

Economic Impact of New Jersey Online Gaming: **LESSONS LEARNED**

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SUBMITTED BY

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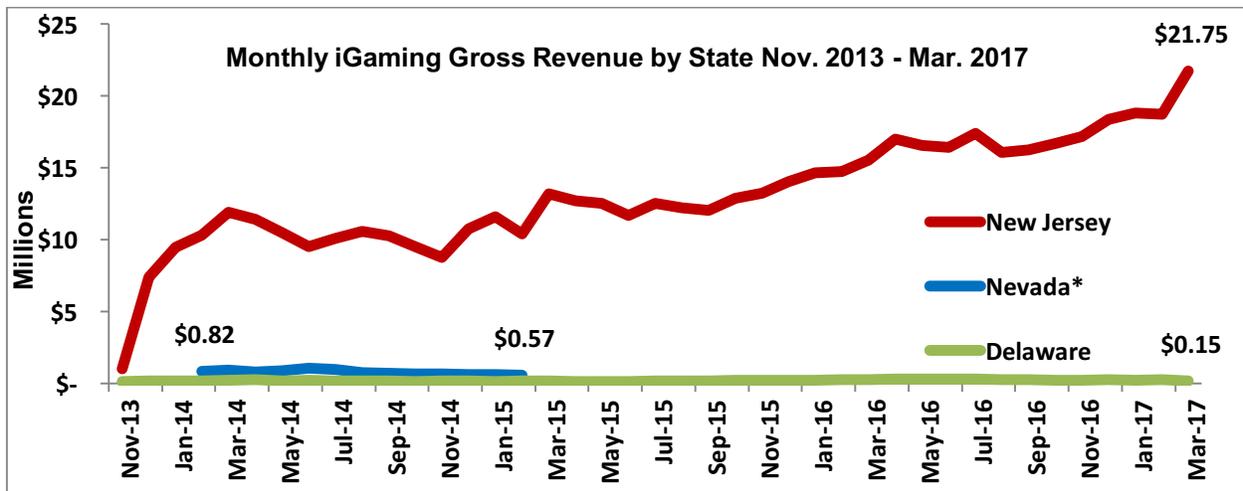
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Executive Summary

In November 2013, New Jersey became the third U.S. state to permit the legal operation of Internet gaming (“iGaming”). To date, New Jersey iGaming clearly has been the most successful of the three states, which include Nevada and Delaware. The State of New Jersey’s iGaming laws allow licensed Atlantic City casinos to operate all games allowed in their brick and mortar facilities. In addition, the casinos are able to partner with approved technology providers to operate multiple iGaming websites.

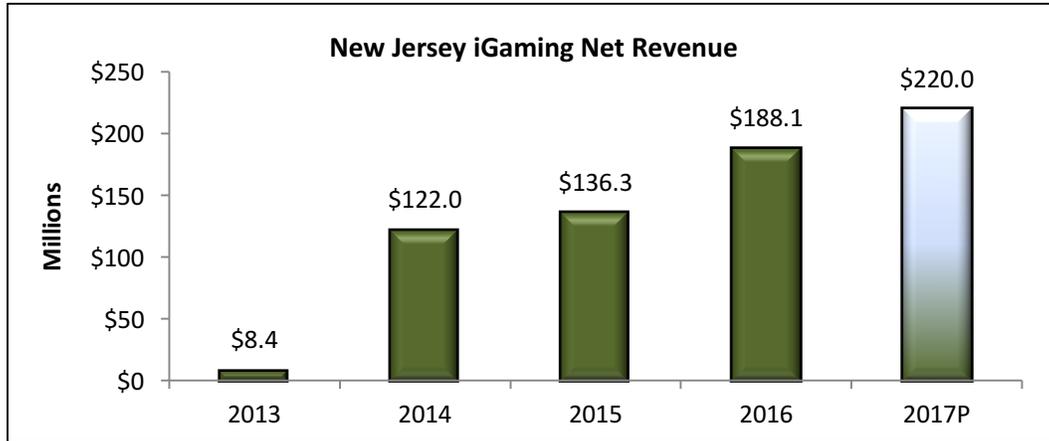
New Jersey iGaming has experienced strong and steady growth since its inception, putting it far ahead of Nevada and Delaware in terms of registered player counts, gaming revenue, and tax revenue.



Sources: New Jersey Division of Gaming Enforcement; Nevada Gaming Control Board; and Delaware Video Lottery.
 *Nevada Gaming Control Board ceased reporting Internet poker revenue as of February 2015.

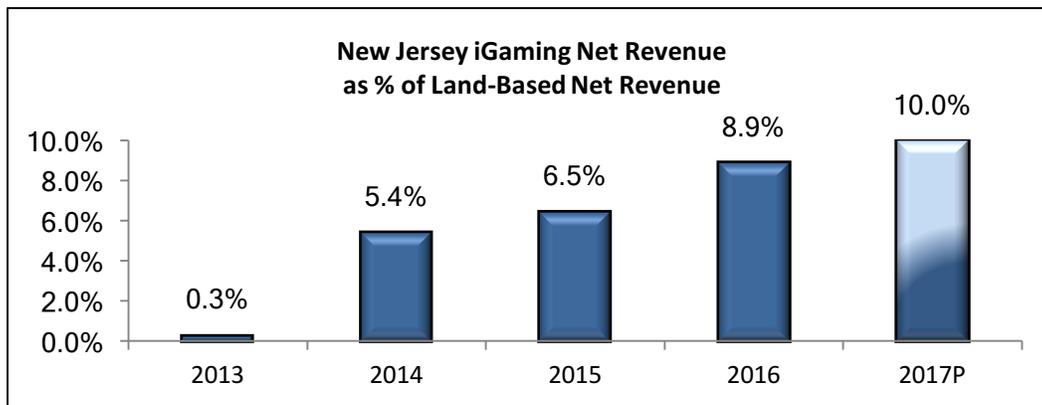
While New Jersey’s favorable outcome has been in part due to its larger population, a primary contributing factor has been its broader iGaming business model.

Since its first full year of operations, revenue has grown at a compound annual growth rate of 27%. In calendar year 2016, iGaming generated total gross gaming revenue of \$196.9 million, a 32% increase from 2015. Net gaming revenue, after subtracting all promotional gaming credits, totaled \$188.1 million, a 38% increase over 2015 revenues. New Jersey iGaming looks to continue this strong growth. Projections anticipate a 17% increase in gaming revenue in 2017.



