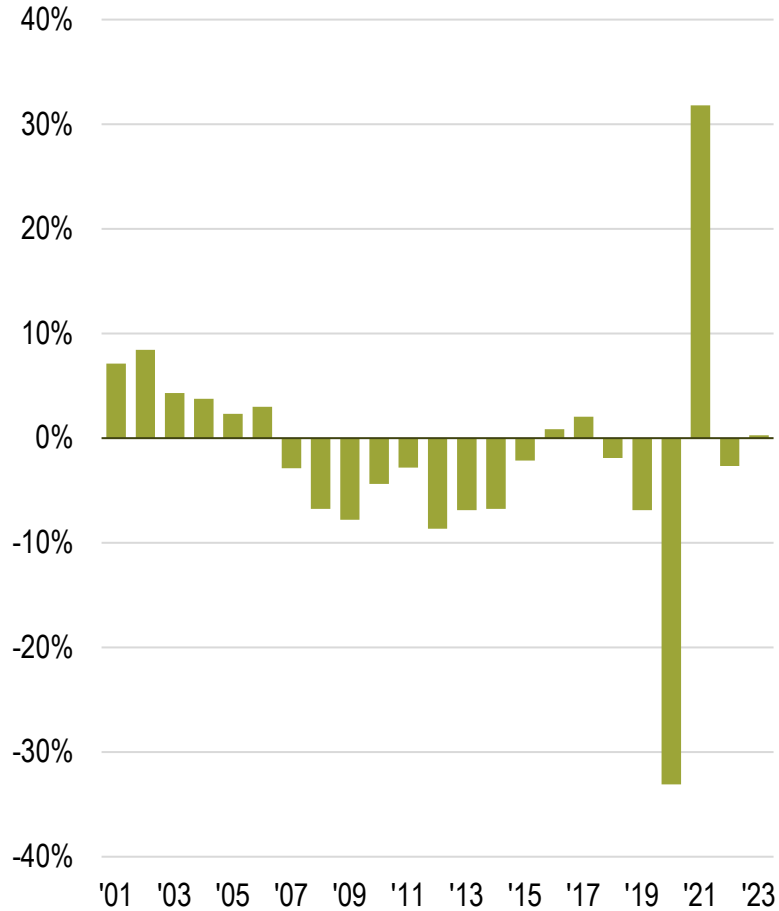


Source: Connecticut Department of Consumer Protection

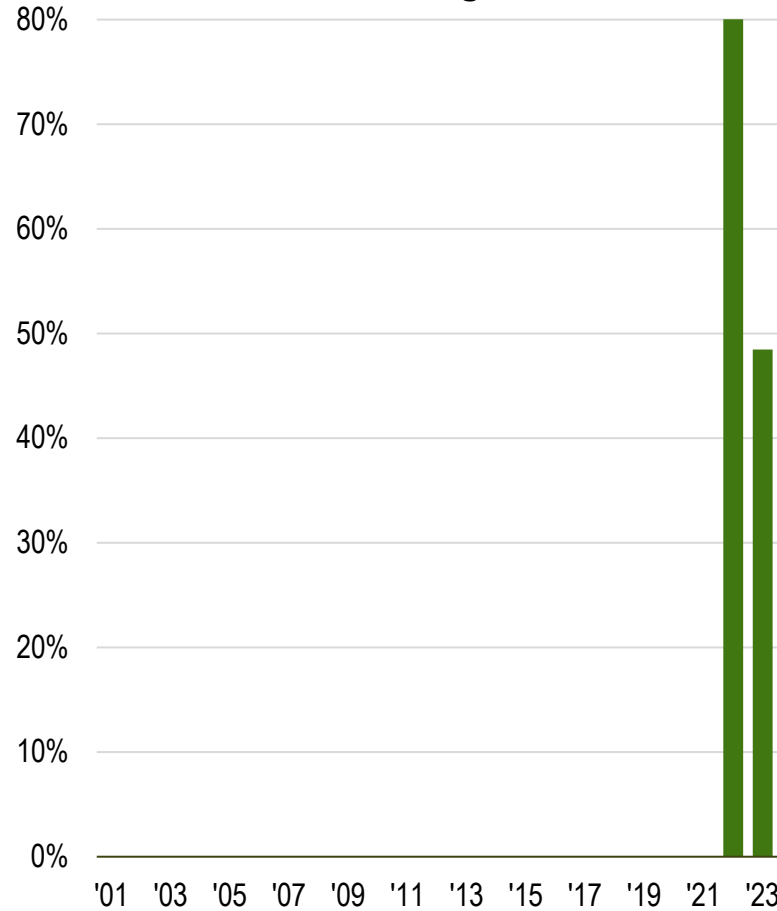
Gaming Revenue Annual Growth (%)

Connecticut

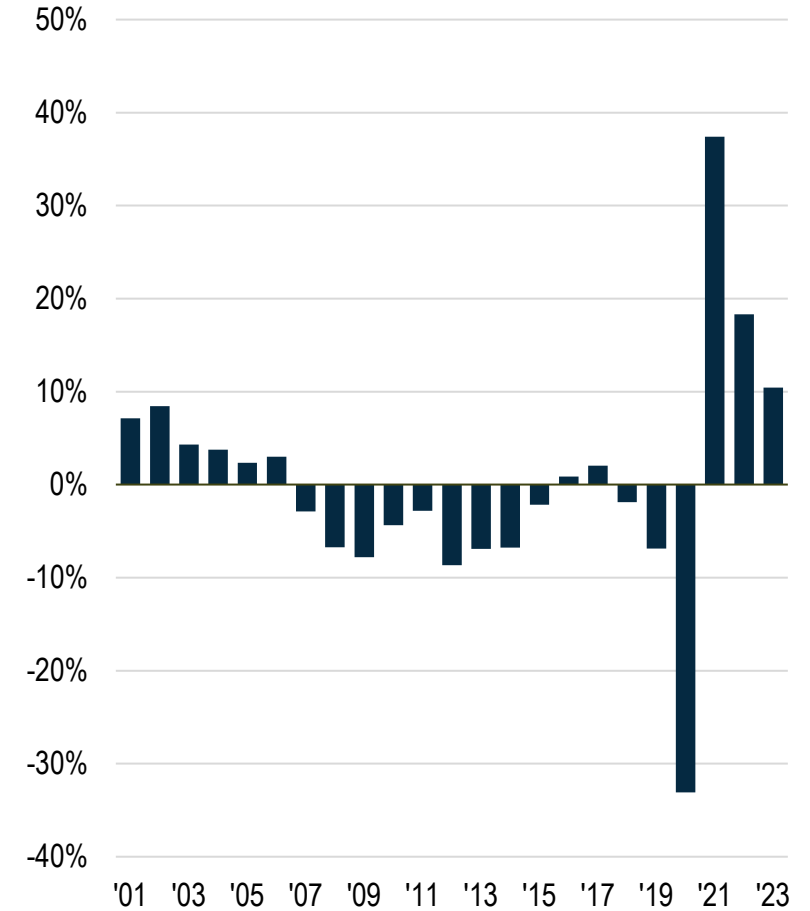
Casino



iGaming



Combined

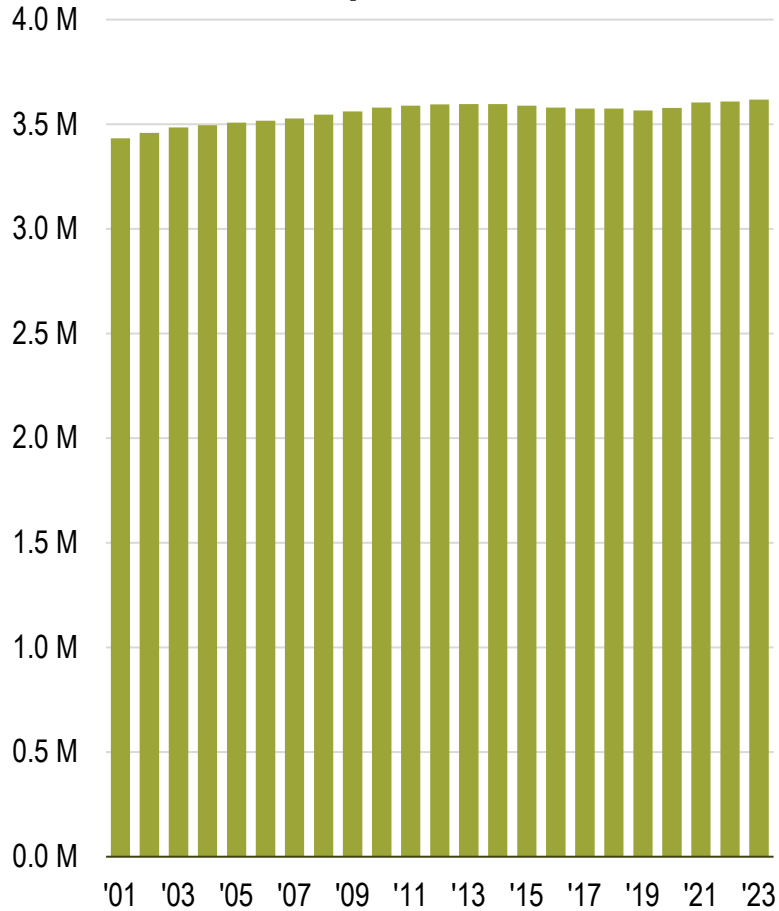


Source: Connecticut Department of Consumer Protection; Applied Analysis. Note: Some chart axes adjusted for clarity.