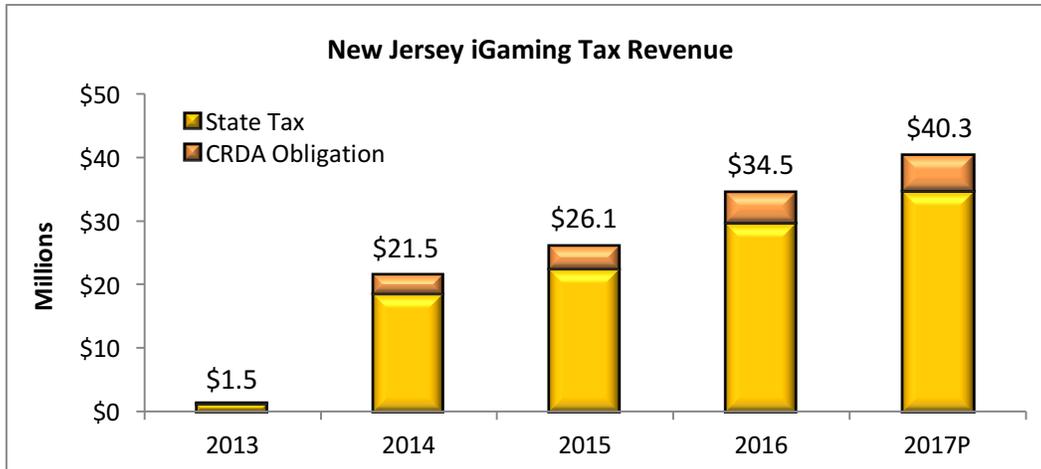
Sources: New Jersey Division of Gaming Enforcement; Nathan Associates/Victor-Strategies analysis.

New Jersey iGaming net revenue has grown from 5.4% of land-based net gaming revenue in 2014, its first full year of operation, to 8.9% of land-based net gaming revenue in 2016, and it is projected to reach 10% in 2017.



Source: New Jersey Division of Gaming Enforcement.

New Jersey iGaming also generated \$34.5 million in gaming taxes for New Jersey in 2016, including approximately \$29.5 million to the State and \$4.9 million locally via the Casino Reinvestment Development Authority (CRDA). This reflects a 32% increase over 2015. Gaming taxes are anticipated to total \$40.3 million in 2017.



Source: New Jersey Division of Gaming Enforcement.

As a result of the upfront capital investment in New Jersey iGaming facilities, equipment, and technology, and the ongoing annual operation of iGaming, there have been significant positive impacts on the New Jersey economy. From its inception in late 2013 through calendar year 2016, New Jersey iGaming has directly and indirectly generated:

- \$998.3 million in output (i.e., value of sales);
- 3,374 jobs (i.e., full-time equivalents);
- \$218.9 million in wages to employees; and
- \$124.4 million in tax revenue to state and local governments (including \$83.5 million in iGaming taxes).

2013-2016 Economic & Fiscal Impact of Investment in & Operation of iGaming on State of New Jersey				
Type of Effect	Output	Jobs	Wages	Taxes
Direct	\$522,275,192	821	\$60,264,506	\$97,582,620
Indirect	\$315,354,868	1,650	\$109,474,852	\$16,047,034
Induced	\$160,630,817	902	\$49,174,645	\$10,759,645
Total	\$998,260,877	3,374	\$218,914,003	\$124,389,299

Detail may not equate to total due to rounding.
 Output and Wages in 2017 Dollars.
 Jobs are measured as full-time equivalents (FTEs).
 Taxes include state and local taxes.

Direct Effect was computed from data provided by industry participants. Indirect and Induced Effects were computed using input-output analysis. The Indirect Effect represents economic activity generated entities down the supply chain. The Induced Effect represents economic activity generated as a result of household purchases.

In calendar year 2016 alone, the operation of iGaming (excluding investments) generated:

- \$381.3 million in output;
- 1,259 jobs;
- \$77.0 million in wages to employees; and
- \$49.9 million in tax revenue to state and local governments (including \$34.5 million in iGaming taxes).

2016 Economic & Fiscal Impact of Operation of iGaming on State of New Jersey				
Type of Effect	Output	Jobs	Wages	Taxes
Direct	\$198,112,979	278	\$17,300,974	\$39,673,982
Indirect	\$125,141,877	655	\$42,253,983	\$6,328,622
Induced	\$58,020,094	326	\$17,440,578	\$3,886,850
Total	\$381,274,949	1,259	\$76,995,535	\$49,889,454

Detail may not equate to total due to rounding.
 Output and Wages in 2017 Dollars.
 Jobs are measured as full-time equivalents (FTEs).
 Taxes include state and local taxes.
 Direct Effect was computed from data provided by industry participants.
 Indirect and Induced Effects were computed using input-output analysis.
 The Indirect Effect represents economic activity generated entities down the supply chain. The Induced Effect represents economic activity generated as a result of household purchases.

New Jersey iGaming has also been a success from a regulatory perspective, especially considering its launch was accomplished within a nine-month timeframe. The state features some of the strictest iGaming regulation protocols in the world. Entirely new technologies were developed or implemented for U.S. state-mandated requirements, such as precise geolocation and regulatory monitoring of the diverse platforms being operated. The New Jersey Division of Gaming Enforcement established procedures for player identification and tracking which set the standard for state oversight of iGaming.

While New Jersey iGaming’s rigorous standards have created some business challenges at times, they have successfully addressed the valid concerns voiced by opponents and skeptics of iGaming, and proven that legal intrastate iGaming can be successfully operated and safely regulated.

**Concern with iGaming:
New Jersey’s Experience:**

Protecting players, operators, and the public

Players have guarantees that Internet games meet regulatory standards and operators are accountable. Thus, they can enjoy playing with assurances that they are interacting with trusted brands, protected from fraud and cheating, and enjoy the confidence that they will receive payouts when they win. Players are further

protected by mediation procedures, tools to manage the velocity of play, and the ability to exclude oneself not just from a single site but from the entire iGaming space. The integrity of the industry is protected by a stringent regulatory framework which aggressively vets operators, tests their platforms, constantly scrutinizes ongoing operations, and flags any irregularities for investigation.

**Concern with iGaming:
New Jersey's Experience:**

Fraud and cheating

Fraud and cheating are concerns for all land-based casinos and Internet-based businesses. Preventing these activities requires constant vigilance and New Jersey's iGaming oversight is structured so that both regulators and operators monitor transactions 24/7. Stringent identity verification, account funding protocols, and comprehensive recording of all gaming transactions have been deployed to identify cases of suspected cheating or collusion and to initiate further investigation. Notably, iGaming credit card chargeback rates are similar to those of other online retail businesses.

**Concern with iGaming:
New Jersey's Experience:**

Money laundering

New Jersey Know Your Customer (KYC) procedures are the most rigorous instituted by any iGaming regulator, and comprehensive tracking of account funding and all gaming transactions discourages money laundering more effectively than previous land-based methods.

**Concern with iGaming:
New Jersey's Experience:**

Underage gambling

To date and to the extent of our knowledge in researching this report, no minors have succeeded in creating accounts and wagering as adults online in New Jersey. Strict KYC registration procedures and constant monitoring have proven effective at preventing underage gambling and may be more effective than land-based casinos' ID verification methods.

**Concern with iGaming:
New Jersey's Experience:**

Problem gambling

In contrast to previous studies, a newly released study by Rutgers University indicates that problem gambling prevalence rates in New Jersey have increased over time and are higher than in other jurisdictions. It does not conclude that iGaming is the cause (only about 5% of survey respondents were online-only gamblers). Dramatic differences observed in problem gambling prevalence between the two survey groups within this particular study raise questions and call for continued research to monitor problem gambling in New Jersey.

**Concern with iGaming:
New Jersey's Experience:**

Keeping iGaming within state borders

Geographic fencing, a fundamental requirement for state regulated iGaming, was implemented for the first time in a state with densely-

populated borders during New Jersey's iGaming rollout. State-of-the-art geolocation technology works effectively today, erring on the side of caution along densely populated state borders.