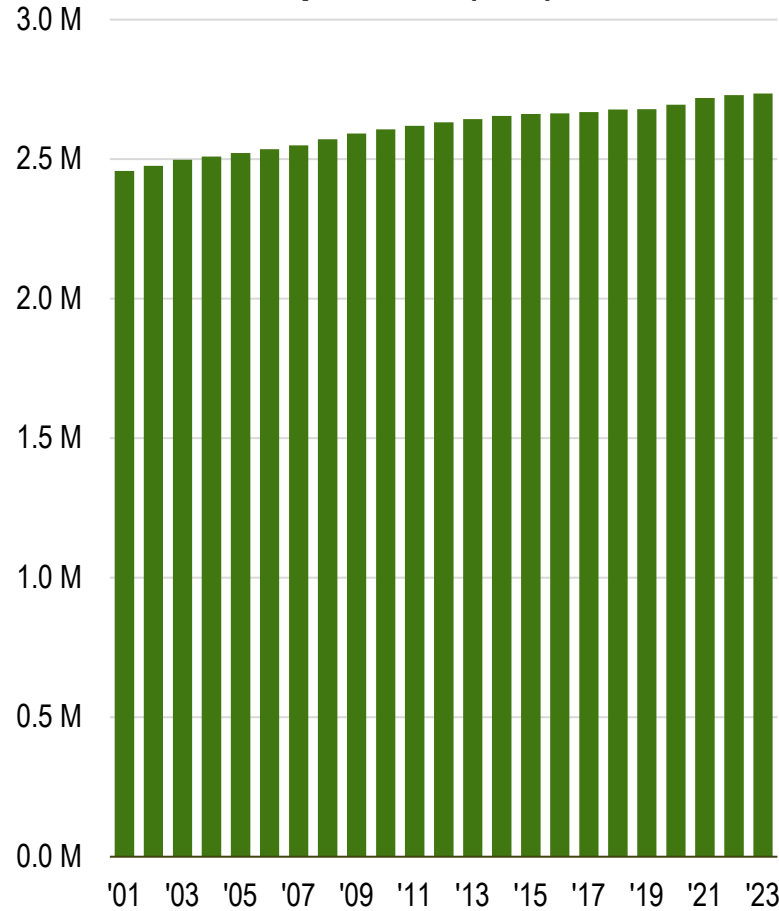
Economic Base

Connecticut

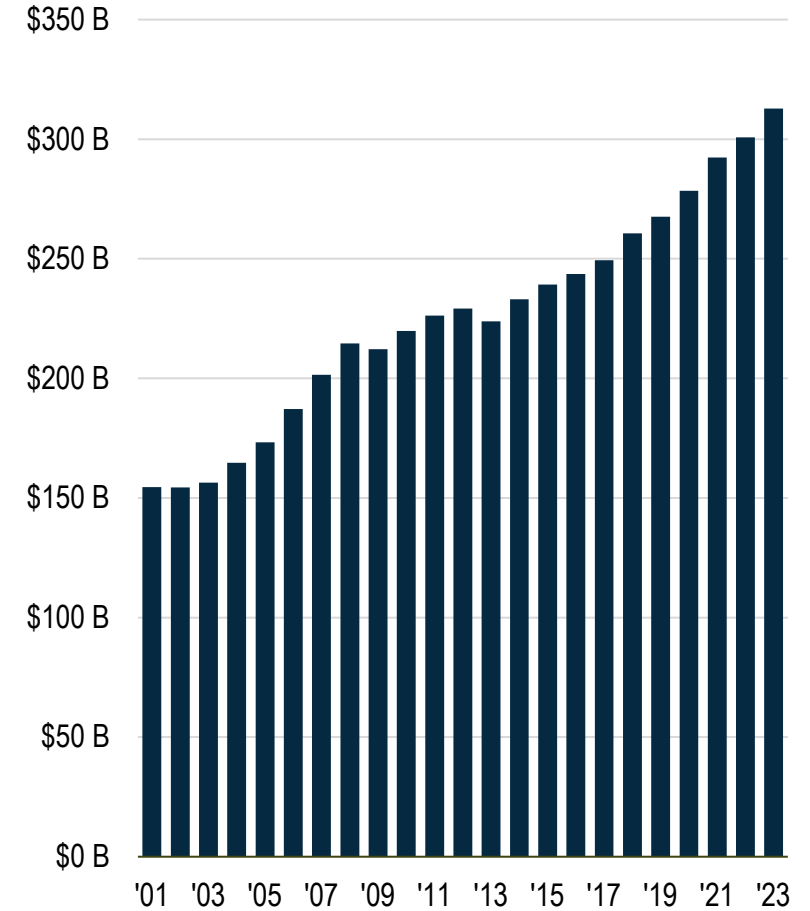
Population



Population (21+)



Personal Income

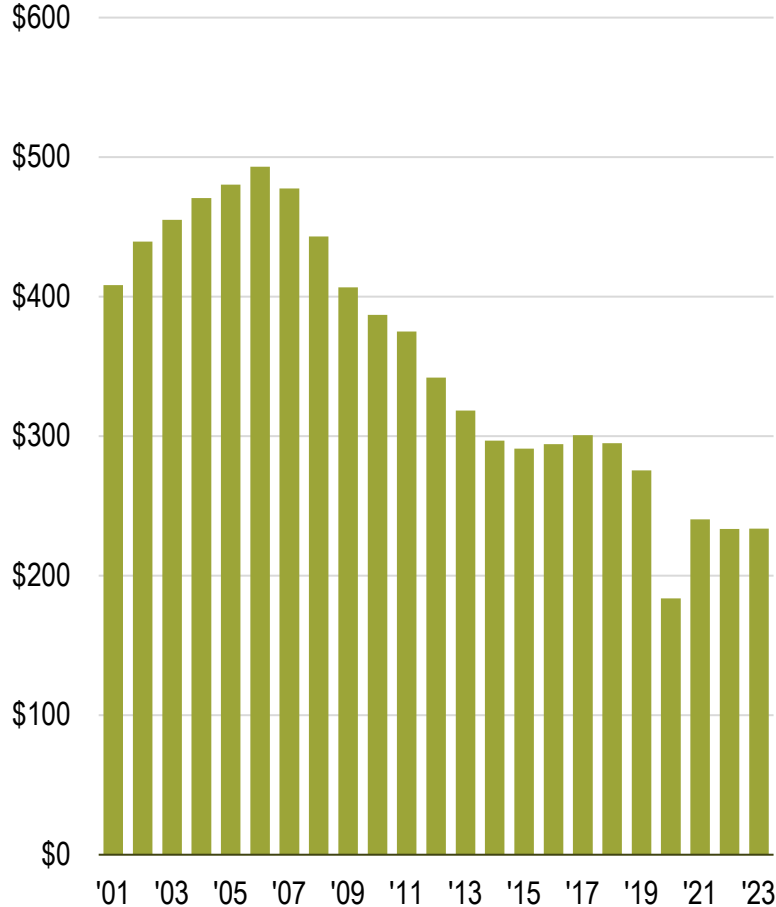


Source: U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

Casino Revenue per Metric

Connecticut

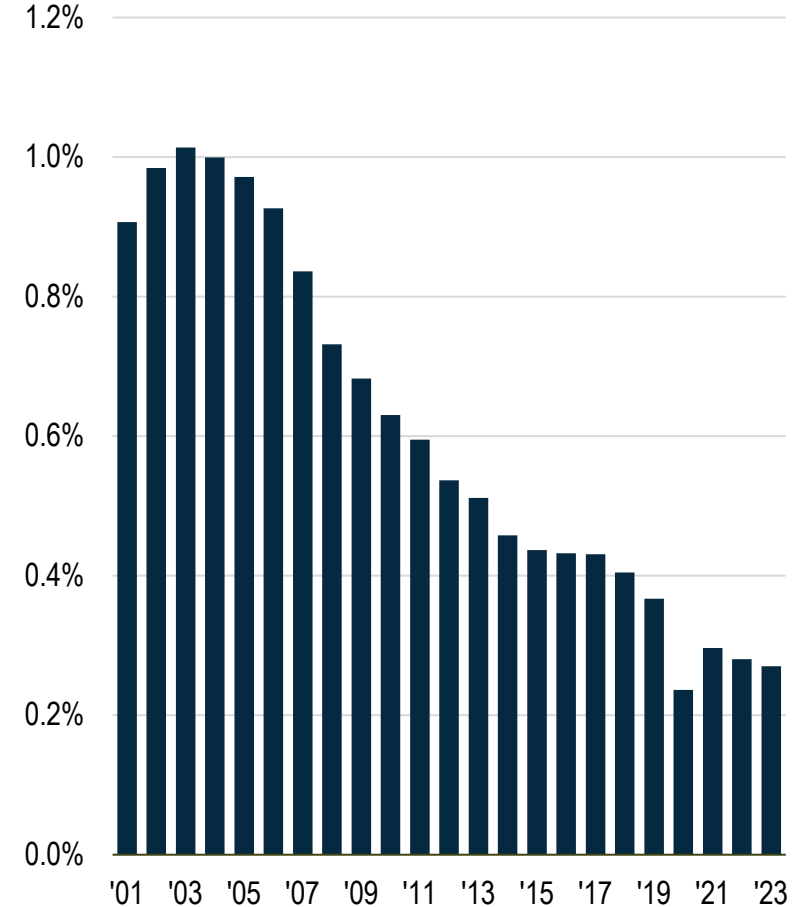
Per Capita



Per Capita (21+)



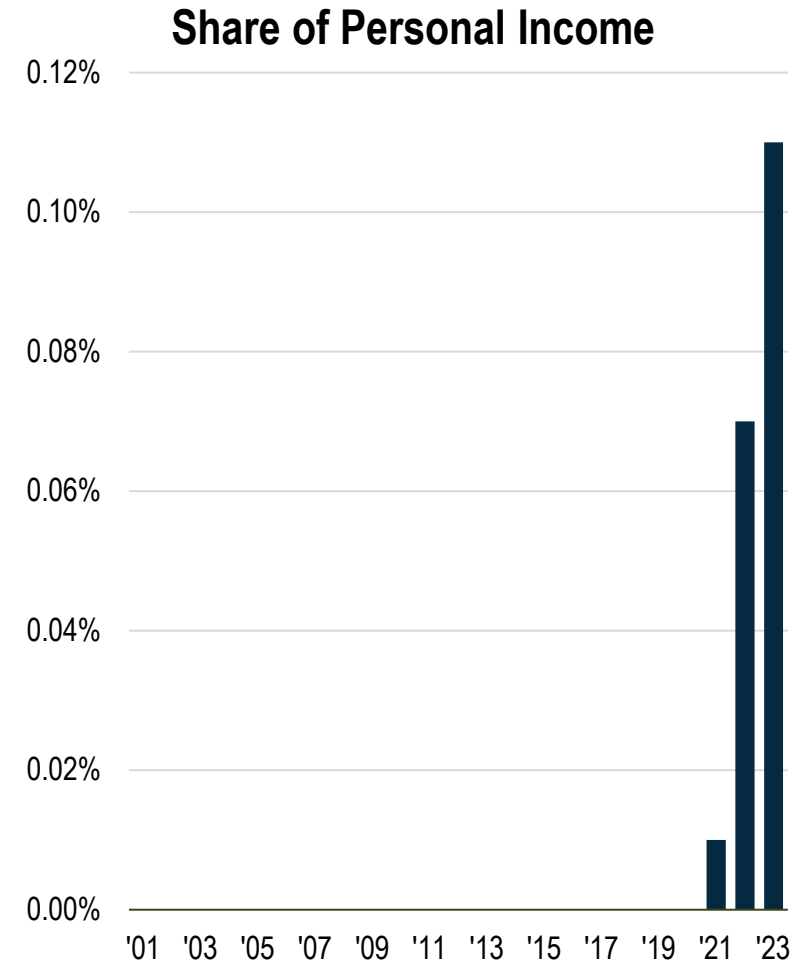
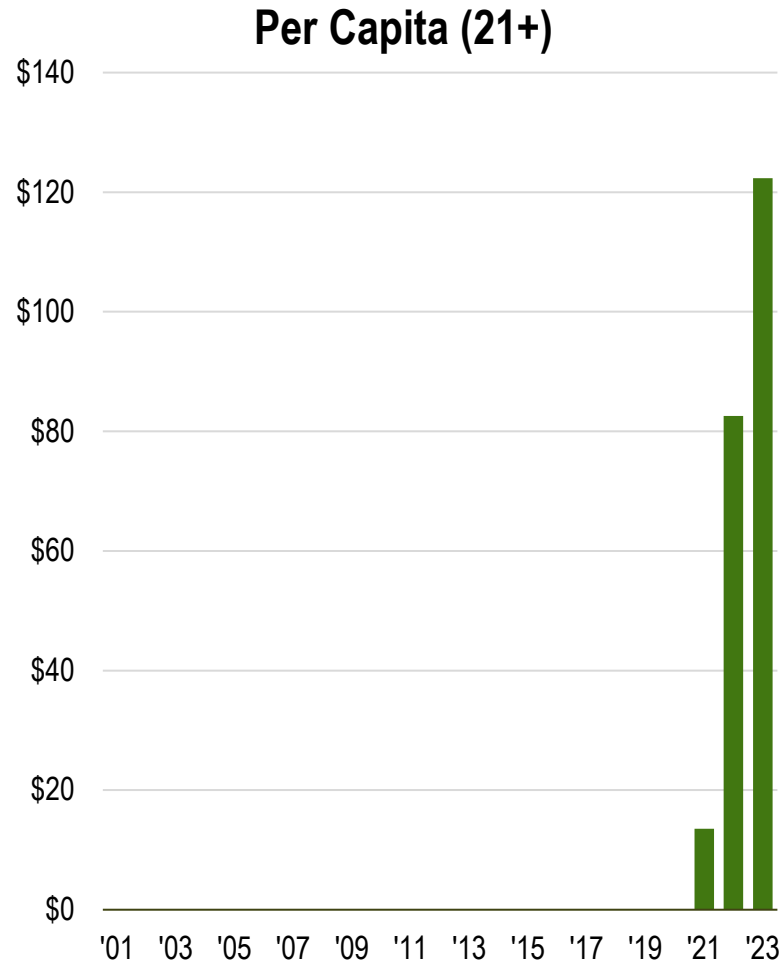
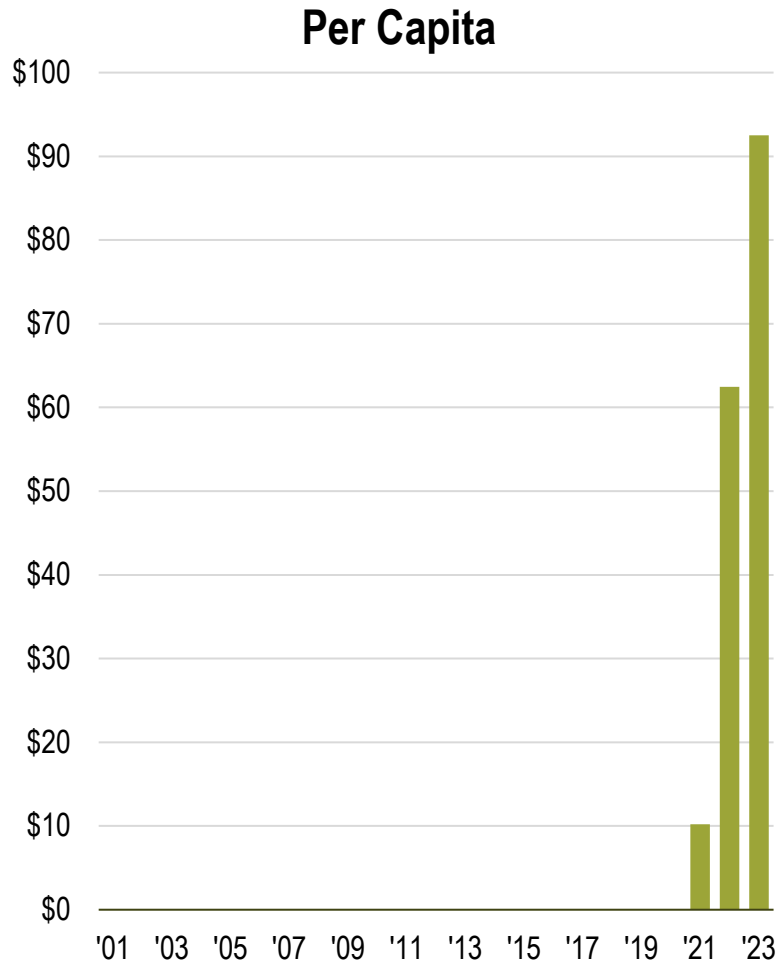
Share of Personal Income



Source: Connecticut Department of Consumer Protection; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

iGaming Revenue per Metric

Connecticut



Source: Connecticut Department of Consumer Protection; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

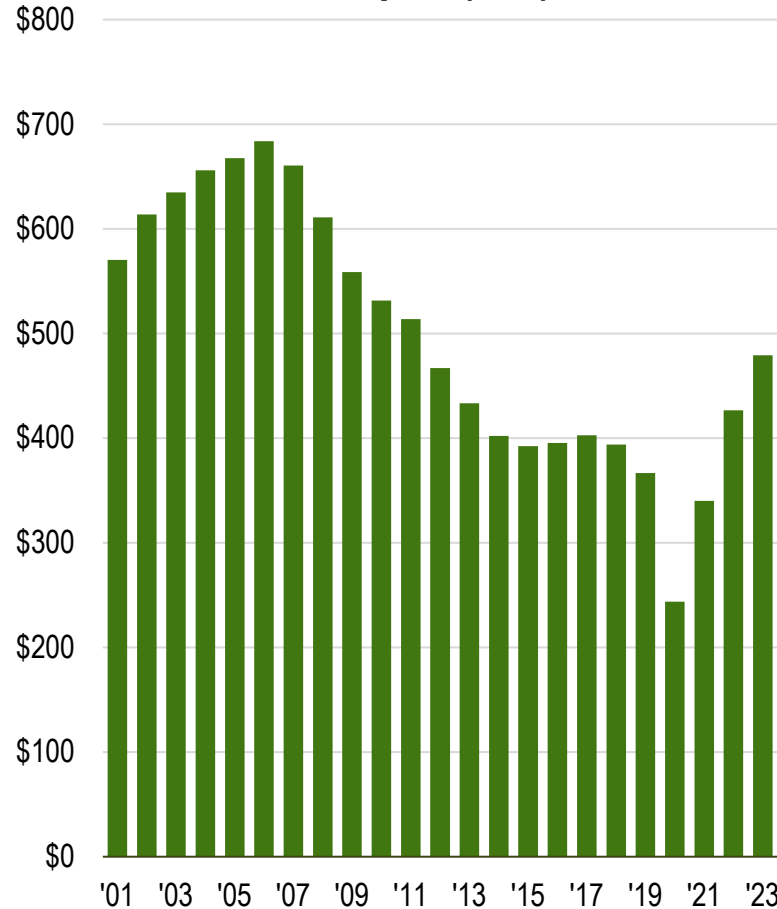
Combined Gaming Revenue per Metric

Connecticut

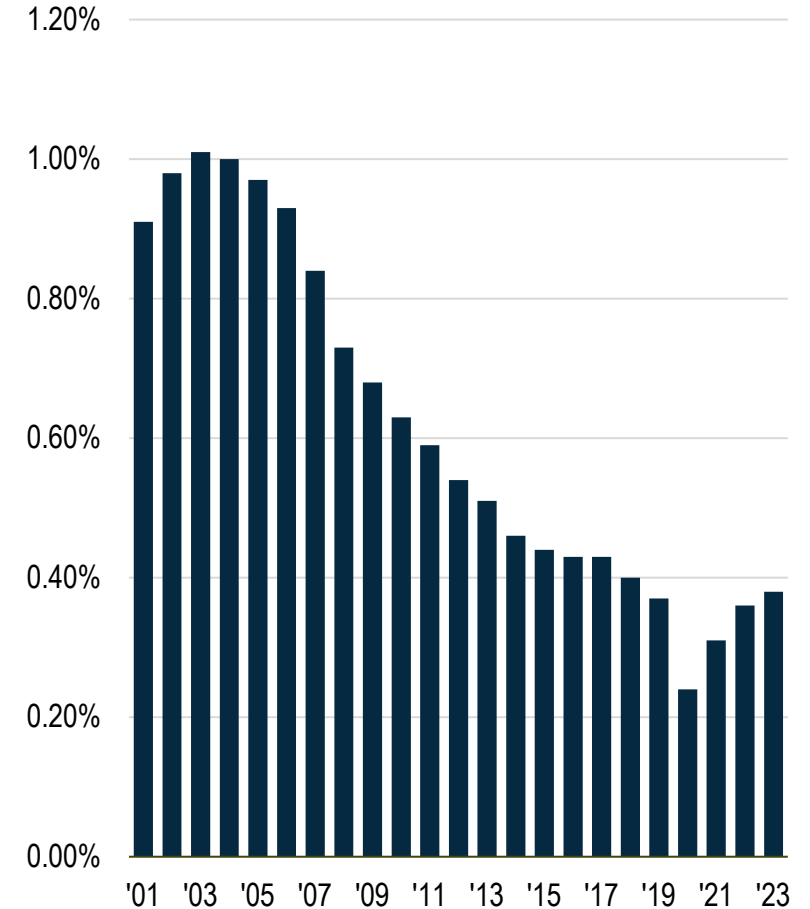
Per Capita



Per Capita (21+)



Share of Personal Income



Source: Connecticut Department of Consumer Protection; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

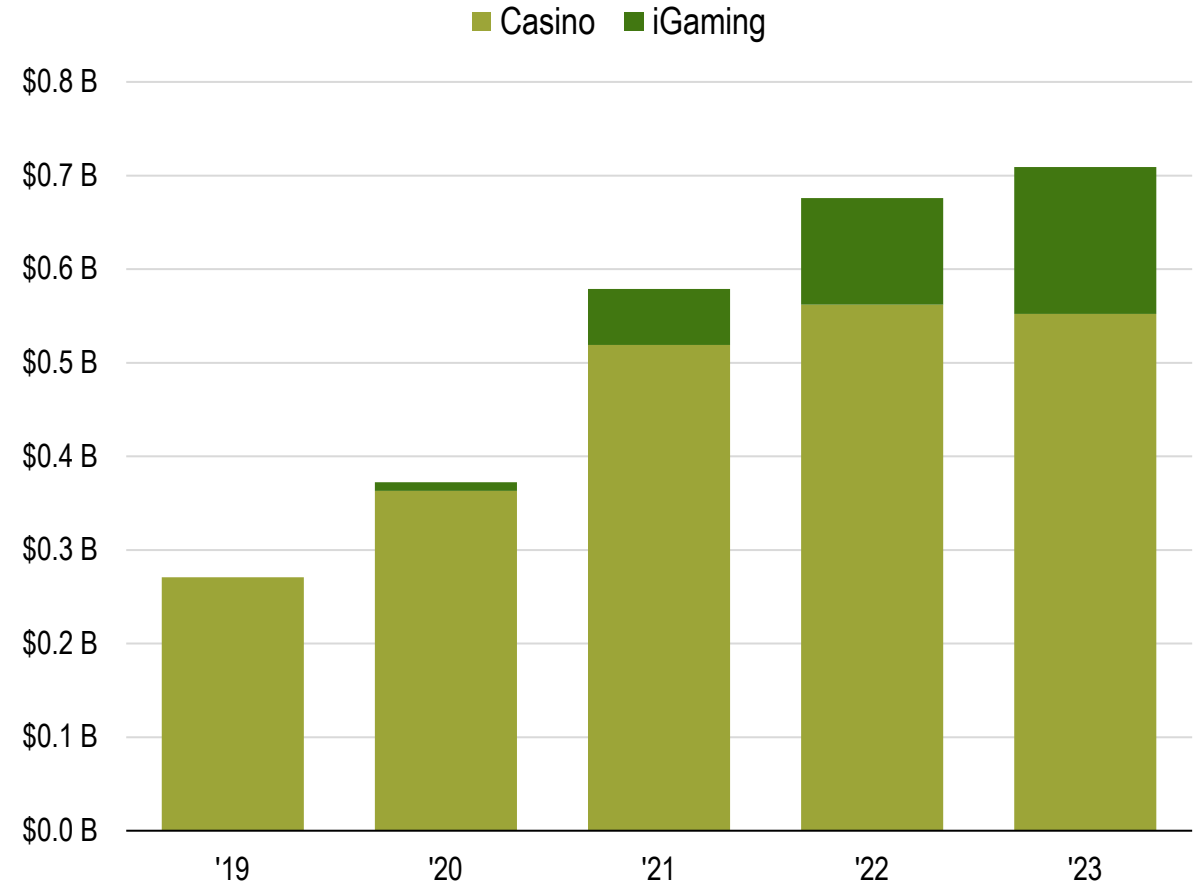
Gaming

West Virginia



2023 Snapshot	Value	Per Capita	Share of Income
Population (21+)	1,353,700	N/A	N/A
Income	\$92.35 Billion	N/A	N/A
Casino Revenue	\$533.33 Million	\$408.01	0.60%
iGaming Revenue	\$156.75 Million	\$115.79	0.17%
Combined Revenue	\$709.08 Billion	\$523.80	0.77%