**Concern with iGaming:
New Jersey's Experience:**

Cannibalization of Atlantic City casinos

The introduction of iGaming has been complementary to casino gaming, producing incremental revenue and not cannibalizing land-based revenue streams. After a decade-long downturn in Atlantic City revenues following the Great Recession, and increased regional competition, the land-based casino market stabilized in 2016 and the first quarter of 2017 has seen growth in both land-based casino and iGaming revenues. Our findings provide strong evidence that multi-channel engagement is bringing new customers to the casino, increasing brand loyalty, and growing the overall player database rather than substituting online for brick-and-mortar customers and revenues.

**Concern with iGaming:
New Jersey's Experience:**

Gaming revenue and state taxes will be low

New Jersey's iGaming industry has generated steady and growing revenues since inception. Net gaming revenue and state and local taxes in 2016 were significant at \$188.1 million and \$34.5 million, respectively. Those revenues are estimated to increase to \$220.0 million and \$40.3 million, respectively, in 2017. This means that iGaming represented 8.9% of land-based casino revenue in 2016 and is projected to grow to 10% in 2017.

As a result of the regulations and procedures now in place, anyone located within New Jersey borders who enjoys playing casino-style games over the Internet has the ability to do so in a legal, regulated environment with the assurance of trusted brands and strong player protections. Legal, regulated iGaming allows these players to avoid offshore sites, which were estimated to generate \$5.9 billion from U.S. citizens in 2008.¹ The New Jersey model has proven that iGaming can be successfully operated under very stringent regulation in a single-state environment. New Jersey's experience provides valuable lessons for other U.S. states considering iGaming legalization in the future. Its successful operating environment and regulatory structure could be adapted to suit the individual needs of other state jurisdictions, accelerate implementation, and more quickly realize the benefits of legal, regulated iGaming.

This white paper was conducted by Nathan Associates Inc. and Victor-Strategies on behalf of the iDevelopment & Economics Association (iDEA). A peer review was conducted by academics from the International Gaming Institute at the University of Nevada, Las Vegas (UNLV).

¹ Malcolm K. Sparrow, Coleman Bazelon, Charles Jackson, *Can Internet Gambling Be Effectively Regulated?*, John F. Kennedy School of Government, Harvard University, December 2009.

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1. Assignment

Nathan Associates Inc. (“Nathan Associates”) and Victor-Strategies were commissioned by the iDevelopment & Economics Association (iDEA) to analyze the economic impact of legalized Internet gaming (“iGaming”) in the State of New Jersey from its origin in 2013 through calendar year 2016.

This study comprises both qualitative and quantitative research. The qualitative research was developed via a comprehensive literature review and a series of interviews and discussions conducted with more than 50 individuals involved in the New Jersey iGaming industry. The interview subjects included all of the casino licensees, most of the iGaming operators, a wide range of iGaming suppliers and technology providers, officials of the New Jersey regulatory agencies, New Jersey lawmakers who featured prominently in the development of iGaming legislation, academic experts, and problem gambling research and treatment professionals. The quantitative research includes the use of an economic impact analysis to measure the contribution of New Jersey iGaming to the state economy.

This report is organized as follows: Section 2 sets forth background on iGaming, including in New Jersey. Section 3 describes the implementation of iGaming in New Jersey. Section 4 provides an assessment of the New Jersey iGaming market. Section 5 describes the methodologies, data, and results of our quantitative economic impact analysis. Our overall conclusions and lessons learned are set forth in Section 6. Background on the authors of this report, Nathan Associates and Victor-Strategies, are set forth in Appendices A, B, and C.

Nathan Associates and Victor-Strategies acknowledge and thank academics from the International Gaming Institute at the University of Nevada, Las Vegas (UNLV) who conducted a peer review of this paper.

2. Background on iGaming

2.1 BIRTH OF IGAMING

Gambling has long been a human pastime. Indeed, our species' risk taking behavior may be one of the primary reasons for its evolutionary progress. Gambling in the United States has roots that extend back to the lotteries enacted to help fund the Continental Army. From the riverboat gamblers of the nineteenth century through the emergence of what became the quintessential American social game, poker, to the backroom speakeasies of the Roaring Twenties, recreational gambling has historically been an indelible feature of American society.

The most popular modern form of this pastime, casino gaming, was first legalized on a state basis in Nevada in 1931. It took 45 years for legalized casino gaming to spread beyond Nevada to New Jersey in 1976, and Atlantic City enjoyed a 14-year East Coast monopoly and nearly 30 years of regional dominance. Since then, casino gaming, including commercial and Native American gaming facilities, has become legal in 40 states.²

The next evolution of gambling, iGaming, has been legal and regulated internationally for more than 20 years, but domestic live operations only began in three states during 2013. iGaming first became possible in the mid-1990s when graphical user interfaces, Internet connectivity, and reliable payment systems developed to the point where they could be integrated into a relatively seamless application.

Early "offshore" jurisdictions were located on Caribbean islands, such as Antigua and Barbuda, situated conveniently close to the U.S., where the vast majority of players resided. Early studies of the offshore iGaming industry estimated that more than two-thirds of all players were U.S. residents.³ The operators located in these offshore jurisdictions were positioned beyond the reach of U.S. authorities due to uncertainty regarding the legality of iGaming on U.S. soil. These early iGaming regulatory regimes often lacked effective player protections or rigorous enforcement apparatus to punish unscrupulous operators. As the industry progressed and more European players entered the market, iGaming regulatory jurisdictions were established closer to Europe in member countries with specific iGaming regulation, including Malta, Alderney, the Isle of Man, and Gibraltar.

Offshore gambling sites multiplied to number in the thousands, generating annual revenues estimated at over \$7.8 billion by 2003,⁴ with U.S. players contributing two-thirds of that total

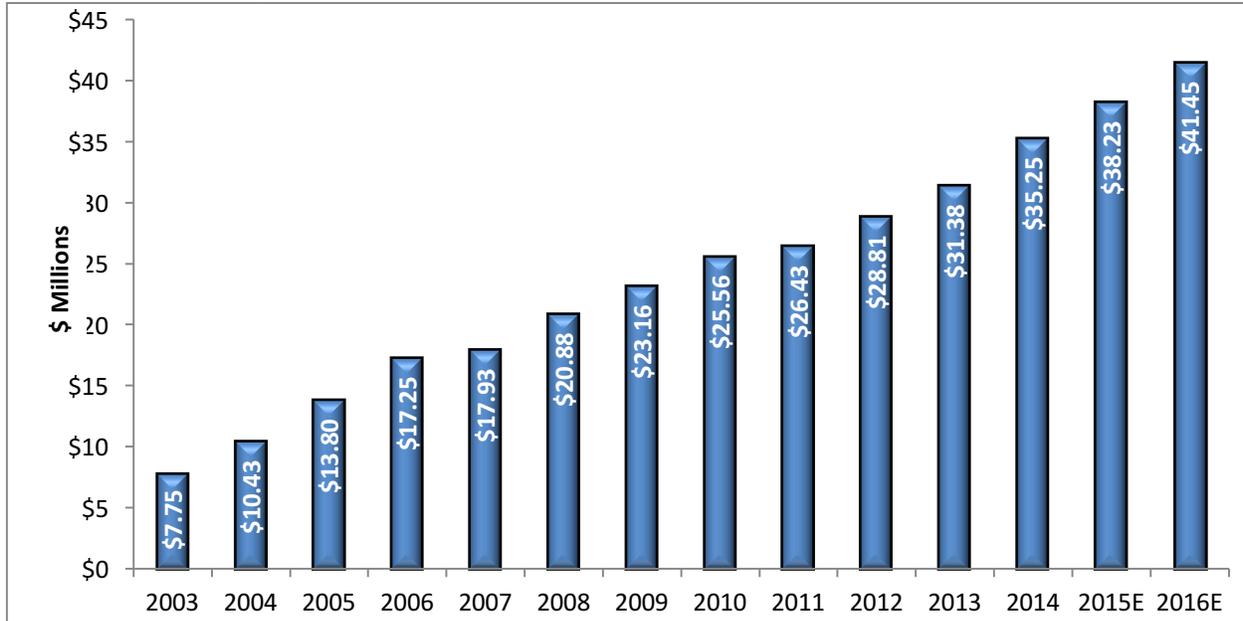
² American Gaming Association, *2016 State of the States, The AGA Survey of the Casino Industry*, (https://www.americangaming.org/sites/default/files/2016%20State%20of%20the%20States_FINAL.pdf); Alan Meister, *Indian Gaming Industry Report*, 2016 Edition, Newton: Casino City Press.