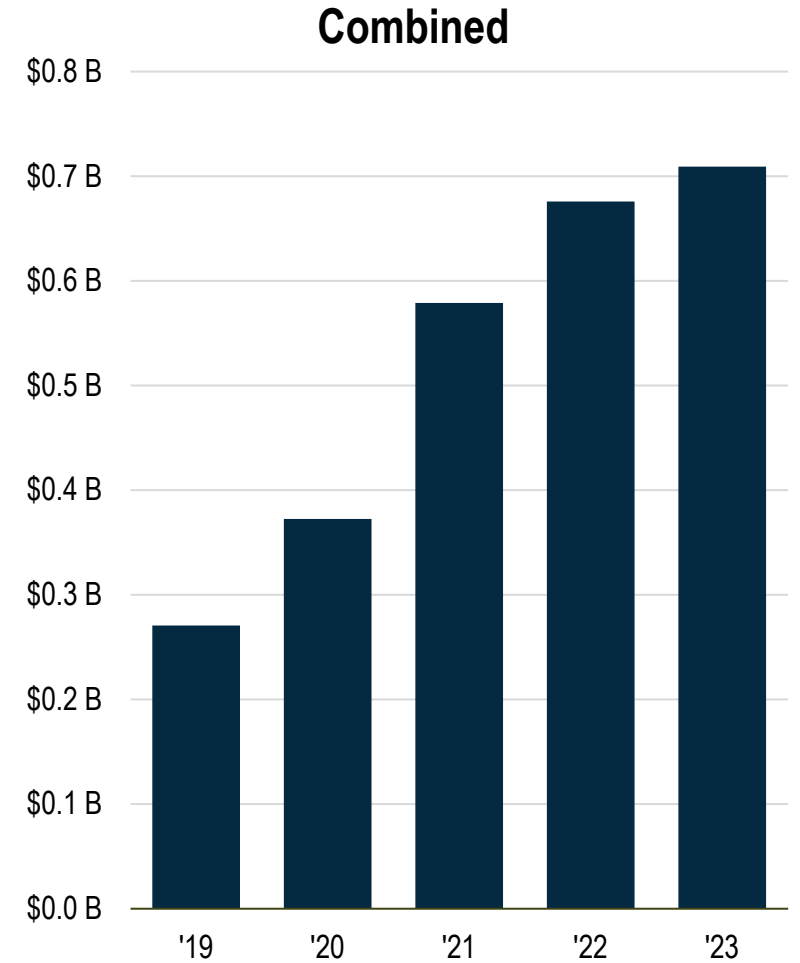
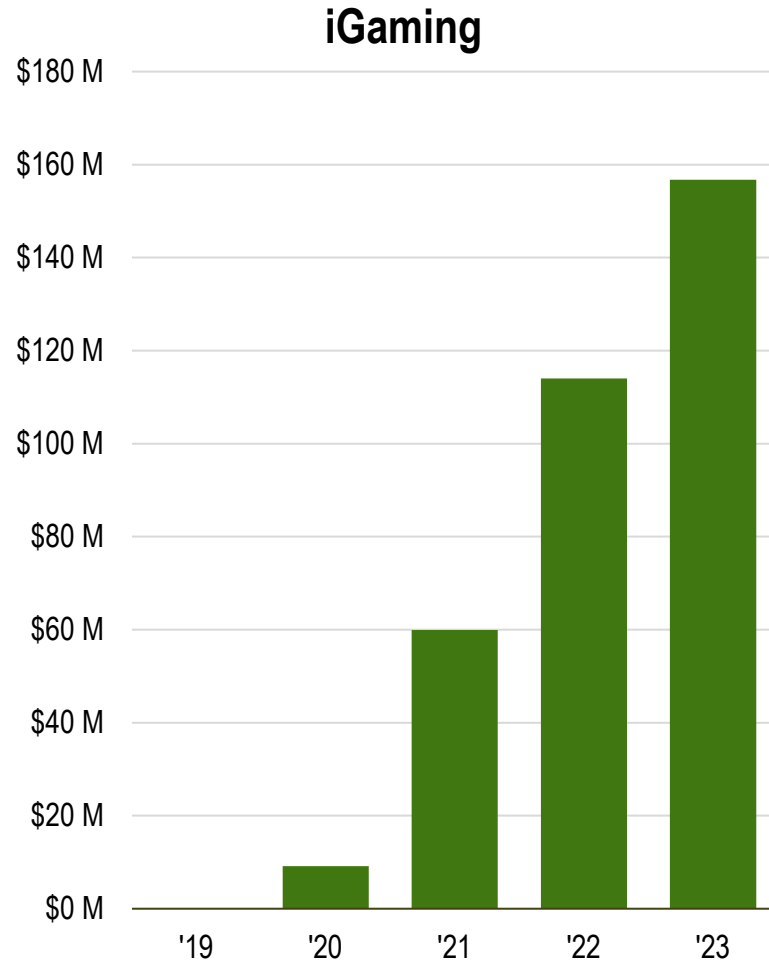
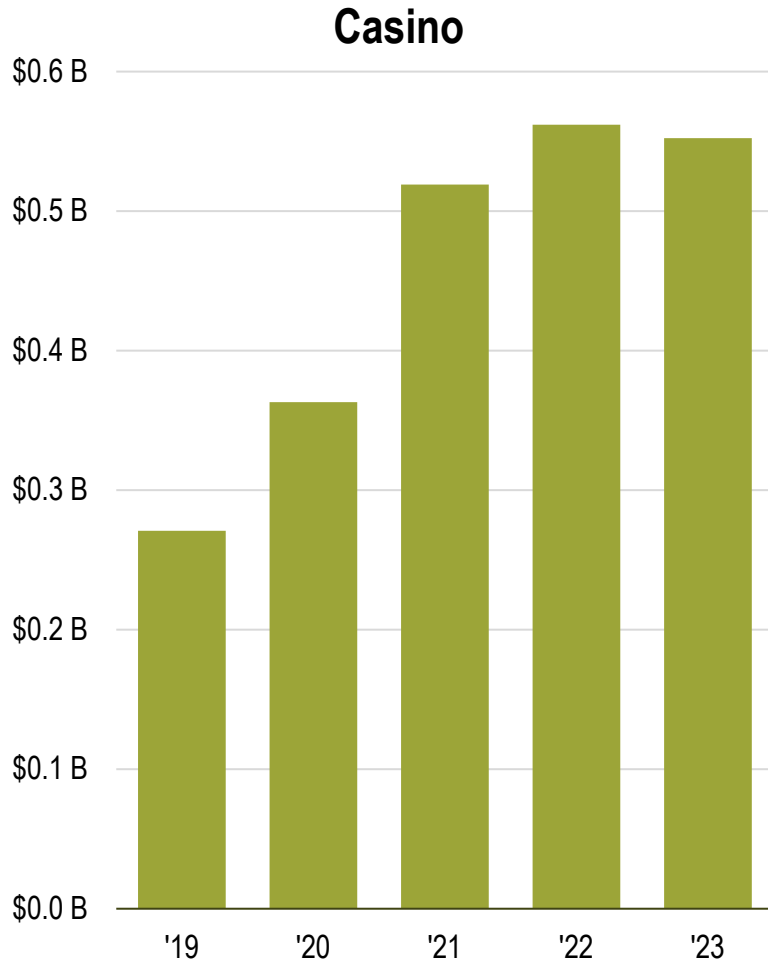
Gaming Revenue



Source: Michigan Gaming Control Board; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis. Note: Data prior to 2019 not readily available by calendar year.

Gaming Revenue

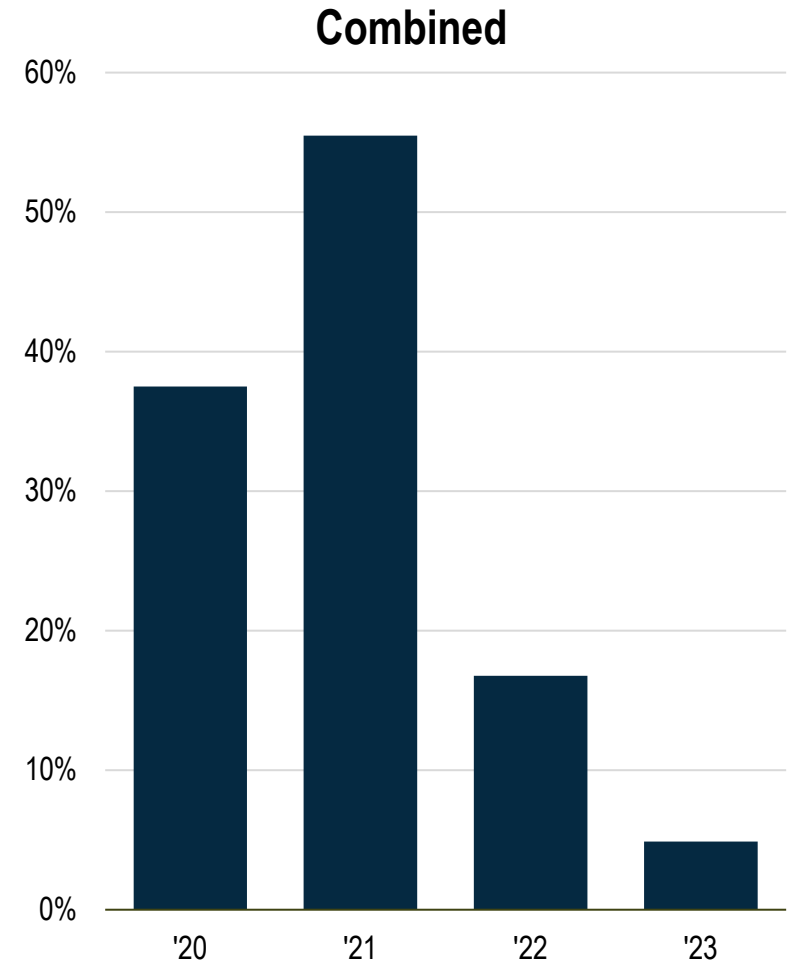
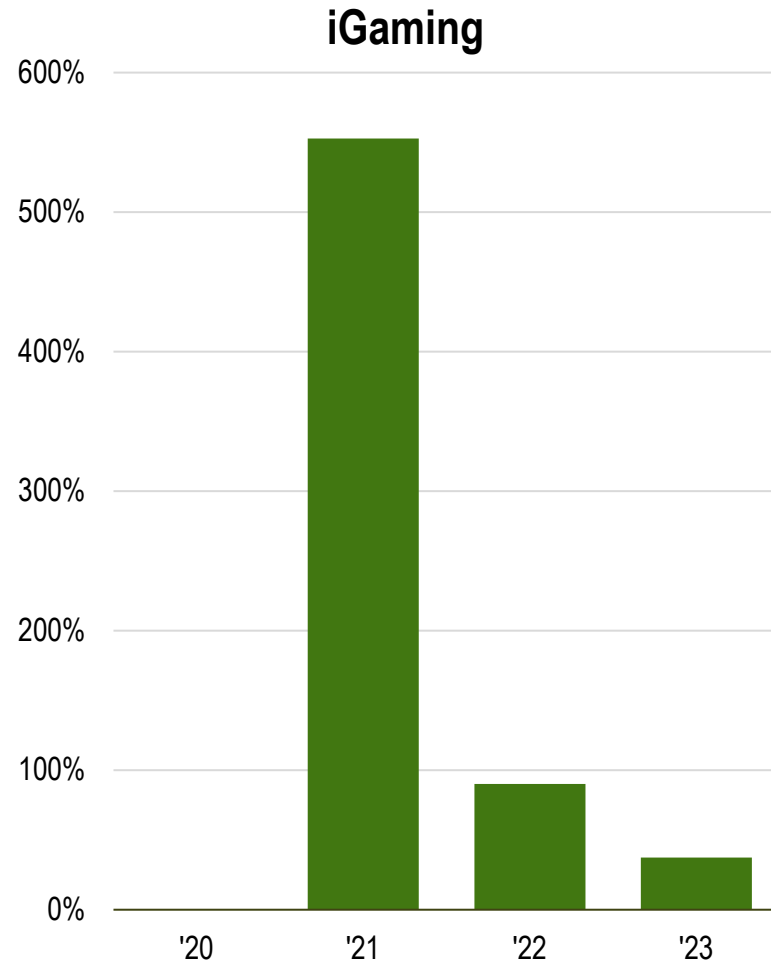
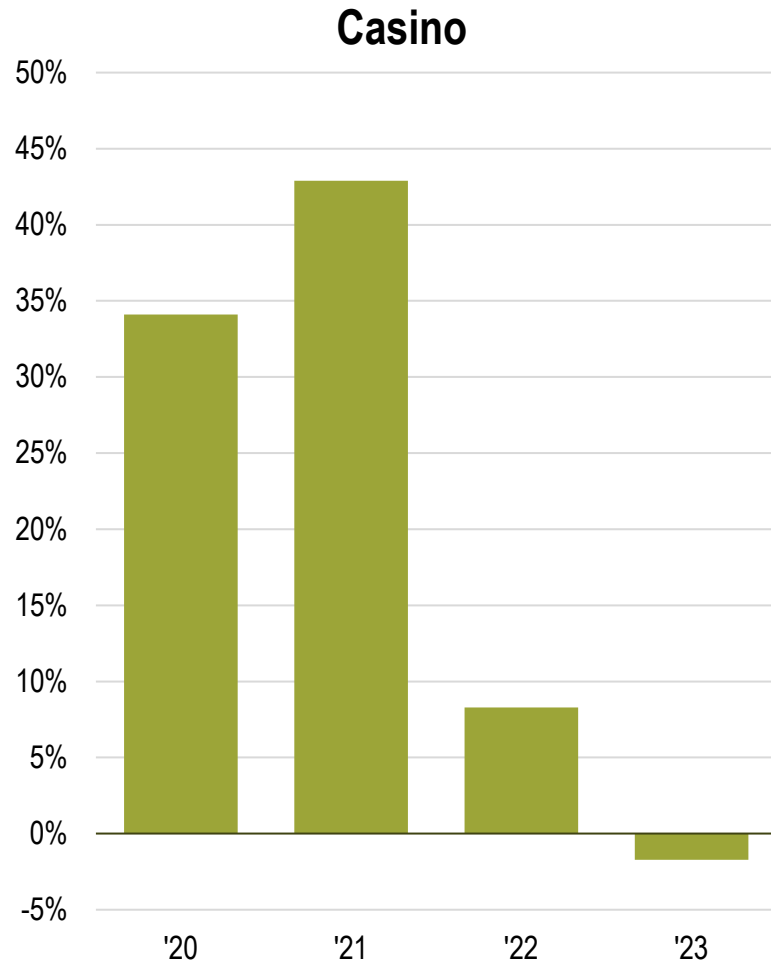
West Virginia



Source: West Virginia Lottery. Note: Data prior to 2019 not readily available by calendar year.

Gaming Revenue Annual Growth (%)

West Virginia

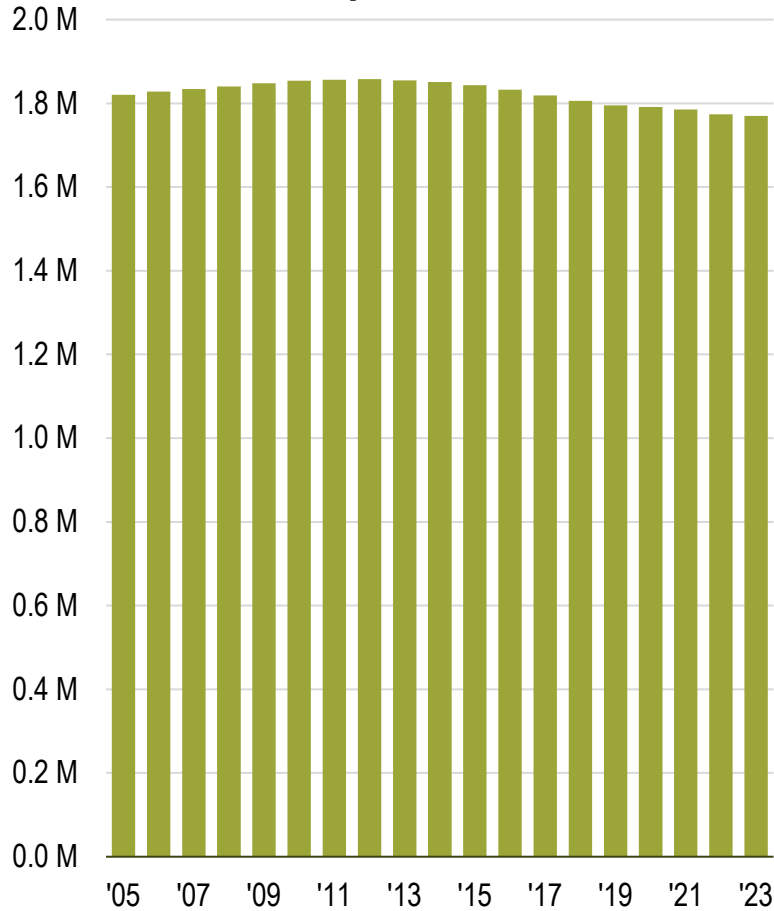


Source: West Virginia Lottery; Applied Analysis. Note: Data prior to 2019 not readily available by calendar year.

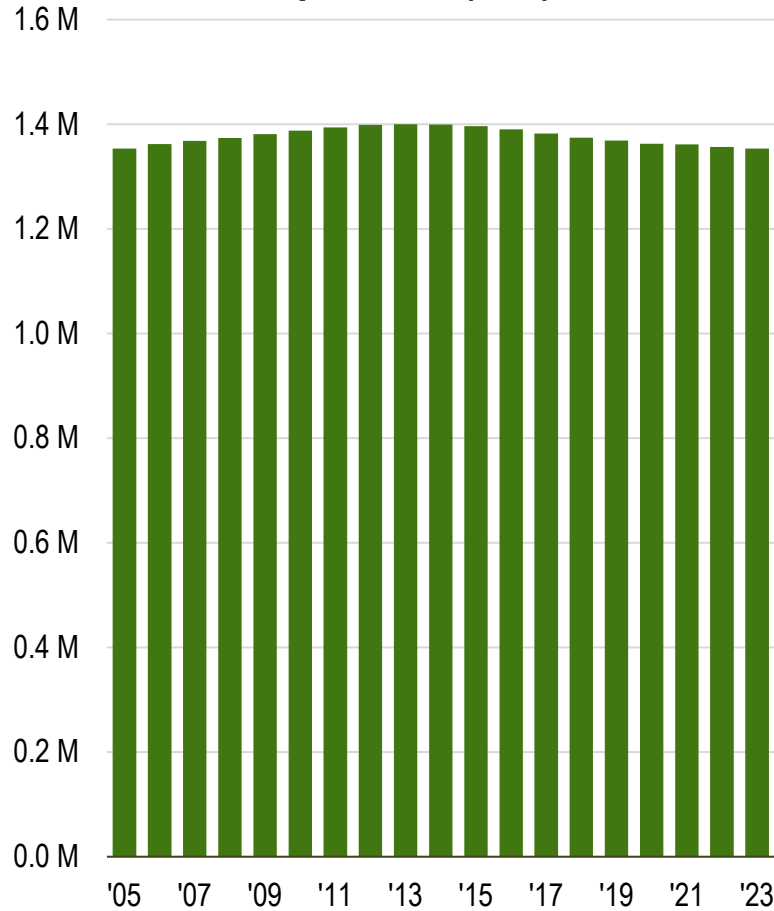
Economic Base

West Virginia

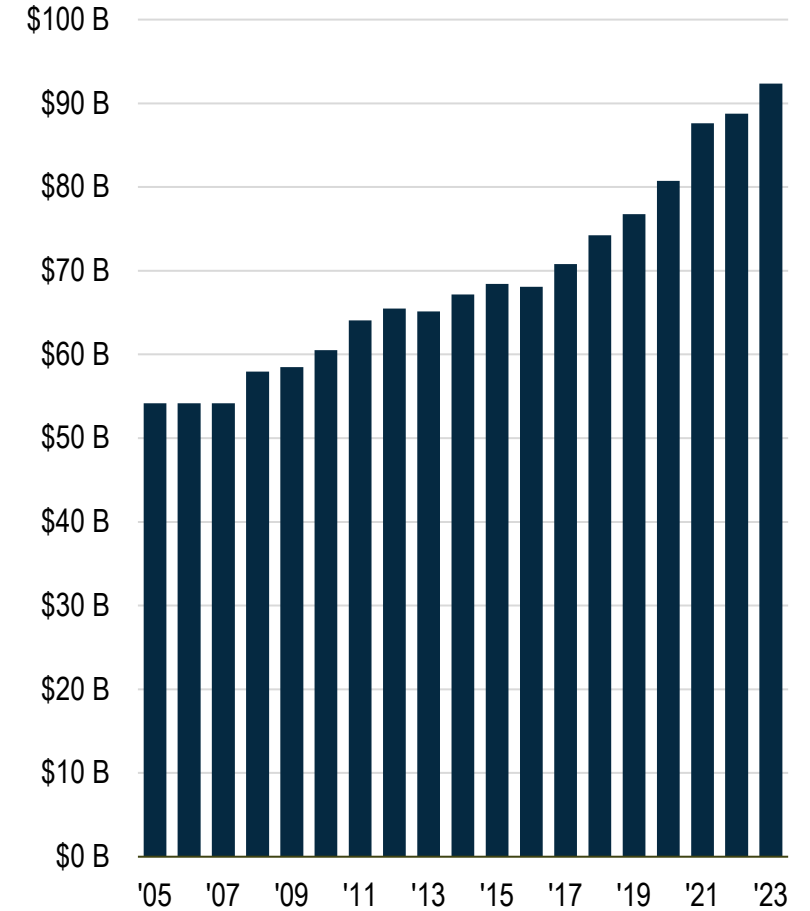
Population



Population (21+)