³ Ryan D. Hammer, "Does Internet Gambling Strengthen the US Economy? Don't Bet on It," *Federal Communications Law Journal*, 54(1), 103, 2001 (<http://www.repository.law.indiana.edu/fclj/vol54/iss1/6/>).

⁴ H2 Gambling Capital.

amount.⁵ iGaming continued to grow steadily through the next decade, approaching an estimated \$41.5 billion globally from all sources including casino, lottery, bingo, and sports wagering.⁶

Figure 1: Total Global Interactive Gambling Revenue, 2003-2016E



Source: H2 Gambling Capital.

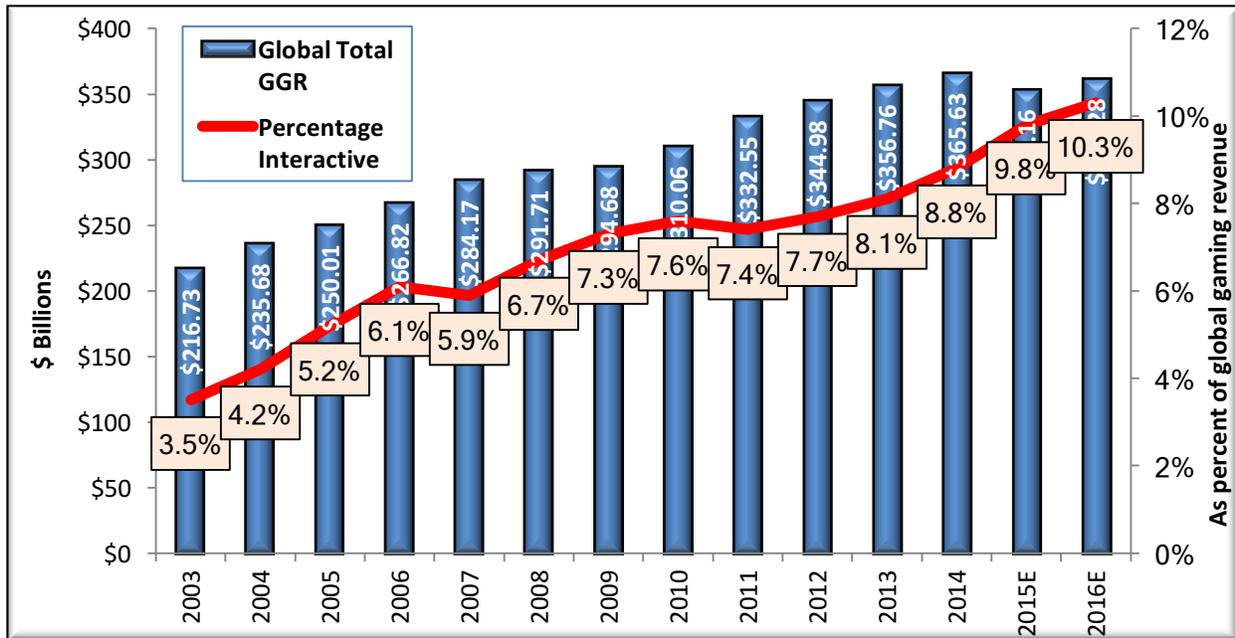
As this rapid expansion continued, iGaming became an increasingly significant proportion of all the money wagered on gambling worldwide, rising from 3.5% of total global gambling revenue in 2003 to 10.3% by 2016.⁷

⁵ European Commission, "Study of Gambling Services in the Internal Market of the European Union," Chapter 7 - The Impacts of Internet Gambling and Other Forms of Remote Gambling on the EU Gambling Market, p. 1,407, June 2006 (<http://ec.europa.eu/DocsRoom/documents/9725>).

⁶ H2 Gambling Capital.

⁷ Ibid.

Figure 2: Total Global Gambling Revenue vs. Percentage Interactive, 2003-2016E



Source: H2 Gambling Capital.

The rapid expansion of iGaming and the increasing uncertainty regarding its legal status in the U.S., the primary market for iGaming and the dominant market for poker in the first decade of its existence (1996-2006), drove operators to seek new regulating jurisdictions closer to their logistical bases of operation and the emerging legal markets that were increasingly supporting them. Many iGaming operators moved to Europe as operator-friendly offshore jurisdictions sprang up in small Euro Zone districts like Alderney in 2000, the Isle of Man in 2001, Malta in 2004, and Gibraltar in 2005.

2.2 U.S. IGAMING HISTORY

2.2.1 Initial iGaming Efforts

Historically, the U.S. land-based casino industry, both commercial and Native American, has remained deeply divided over the iGaming issue. Nevada passed legislation in 2001 to study iGaming and determine whether it could be properly regulated and controlled.⁸ While the Nevada Gaming Control Board found that iGaming could be effectively regulated, they were unable to determine whether it could be operated in compliance with federal law. In 2002, the U.S. Department of Justice (DOJ) advised the Nevada Gaming Control Board of its view that federal law prohibited gambling over the Internet, including casino-style gambling, and the state subsequently put its regulatory exploration on hold.

⁸ Craig Lang, "Internet Gambling: Nevada Logs In," *Loyola of Los Angeles Entertainment Law Review*, January 1, 2002 (<http://digitalcommons.lmu.edu/cgi/viewcontent.cgi?article=1443&context=elr>).

The legal foundation upon which the DOJ's opinion was based was the Interstate Wire Act of 1961.⁹ This legislation was formulated by Attorney General Robert Kennedy as one of a series of anti-racketeering laws aimed specifically at organized crime. The Wire Act provided law enforcement with another tool targeting illegal bookmaker activities.

2.2.2 Suppressive Legislation

Federal authorities have attempted to apply laws that predate the Internet in an effort to control or prohibit iGaming in the U.S. These federal laws include the Interstate Wire Act of 1961 (18 U.S.C. §1084) and the Illegal Gambling Business Act of 1970 (IGBA) (18 U.S. Code §1955).¹⁰ In 2006 Congress passed new legislation, the Unlawful Internet Gambling Enforcement Act (UIGEA),¹¹ as a rider to the must-pass Security and Accountability for Every Port Act of 2006.¹² UIGEA was intended to prevent Internet wagering by suppressing the payment systems transferring player funds to the many iGaming sites operating offshore. The law did not render any judgment on the legality of iGaming. It did not ban intra-state iGaming, essentially leaving that decision as a states-rights issue. Instead, it effectively prevented casinos, credit card companies, financial institutions, and intermediaries from processing iGaming transactions and placed the burden of enforcement on the payment processors. However, UIGEA did not update the Wire Act to specifically prohibit iGaming, and since the law can only be enforced when Internet wagering violates an existing state law, iGaming could be permissible if legal and confined within a single state's borders.

2.2.3 Black Friday

On April 15, 2011, a date still known as "Black Friday" among online poker participants, the U.S. DOJ unsealed a criminal indictment against 11 top iGaming and payment processor executives and filed a \$3 billion civil complaint against PokerStars, Full Tilt, and Absolute Poker, the three largest online poker sites operating in the U.S.¹³ The charges were not based on the Wire Act but rather on both IGBA and UIGEA violations and alleged that the companies were guilty of bank fraud by circumventing federal law in the processing of billions in online payments.¹⁴ Through this action, the DOJ seized 76 bank accounts in 14 countries and five Internet domain names, effectively shutting down operations for the largest offshore poker sites that had been taking bets from U.S. citizens.

⁹ 18 U.S. Code, Chapter 50 – Gambling (<https://www.law.cornell.edu/uscode/text/18/part-I/chapter-50>).

¹⁰ Ifrah Law, "The Definitive Guide to iGaming in the United States," January 2017 (<https://www.ifrahlaw.com/insights/ebook/>).

¹¹ U.S. Department of Commerce, Unlawful Internet Gambling Enforcement Act (<https://www.ftc.gov/enforcement/statutes/unlawful-internet-gambling-enforcement-act>).

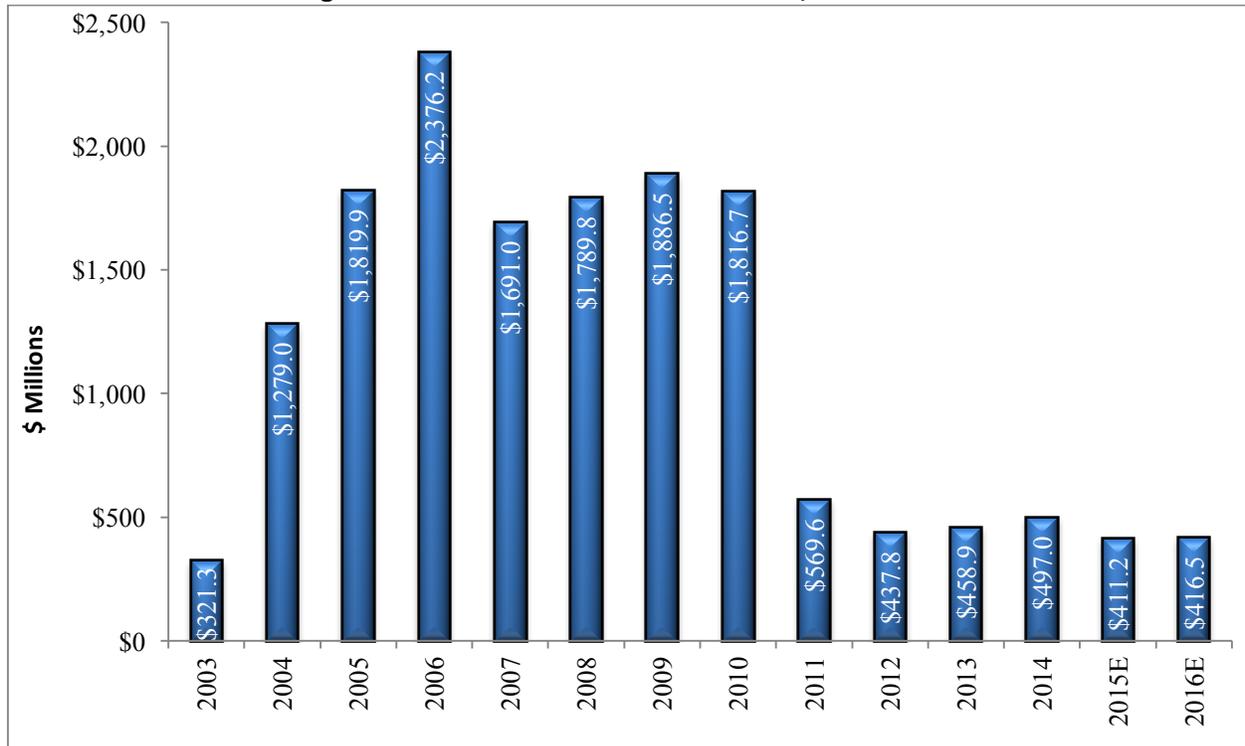
¹² American Bankers Association (<http://www.aba.com/Compliance/Pages/UIGEA.aspx>).

¹³ Ifrah Law, "The Definitive Guide to iGaming in the United States" (http://www.ifrahlaw.com/wp-content/uploads/2015/06/IfrahLaw_WhitePaper_060915_WEB_final.pdf).

¹⁴ Chad Holloway, "The Black Friday Timeline: One Year Without Online Poker," *Poker News*, April 15, 2006 (<https://www.pokernews.com/news/2012/04/the-black-friday-timeline-one-year-without-online-poker-12445.htm>).

The Black Friday indictments had an immediate and chilling effect on Internet poker participation. For U.S. online poker customers, the frozen accounts and reinforced perception of illegality drove player participation down drastically, a negative impact from which the North American Internet poker (iPoker) market has yet to recover.

Figure 3: North American iPoker Revenue, 2003-2016E



Source: H2 Gambling Capital.

Black Friday also put a stop to several promising state legalization efforts for iPoker and first moves by commercial U.S. casino companies to engage with online operators. Fertitta Interactive, a subsidiary of Stations Casinos (now Red Rock Resorts), had formed an alliance with Full Tilt Poker, while Wynn Resorts had announced an agreement with PokerStars mere days before Black Friday.¹⁵

2.2.4 Department of Justice Memo

The turning point for intrastate iGaming in the U.S. came on December 23, 2011 in the form of a 13-page memorandum from the DOJ revising its previous position on the legality of Internet gaming. The memo, dated September 20, 2011, was written in response to two different inquiries regarding

¹⁵ Nathan Vardi, "Billionaire Steve Wynn Makes Big Online Poker Bet with PokerStars," *Forbes*, March 25, 2011 (<http://www.forbes.com/sites/nathanvardi/2011/03/25/billionaire-steve-wynn-makes-big-online-poker-bet-with-pokerstars/#c56d9496398f>).

whether the federal Wire Act could be applied to the sale of lottery tickets over the Internet.¹⁶ The DOJ opinion letter responding to these requests essentially clarified federal iGaming policy by narrowly interpreting the Wire Act to apply only to sports-related wagering. The DOJ's previous position on the Wire Act had been the basis for arguments in court that Internet gambling violated U.S. law.¹⁷ This reversal of its position had the effect of giving back to the states the right to make their own determination regarding gaming, just as they have with land-based casinos and lotteries, and it subsequently energized state legislation enabling iGaming, iPoker, and online lottery ticket sales.¹⁸

2.2.5 Internet Lottery Efforts

State lotteries are also closely following the debates over iGaming legalization. Much like casinos, state lotteries are facing the future prospect of an aging customer base and products that do not appeal strongly to the younger generation, which has grown up using the Internet and smart phones.¹⁹ The lottery industry is currently evaluating and implementing technologies to increase mobile interaction with their customers.²⁰ The low hanging fruit for lottery operators is online lotto draw ticket sales where Internet purchasing offers the benefits of added convenience, expansion of the customer base, and alleviation of retail congestion during peak lotto jackpots. It was this interest in the online sale of lotto draw tickets that prompted two state lotteries, New York and Illinois, and two U.S. Senators, to request an opinion from the DOJ in 2011.