Personal Income

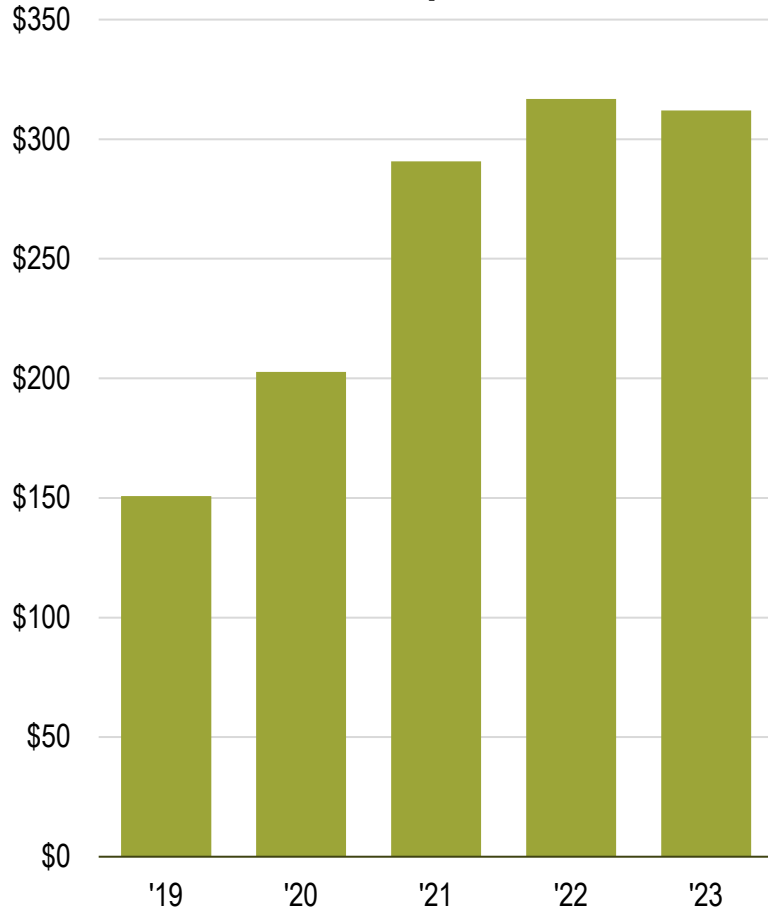


Source: U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis

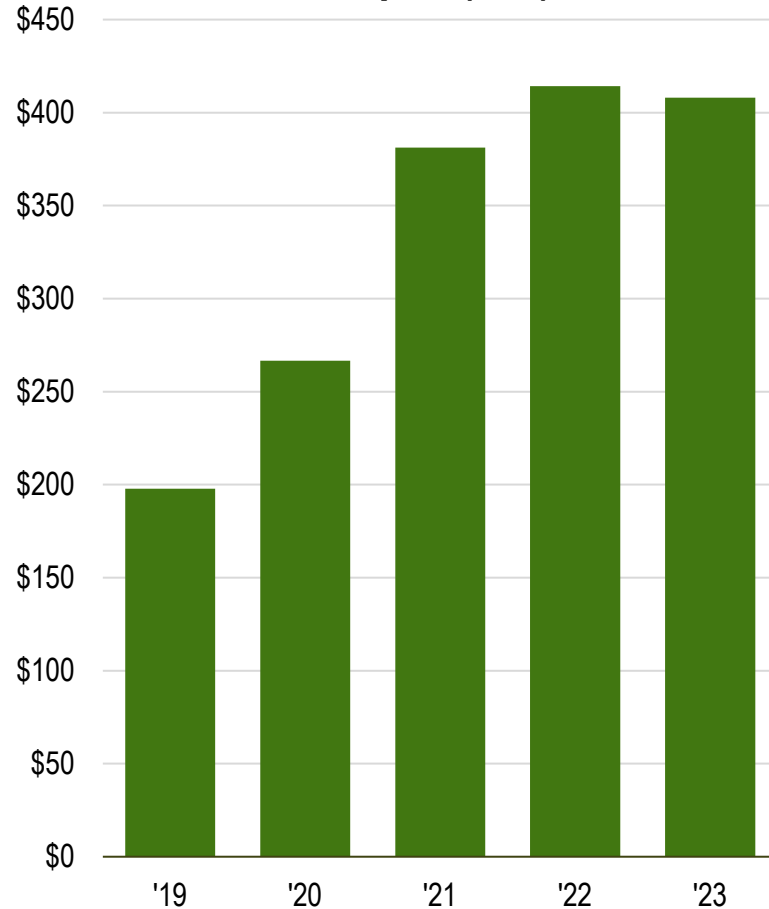
Casino Revenue per Metric

West Virginia

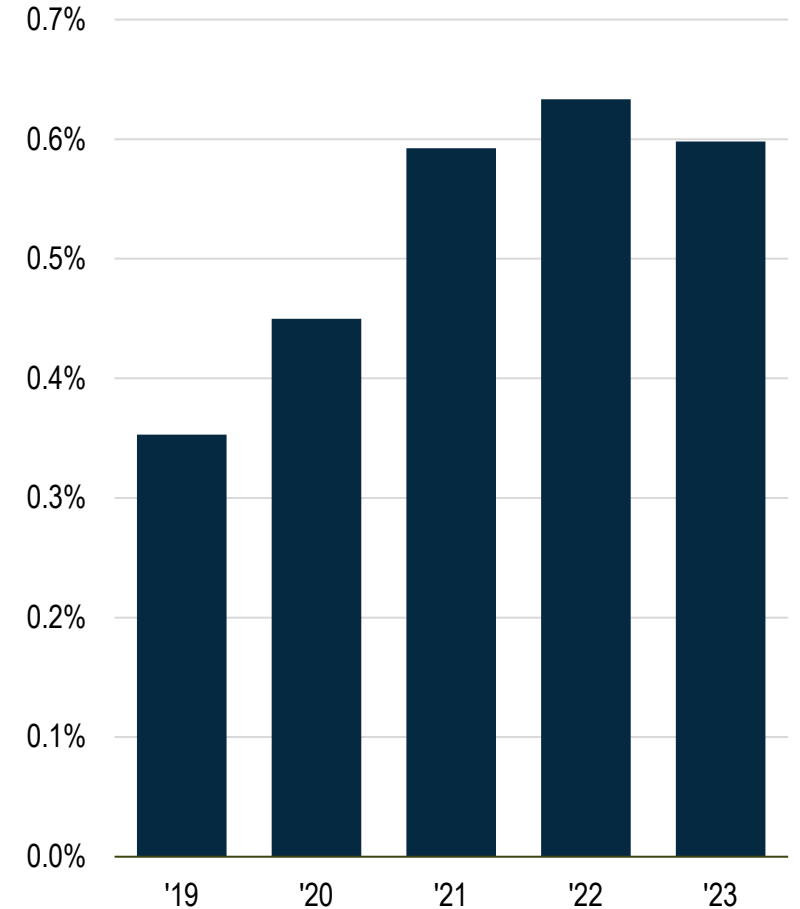
Per Capita



Per Capita (21+)



Share of Personal Income

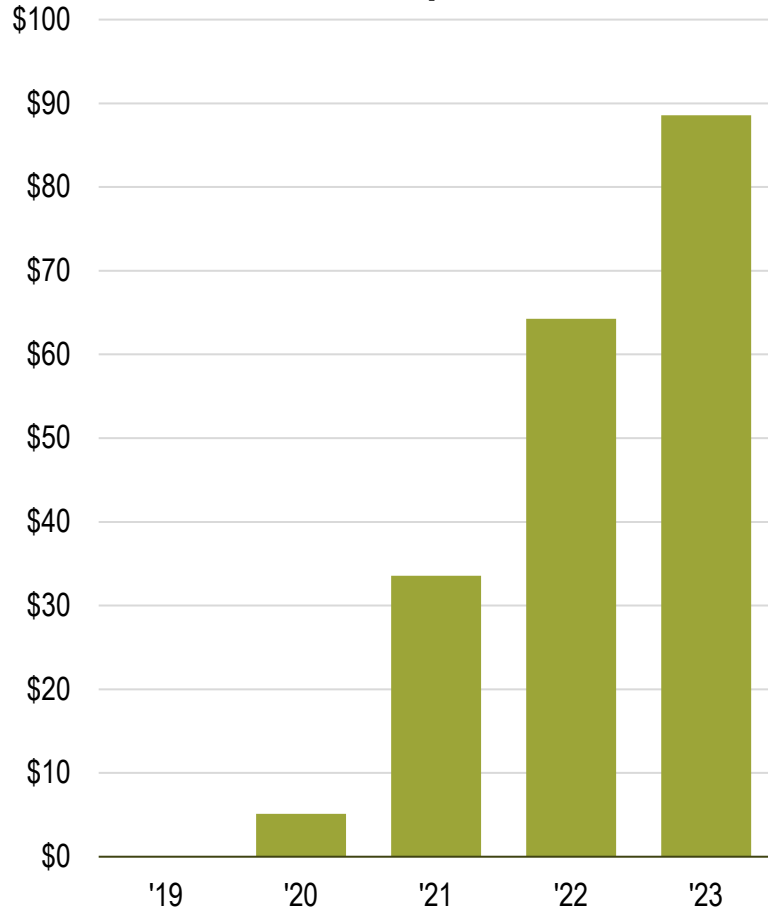


Source: West Virginia Lottery; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis. Note: Data prior to 2019 not readily available by calendar year.

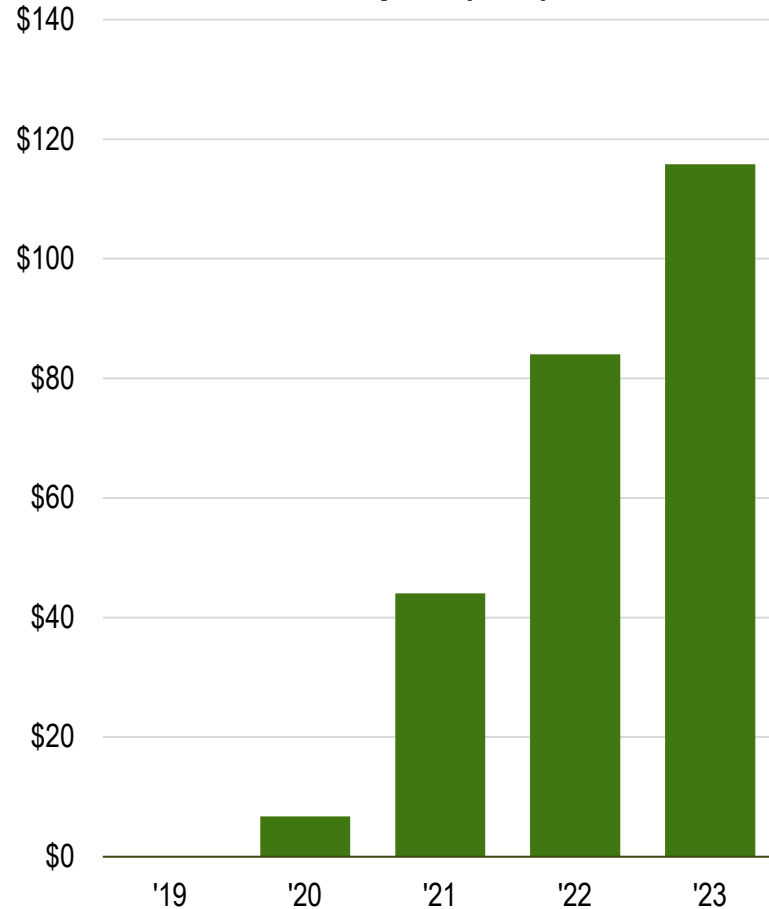
iGaming Revenue per Metric

West Virginia

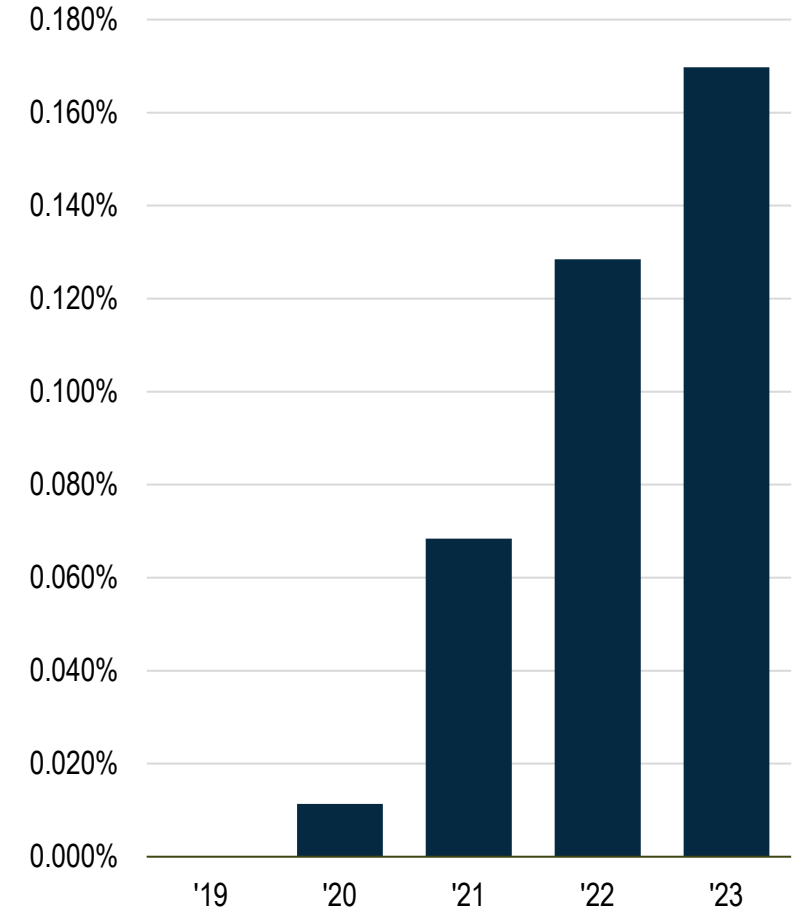
Per Capita



Per Capita (21+)



Share of Personal Income

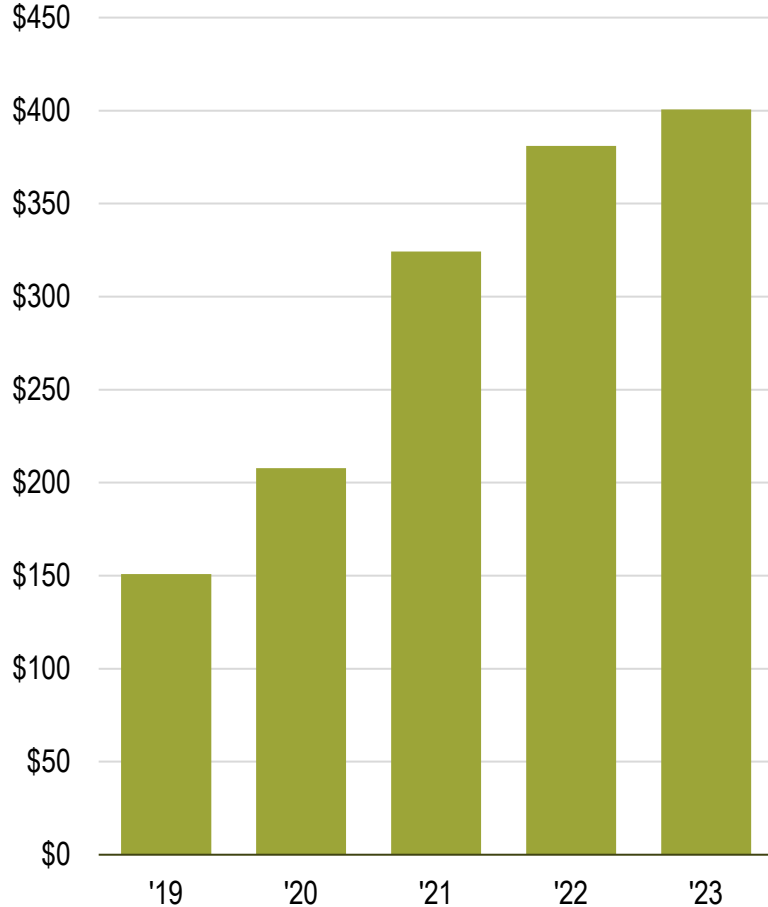


Source: West Virginia Lottery; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis. Note: Data prior to 2019 not readily available by calendar year.