Online ticket sales are often strongly opposed by many lottery retailers who fear the loss of foot traffic into convenience stores. Despite such opposition, a total of four U.S. states, Illinois, Georgia, Kentucky,²¹ and Michigan, have implemented online lotto ticket sales. The states of New York, North Carolina, and Virginia permit subscription purchases of lottery tickets online.²² In 2014, Minnesota became the first state to roll out online instant scratch tickets. However, this was done

¹⁶ Greenberg Traurig, L.L.P., "DOJ's Reversal on the Wire Act - What It Means for Internet Gaming," *The National Law Review*, January 3, 2012 (<http://www.natlawreview.com/article/doj-s-reversal-wire-act-what-it-means-internet-gaming>).

¹⁷ Nathan Vardi, "Department Of Justice Flip-Flops On Internet Gambling," *Forbes*, December 23, 2011 (<http://www.forbes.com/sites/nathanvardi/2011/12/23/departement-of-justice-flip-flops-on-internet-gambling/#4357563b5dee>).

¹⁸ Ifrah Law, "The Definitive Guide to iGaming in the United States" (http://www.ifrahlaw.com/wp-content/uploads/2015/06/IfrahLaw_WhitePaper_060915_WEB_final.pdf).

¹⁹ Mark Roper, "Pennsylvania State Lottery Faces Losing Numbers," Fox 43 Morning News, April 18, 2017 (<http://fox43.com/2017/04/18/pennsylvania-state-lottery-revenue-faces-losing-numbers/>).

²⁰ Reuters, "US Lottery Operators Worry as Fewer Millennials Line Up to Play," February 10, 2017 (<http://www.cnn.com/2017/02/10/us-lottery-operators-worry-as-fewer-millennials-line-up-to-play.html>).

²¹ Sheldon S. Shafer, "Kentucky Lottery Launches Online Ticket Sales," April 19, 2016 (<http://www.courier-journal.com/story/news/local/2016/04/19/kentucky-lottery-launches-online-ticket-sales/83224012/>).

²² North Carolina Education Lottery, "New Subscription Service Begins Thursday," December 3, 2013 (<http://www.nc-educationlottery.org/news/2013/12/3/Lotterys-new-subscription-service-begins-Thursday>).

without legislative approval and the state legislature pushed back to restrict all online ticket sales in 2015.²³ Other states, such as Michigan, quickly followed suit in offering a full suite of lottery products online. New Jersey recently passed new lottery courier services legislation, which some observers believe may authorize Internet ticket sales through third-party vendors.²⁴

²³ Brian Bakst, "Minnesota Lottery's Online Ticket Sales Coming to Halt," August 26, 2015 (<http://www.twincities.com/2015/08/26/minnesota-lotterys-online-ticket-sales-coming-to-halt/>).

²⁴ Samantha Becket, "Did New Jersey Just Legalize an Online Lottery Without Anyone Noticing?," February 28, 2017 (<https://www.casino.org/news/new-jersey-just-legalize-online-lottery-without-anyone-noticing>).

3. iGaming Implementation in New Jersey

3.1 EARLY LEGISLATIVE ATTEMPTS

The first legislation regarding iGaming legalization in New Jersey was introduced in the Senate by Democratic Senator Raymond J. Lesniak in January 2010. Assembly legislation was then introduced in March by Assemblyman John J. Burzichelli. On November 22, 2010, Lesniak's bill, S490,²⁵ passed the state Senate by a 29 to 5 margin. These bills expressly permitted intrastate gambling via the Internet on casino table games and slots, but excluded sports betting. The legislation authorized the state's gaming control authority, at that time the Casino Control Commission, to create regulations that allowed bets to be placed within state borders, thus avoiding UIGEA restrictions against interstate wagering via the Internet.

These bills steadily worked their way through the New Jersey state legislature. In January 2011, Burzichelli's bill, A2570,²⁶ including amendments from the Lesniak bill, was passed by the state Assembly. Eventually the legislation made it to the governor's desk in March 2011 where it was promptly vetoed. In vetoing the bill, Governor Chris Christie cited concerns that "allowing customers to bet through any computer terminal left open the chance of commercial businesses such as nightclubs and cafes becoming gambling hubs around the state," and that "the bill further created a legal fiction that a bet placed anywhere in New Jersey counted as an Atlantic City bet."²⁷

3.2 LEGISLATIVE APPROVAL

However, following the 2011 DOJ memo, Governor Christie signaled a change in his position on iGaming and new bills were introduced in the legislature. Senator Raymond J. Lesniak amended his earlier bill to accommodate the governor's concerns and a new bill emerged in the Assembly sponsored by former Atlantic City mayor now state Senator James Whelan, among others. The legislation did not have the votes for passage in the spring session. But on December 17, 2012, the New Jersey Assembly passed Bill A2578 by a margin of 48 to 24 and the bill quickly moved to the Senate where it was passed overwhelmingly by a vote of 33 to 3.²⁸ Even in its amended form, Governor Christie found reasons to veto this bill, among them increasing the tax rate from 10% to 15%. Finally, on February 26, 2013, revised Bill 2578 passed both houses and was signed into law by the Governor, making New Jersey the third U.S. state to legalize Internet wagering.

²⁵ New Jersey State Legislature (http://www.njleg.state.nj.us/2010/Bills/S0500/490_R3.PDF).

²⁶ New Jersey State Legislature (http://www.njleg.state.nj.us/2010/Bills/A3000/2570_R1.PDF).

²⁷ Julie Fletcher and Donald Wittkowski, "Gov. Chris Christie Vetoes Online Gambling Bill, Citing Constitutional Concerns," *Press of Atlantic City*, March 3, 2011 (http://www.pressofatlanticcity.com/news/breaking/gov-chris-christie-vetoes-online-gambling-bill-citing-constitutional-concerns/article_03b33450-45b6-11e0-9099-001cc4c03286.html).

²⁸ Live Dealer, "A Complete History of New Jersey Online Gambling," accessed February 2017 (<http://www.livedealernj.com/nj-online-gambling-history>).