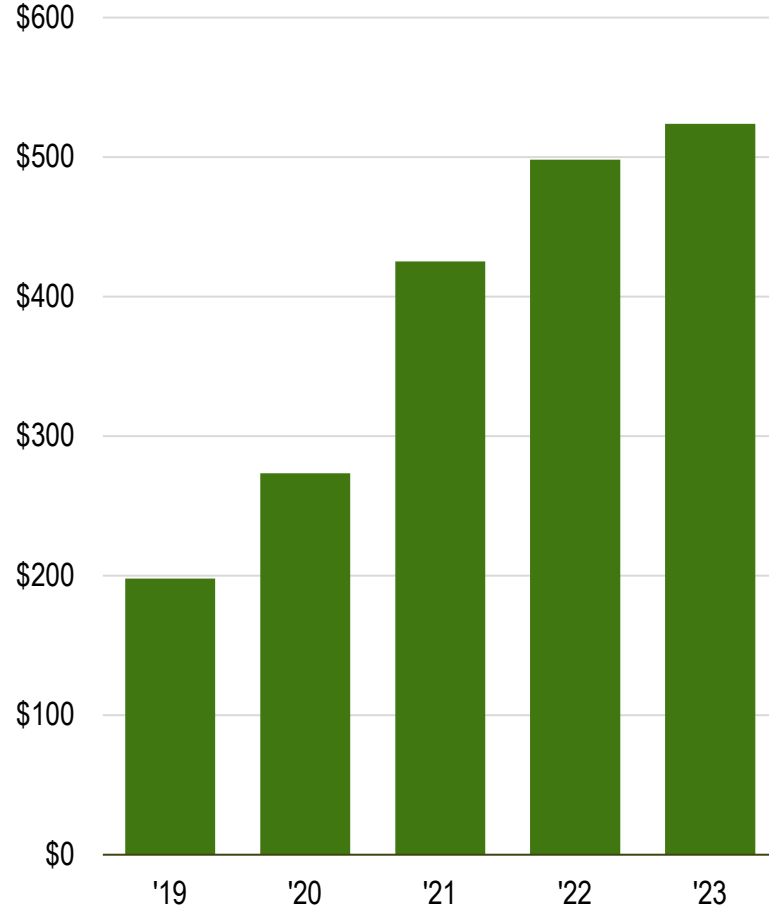
Combined Gaming Revenue per Metric

West Virginia

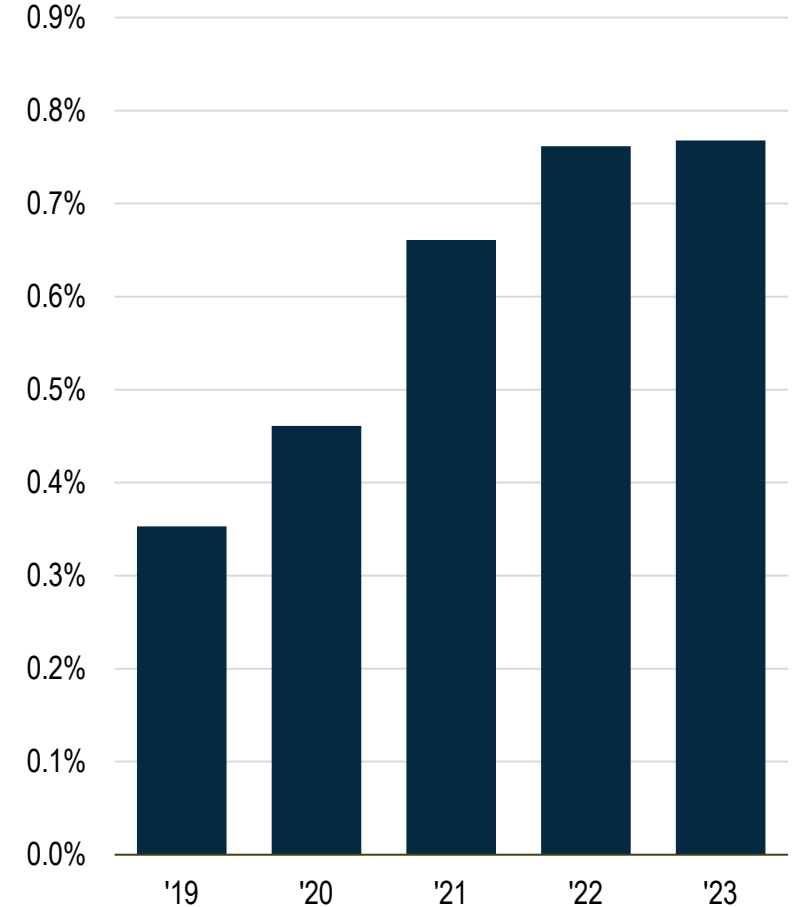
Per Capita



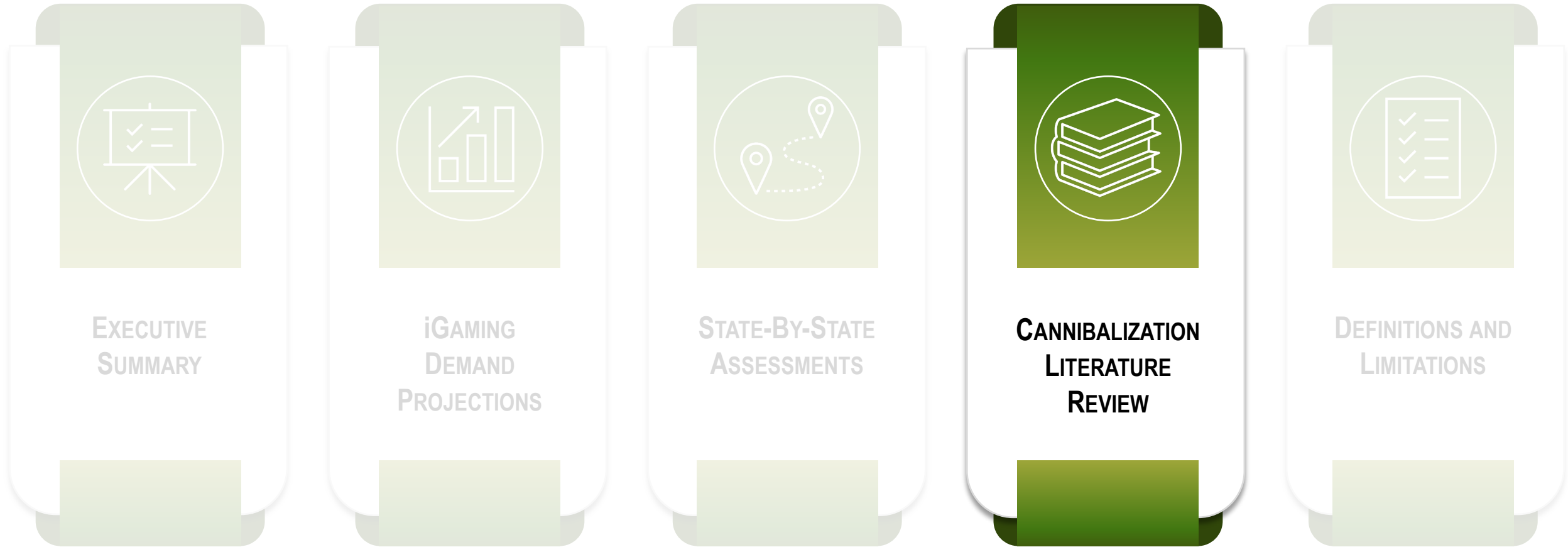
Per Capita (21+)



Share of Personal Income



Source: West Virginia Lottery; U.S. Census Bureau; U.S. Bureau of Economic Analysis; Applied Analysis. Note: Data prior to 2019 not readily available by calendar year.



EXECUTIVE
SUMMARY

iGAMING
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**CANNIBALIZATION
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DEFINITIONS AND
LIMITATIONS

Brick-and-Mortar Casino Cannibalization

Key Considerations

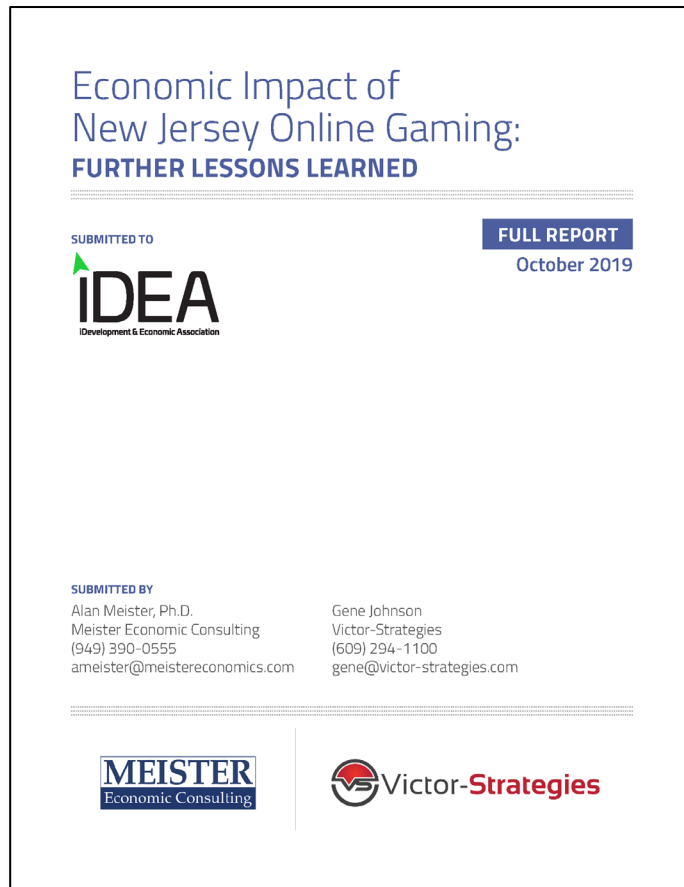
An area of potential concern when considering the legalization of iGaming is the impact it may have on existing brick-and-mortar casinos. Opponents to iGaming legalization may argue that online gaming activities will divert customers from in-person gaming to online activity (often referred to as cannibalization). While there is the potential for a small share of players to adjust their behavior, states with tenured iGaming access have not seen a dramatic fall of in-person gaming revenue. New Jersey and Delaware launched iGaming a decade ago. In both cases, iGaming legalization came as brick-and-mortar casino revenues were trending downward. Immediately following their iGaming launches, both states saw brick-and-mortar casino revenues stabilize and then trend upward.

Five of the seven iGaming states launched in 2019 or later, coinciding with the COVID-19 pandemic. This unique timing makes it difficult to separate the effects of iGaming on existing establishments from the effects of pandemic-era capacity limits, social distancing policies and individual caution. Many casinos reduced capacity within physical casinos, which could partially explain revenue trends in selected markets. Additionally, casino floor sizes and the number of tables and games on casino floors have generally been shrinking. Since 2019, gaming machines in non-tribal casinos decreased by 9.7 percent, while machines in non-casino locations increased by 16 percent. Pennsylvania was the only iGaming state that saw growth in the number of gaming machines, with an increase of 6.3 percent. Maryland gaming machine capacity declined 16 percent.

Research suggests a multichannel approach to gaming products increases revenues across the entire industry as evidenced within this report. Gaming company Rush Street Interactive (“RSI”) operates online casinos in three states. The company reported that users who used both sports betting and iGaming services generated 12.6 times more gross gaming revenue than sports bettors alone and 2.8 times more revenue than iGaming-only players. Recent literature on the topic is summarized on the following pages.