3.3 IGAMING CONCERNS

During the policy debates over New Jersey iGaming legislation, a number of critical concerns were raised regarding potential negative impacts. These concerns were voiced by opponents of the legislation, residents seeking more information, and even commercial casino operators fearing adverse outcomes. These concerns included:

- Effective regulation,
- Underage gambling,
- Responsible gambling and problem gambling,
- Fraud,
- Player protection,
- Money laundering,
- Payment processing, and
- Cannibalization of casino revenues.

3.4 IGAMING IMPLEMENTATION

Effective regulation was a genuine concern at the time the legislation was passed because iGaming in any U.S. state jurisdiction would require much more stringent procedures than was currently practiced for iGaming in Europe and internationally. New Jersey's gaming regulatory authority, the Division of Gaming Enforcement (DGE), was faced with a very difficult and complex task in implementing iGaming after Governor Christie signed the legislation into law in early 2013. This task included developing and implementing regulations, technical standards, software, testing apparatus, and policy and procedures for conducting Internet wagering. New Jersey's legislation allowed for all casino games running on multiple platforms with up to five sites (aka skins) per licensee. The DGE would also be required to conduct licensing and background investigation for industry technology providers who would partner with the licensed gaming operators. Moreover, the DGE intended to uphold New Jersey's reputation for stringent gaming regulation by replication of those standards online. To its immense credit, the DGE accomplished all of these important priorities within nine months and authorized platforms began launching on November 25, 2013.²⁹

3.4.1 Geolocation

The first concern facing regulators was that the enabling legislation permitted Internet wagering only within state boundaries. In order to fulfill this obligation, geolocation software would need to be developed for compliance purposes to pinpoint with great precision the location of an iGaming customer and only allow them access to the iGaming site if they were physically within the state's borders. Geolocation was a particularly thorny issue for a state like New Jersey, where the most populous areas of the state are in close proximity to two of the largest urban concentrations in the

²⁹ David Rebuck, "RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future", January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>). The full text of New Jersey's iGaming regulations can be found on the DGE's website (<http://www.nj.gov/lps/ge/internetgaming.html>).

nation, New York and Philadelphia. Geolocation was also an issue for Delaware, but less of an issue for a state like Nevada, where the border regions are less densely populated.

Several geolocation vendors entered the New Jersey market, creating a new technology virtually from the ground up. Before U.S. regulated iGaming, the success of compliance geolocation technology was measured in miles and half-miles. After implementation in New Jersey, it became measured in yards and meters. Early in the implementation process, geolocation applications often produced false negatives where registered players well within the state borders would be prevented from logging into iGaming web sites. This was consistent with the intent of the regulations which was to err on the side of caution in ensuring that players were located within New Jersey. Despite initial frustrations for many players, the coordination of these technologies between the vendors, the casinos, and the regulator rapidly improved. David Rebeck, Director of the New Jersey DGE, stated in his one-year anniversary update letter on the industry that geolocation in 2014 was performing at a 98% success rate, with the 2% failures being false negatives (i.e., incorrectly rejecting people that were properly within the state's borders).³⁰

3.4.2 Know Your Customer (KYC)

To protect the integrity and safety of iGaming, it is necessary for players to adequately identify themselves during the registration process. In order to be certain of the iGaming player identities, New Jersey regulations require the most rigorous KYC protocols of any iGaming jurisdiction. These identification requirements are essential measures intended to prevent underage gambling, fraud, and money laundering.

During the registration process, players must enter their first and last name, date of birth, gender, social security number, valid New Jersey street address, phone number, and a security question, and declare that they are over 21 years of age. This information, once entered, will constrain anyone else from using their account and ensure that the player does not hold a New Jersey casino key license or is otherwise prohibited from wagering in New Jersey. Notably, the key ingredients that separate New Jersey's state based registration process from European and internationally regulated sites are the physical address and the player's social security number.

Thus, compared to well-established European iGaming, U.S. state-regulated registration processes are much more intrusive from a customer perspective, requiring among other validations a physical address, age verification, and social security number, and these stringent requirements may discourage some people from signing up. However, anyone who fails to provide this information is unable to establish an account and therefore is prevented from playing online. These rigorous KYC requirements discourage underage players and make it extremely difficult for cheaters to establish fraudulent accounts or for anyone to launder the proceeds of a criminal enterprise through a New Jersey iGaming site.

³⁰ David Rebeck, "RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future," January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

In fact, the casino and the regulatory authority know a great deal more about the people who are playing online than they know about the people at the slots and tables in the physical casinos. Every wager by a player is recorded online, establishing a perfect history of their gambling behavior, should that information ever be needed.

3.4.3 Crime, Fraud, Player Protection, and Money Laundering

Of course, rigorous KYC requirements are not sufficient to completely prevent fraud. Thus, iGaming systems are constantly monitored by the regulatory authority, the operators, and their platform providers. The New Jersey DGE even developed its own unique technical monitoring tools that enable the agency to comprehensively evaluate activity across all the operating platforms and identify anomalies for further investigation and enforcement action if warranted.

To combat cheating, international jurisdictions have developed software-monitoring applications to spot collusion and fraud, and similar systems are employed in New Jersey by regulators, platform providers, and game operators. iGaming provides several advantages that work to minimize the chances for fraud, collusion, and money laundering: new registrants must prove their identity in order to create accounts, the sources of money to fund those accounts are carefully documented, and all online gaming transactions are recorded in conjunction with identity and funding data. As a result, to date and to the extent of our knowledge in researching this report, no major incidents of online cheating or player fraud have been reported at any New Jersey iGaming website.

To combat money laundering, the DGE has assembled a financial auditing team that regularly undertakes reviews to ensure that financial reporting is accurate for all of the entities providing iGaming services to customers in New Jersey and that any variances are thoroughly investigated. Preventing money laundering is a primary goal of the federal Financial Crimes Enforcement Network (FINCEN), which requires the entire casino industry to maintain strict compliance with the latest regulatory standards at the federal level. In addition, every financial transaction and every bet is tracked by the DGE and traceable back to each individual's account, which makes it particularly unattractive to potential money launderers. The money trail that is created makes it virtually impossible for players to remove funds from the system anonymously.

All of the law enforcement and regulatory sources interviewed for this study were in agreement that iGaming has had absolutely no measurable impact upon street crime in New Jersey. The DGE has successfully been implementing systems to detect payment systems fraud. Once again, the KYC requirements for iGaming registration that remove anonymity and the comprehensive documentation of all transactions make iGaming a very difficult target for cybercriminals.

3.4.4 Payment Processing

Payment processing has been one of the most troublesome implementation issues for iGaming in the U.S. Much of the reason for this goes back to the passage of UIGEA in 2006, whereby Congress prohibited the transfer of funds from illegal Internet gambling operations and placed the burden for enforcing the law on the U.S. banking industry. The most efficient means for accomplishing this from the standpoint of the banks was to flag the credit card merchant category code associated with Internet gaming (7995) for denial. After the legalization of iGaming in Delaware, Nevada, and New

Jersey, the largest credit card issuing banks were in no hurry to change this situation, particularly since the expected revenue gain was miniscule compared to the potential penalties for violation of federal law.