Source: American Gaming Association; RSI Investor Presentation Q2-23

Literature Review



Results

- From 2013 to 2018, iGaming contributed \$2 billion in total output and supported 6,552 total jobs in New Jersey
- State and local taxes totaled \$206 million
- Noted that brick-and-mortar gross gaming revenue stabilized then began to grow after iGaming launch

Methodology

- Employed an input-output model to assess total economic impact
- Used IMPLAN economic modeling system
- The model estimated direct, indirect and induced impacts of iGaming

Literature Review



Results

- Estimated average iGaming revenue per adult of \$830 three years after launch
- Based on gross gaming revenue and industry leader statements, the study concluded that iGaming does not cannibalize brick-and-mortar gaming

Methodology

- Forecasted iGaming market in Indiana via:
 - Gaming spending per adult
 - Gaming spending as a percentage of gross state product
 - Gaming spending as a percentage of personal disposable income
- Estimated employment impact based on industry operator feedback

Literature Review



170 Sawyer Road
New Gloucester, ME 04260
Phone: 207.926.1039
Email: stisinc@gwi.net

Rhode Island iGaming and State Revenue Forecast, May 2023 Update

Christiansen Capital Advisors, LLC (CCA) has been retained by the State of Rhode Island Department of Revenue (DOR) to update its forecasts of iGaming revenue. As in other forecasts CCA has produced for the State of Rhode Island,¹ we rely heavily on empirical data from other jurisdictions in constructing our projections. Therefore, we begin the analysis below with a review of the performance to date of iGaming in these other jurisdictions followed by our estimates of the likely performance of similar offerings in Rhode Island.

RESULTS FROM OTHER iGAMING STATES

Nevada

Nevada was the first state to authorize iGaming. In March 2011, the Nevada legislature introduced AB 258, which instructed the Nevada Gaming Commission to adopt regulations for the licensing and regulation of Internet Poker. In December 2011, the Commission adopted amendments to its regulations to make possible the licensing and operation of Internet Poker. In February 2013, Nevada enacted legislation that allowed the pooling of Internet Poker with other jurisdictions where the practice was legal via entering into "compacts" with these other states.

In addition to being limited to Internet Poker only, Nevada does not report statistics due to a provision in Nevada gaming law that prevents the disclosure of individual financial records. Thus, Nevada reports online and offline poker together in its reports.

Delaware

On June 28, 2012, Delaware Governor Jack Markell signed the Delaware Gaming Competitiveness Act of 2012, allowing the Delaware State Lottery to operate full-scale casinos online. Their iGaming website was launched on November 8, 2013. The Delaware Lottery controls the entire gaming platform and is currently contracted with Light and Wonder Gaming, Inc. (formerly Scientific Games) and 888 Holdings to operate it. Sites, or "skins," are provided by the licensed gaming sites (Delaware Park, Dover Downs, and Harrington Raceway) and run on top of that platform. In essence, iGaming in Delaware is a single portal that the licensees feed into. Delaware offers several poker games, as well as roulette, blackjack, and slots. Despite being in operation for eight years, iGaming in Delaware significantly lags most other states even after posting significant gains in 2020 and 2021 due to COVID-19 induced lockdowns. It appears that this single portal structure, delays in implementing mobile iGaming via iOS and Android and a burdensome revenue share for the licensed gaming sites has significantly hampered the performance of iGaming in Delaware (Exhibit 1.1). Specifically, after paying Light and Wonder and 888 for the operation of the platform, the first \$3.75 million of iGaming revenues (26% of the \$14.4 million Delaware iGaming produced over the last twelve months) is transferred to the State general fund. Of the remainder 15.5% of

¹ Christiansen Capital Advisors, LLC, for the Rhode Island Department of Revenue "Rhode Island Gaming and State Revenue Forecast," December 1, 2021, March 12, 2019, October 31, 2017, 2015, and 2014.

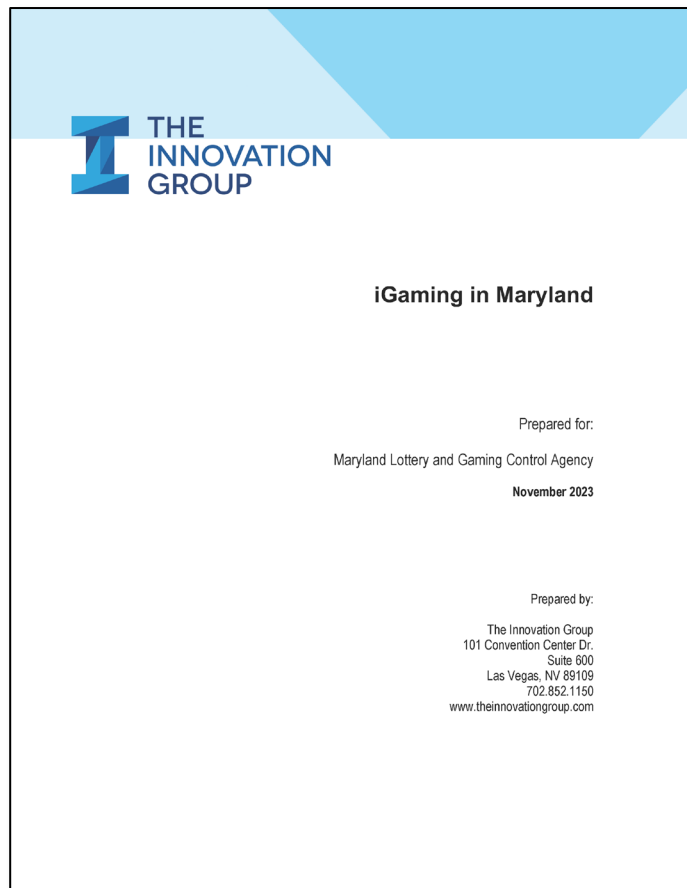
Results

- Found no evidence of cannibalization among iGaming states
- Estimated \$38.8 million in tax revenue from iGaming by year five in Rhode Island
- Concluded that experiences in other states indicated that iGaming grows the overall gaming market

Methodology

- Forecasted iGaming revenue based on trends in Connecticut and West Virginia

Literature Review



Results

- Forecasted iGaming gross revenue of \$900 million by 2029
- Estimated iGaming across all states reduced brick-and-mortar revenue by as much as 10.2 percent
- Suggested two skins per operator to create a competitive market

Methodology

- Estimated cannibalization rate by comparing net gross gaming revenue growth among non-iGaming states to net gross gaming revenue of iGaming states
- Forecasted iGaming revenue by comparing spend per capita trends in other iGaming states

Literature Review



Results

- Brick-and-mortar casino gross gaming revenue has been increasing since the pandemic
- Based on previous literature, the study concluded that iGaming does not negatively affect brick-and-mortar gaming
- More than half (50.5 percent) of casino revenue originated from Connecticut residents

Methodology

- Employed PI+ model from Regional Economic Models
- Used AirSage cell phone location data to calculate the portion of casino patrons that traveled from out of state

Literature Review



Results

- Brick-and-mortar gross gaming revenue increased by an average of 2.4 percent after the launch of iGaming
- Gaming revenue in five out of six iGaming states outperformed revenue growth in comparable brick-and-mortar only states
- Estimated iGaming generated a positive 1.7 percent impact for brick-and-mortar casinos

Methodology

- Compared the compound quarterly growth rate of gross gaming revenue at brick-and-mortar casinos pre- and post-iGaming launch
- Employed demand and participation rate estimates to model cannibalization
- Conducted a survey of gaming operators

Bill Hornbuckle

CEO, MGM Resorts International



“

The idea that omnichannel can and will work - and not be cannibalizing - is something I'm excited about moving forward.

I think iGaming opens to the notion that you can engage with a company 365 days a year if you choose to, come to a brick-and-mortar environment three times a year and be recognized and be rewarded and have a holistic experience whether it's around iGaming or sports.

”

Source: MGM Q2 2021 Earnings Call; sigma.world

Jason Robins

CEO, DraftKings



Source: Bonus.com; legalsportsreport.com. Picture Source: Pillar VC



The way that I would explain this is you're bringing more people into the market. There's marketing, there's other things that come with the legalization. More people are able to access it because it's more convenient. So, you're just bringing more people into the market ... that lifts everything.

Large states have authorized both (sports betting and iGaming) without cannibalizing existing retail gaming operators and experiencing a hyperbolic doomsday scenario opponents recklessly predicted. ...The stigma and fears associated with online gaming seem to rely on inaccurate and out-of-date ideas of how the technology works.



David Rebeck

Director, New Jersey Division of Gaming Enforcement



Source: ggbmagazine.com; ifrahlaw.com. Picture Source: nj.org

Given what has happened since then, (iGaming) has rescued the casino industry in New Jersey. If we hadn't legalized iGaming, it would be a different environment here today. It definitely did not cannibalize the offerings. It's brought in a new demographic of individuals who they can market to, and it has expanded their opportunities to be successful as a business.

(iGaming) has created competition, it has created a better consumer opportunity, and we're not maxed out yet.

Keith Smith

CEO, Boyd Gaming



Source: PRNewswire. Picture Source: Las Vegas Review-Journal

“

These results also once again demonstrate online gaming’s potential to expand our business. About 85 percent of our online players have not had rated play at Borgata in at least two years, showing there is little overlap with our land-based business. Online gaming is growing our database, creating a long-term opportunity to market Borgata to an entirely new group of customers.

”



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**DEFINITIONS AND
LIMITATIONS**

Definitions, Assumptions and Limiting Conditions

Selected Definitions

- **iGaming:** Casino games, such as slot machines, table games and poker, that are offered electronically over the internet (via mobile devices and computers).
- **Skin:** A skin is a sublicense of a casino's online betting license.
- **Gross Gaming Revenue (GGR):** Total amount wagered minus winnings paid
- **Omnichannel strategy:** A business strategy designed to create a unified user experience across interaction points.
- **Multichannel strategy:** The use of multiple types of interaction points to attract consumers.

Assumptions and Limiting Conditions

The information used in, and arising from, this analysis is based upon assumptions that are subject to uncertainty and variation. As a result, the estimates do not represent results that will be achieved in the future. There will usually be differences between projected and actual results as events and circumstances frequently do not occur as expected; the differences may be material. This report, the findings contained herein, and the analysis underlying the findings have been prepared to demonstrate the possible effect of future hypothetical occurrences showing the potential demand for gaming-related activity. These occurrences are deemed reasonable based on the assumptions and underlying analyses contained herein. This analysis also assumes necessary approvals from the appropriate jurisdictions with respect to legislative changes are obtained.

About the Author

Applied Analysis (AA) is a Nevada-based economic analysis and gaming consulting firm with extensive experience. AA also maintains a broad range of gaming experience. AA has been retained by several organizations to review and analyze the economic, fiscal and social impacts of community investments and operations. This economic impact analysis includes impacts on employment, wages and output.

AA is an information and analysis resource founded in 1997 for both the public and private sectors. Our team has extensive experience in real estate, market analysis, urban economics, information technology, finance and hospitality consulting. We apply this knowledge in an effort to develop creative solutions to our clients' challenges. Our team has performed analyses in Nevada, California, Mississippi, Colorado, New York, Illinois and other markets around the country. We have serviced a broad spectrum of business clients, from governmental agencies to healthcare providers. Our public sector practice has analyzed the fiscal and economic impact of developments from five to 23,000 acres and handled policy issues spanning business tax initiatives to the cost of air quality programs.

Our vision and goals have been the same since our inception. We strive to provide superior advisory services through a better understanding of our clients and their issues. We obtain this superior understanding through listening closely to our clients' needs and designing solutions that take into account their unique nature, circumstances and requirements.

To put it simply, we are a solutions resource. Our future is branded by the success of our clients and the quality of our professionals. *Our commitment lies therein.*

Applied Analysis' broad range of experience in a number of industries and disciplines provides our professionals with a global view and approach to projects. The following highlights key service lines and areas of expertise.

- Economic Analysis
- Financial Analysis / Advisory Services
- Hospitality / Gaming Consulting Services
- Information Technology / Web-based Solutions
- Litigation Support / Expert Analysis
- Market Analysis
- Opinion Polling / Consumer Sentiment Analysis
- Public Policy Analysis

For More Information, Contact:

Applied Analysis
 6385 S. Rainbow Blvd.; Suite 105
 Las Vegas, Nevada 89118
 (702) 967-3333 | AppliedAnalysis.com