Early reports immediately after iGaming legalization in New Jersey claimed that as much as three quarters of all credit card transactions were being denied and prospective players were turning to less convenient alternative payment methods including ACH transfers directly from their bank accounts. The DGE worked with state and federal agencies to ameliorate the problem and approved alternative payment processors such as Neteller in 2014. By the end of the year, the DGE's 2014 statistics showed that 44% of Visa and 73% of MasterCard transactions were being approved.³¹ In April 2015, three new credit card merchant category codes were created to allow for and differentiate between legal online wagering (7800 for online lotteries, 7801 for legal casino games, and 7802 for horse and dog racing).³² These new codes have improved the overall acceptance rate and made account registration more convenient for players. Current acceptance rates under the new codes now average more than 80% for both Visa and MasterCard.³³ However, multiple individual operators report that the majority of account deposits still take place through ACH transfers from players' bank accounts. Payments will likely remain an issue until all major banks routinely accept the new merchant category codes.

According to both the DGE and major payment processors, the rate of chargebacks (i.e., consumer disputed transactions on their credit card bills) for iGaming transactions is similar to that for general retail transactions because of the stringent identity verification measures required to set up an iGaming account.³⁴ Data from Vantiv, a major nationwide credit card processor, shows that New Jersey iGaming credit card chargebacks were 0.48% of all transactions from 2013 through 2016, as compared to the average chargeback percentage of 0.47% for eCommerce in general.³⁵

³¹ David Rebuck, "RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future," January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

³² Reuben Kramer, "New Credit Card Code May Help Online Gambling," *Press of Atlantic City*, April 20, 2015 (http://www.pressofatlanticcity.com/news/breaking/new-credit-card-code-may-help-online-gambling/article_2c543a88-e53c-11e4-bdcc-577dfdd4be33.html).

³³ Source: Vantiv, May 2017.

³⁴ David Rebuck, "RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future," January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

³⁵ Source: Vantiv, March 2017.

4. Current iGaming Market Assessment

4.1 STATE BY STATE IGAMING

As of the end of 2016, legalized iGaming is currently operating within three U.S. states. All three of these states are home to established traditional land-based and racetrack casinos and iGaming is only permitted through a state licensed and regulated casino operator. However, each state pursues a different iGaming business model. Nevada (total population 2.9 million) only allows iPoker games.³⁶ Delaware (total population 1.0 million) permits all casino games,³⁷ but the state lottery administers the Internet platform. New Jersey (total population 8.9 million) permits all games that are legal at land-based casinos,³⁸ but allows the casino licensees to partner with technology and platform providers to operate multiple websites. Of these three models, New Jersey has proven to be the most successful by far in terms of registered players, gaming revenue, and tax revenue.

Figure 4: U.S. State iGaming Models

State Jurisdiction	Legalization Date	Launch Date	Operator	Games Offered	2016 Gross Gaming Revenue	2016 Tax Revenue*
Delaware	6/28/12	11/8/13	Lottery	Full Casino & Poker	\$2,906,885	\$1,075,547
Nevada	2/21/13	4/30/13	Casinos	Poker Only	Unknown	Unknown
New Jersey	2/26/13	11/25/13	Casinos	Full Casino & Poker	\$196,858,741	\$29,528,811

Sources: Delaware Lottery; Nevada Gaming Control Board; and New Jersey Division of Gaming Enforcement.

*Estimated for Delaware.

Nevada launched real money Internet poker on April 30, 2013, in a strictly regulated environment with Ultimate Poker as the first licensed U.S. online poker operator. One year later, the Nevada Gaming Control Board began releasing revenue data when the regulatory requirement of three active operators was met. As in New Jersey, the industry did not measure up to initial revenue expectations and only exceeded \$1 million in gross gaming revenue one month. During the first year of operations, Nevada averaged \$761,000 in monthly iPoker revenue. Over the thirteen-month period when public reporting was in effect (February 2014-February 2015), Nevada iPoker generated a total of \$9.9 million in gross gaming revenue.

Due to the disappointing debut of iPoker in Nevada, Ultimate Gaming, a subsidiary of licensed operator Stations Casinos (now Red Rock Resorts), exited the market in November 2014, only two months after exiting the New Jersey market where they had been the platform provider for the

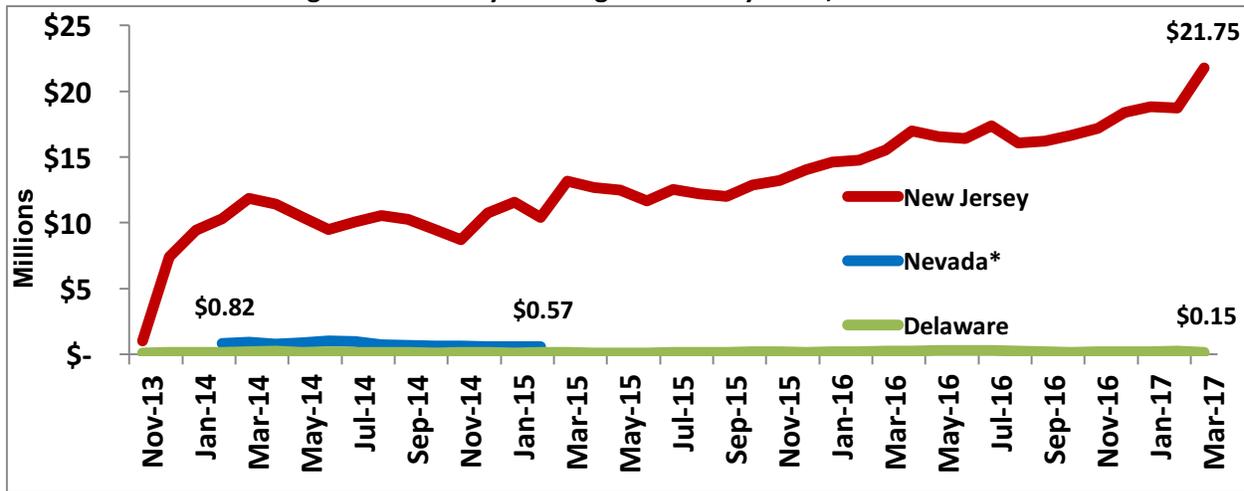
³⁶ U.S. Census Bureau, Quickfacts: Nevada (<https://www.census.gov/quickfacts/table/PST045216/32>), accessed April 2017.

³⁷ U.S. Census Bureau, Quickfacts: Delaware (<https://www.census.gov/quickfacts/table/PST045216/10>), accessed April 2017.

³⁸ U.S. Census Bureau, Quickfacts: New Jersey (<https://www.census.gov/quickfacts/table/PST045216/34>), accessed April 2017.

former Trump Taj Mahal property.³⁹ This withdrawal left Caesars Interactive’s WSOP.com, operated by 888.com, as the principal remaining operator in Nevada. After February 2015, the Nevada Gaming Control Board stopped the separate reporting of iPoker revenues due to there being too few operators to meet the regulatory requirement. The clear lesson to be drawn from Nevada’s experience is that the poker only iGaming model may not be viable in small U.S. states with limited liquidity (i.e., availability of players to participate in games).

Figure 5: Monthly iGaming Revenue by State, 2013-2016



Sources: New Jersey Division of Gaming Enforcement; Nevada Gaming Control Board; and Delaware Video Lottery. *Nevada Gaming Control Board ceased reporting Internet poker revenue as of February 2015.

Delaware was the first state to pass legislation and also became the first state to go live with real money casino iGaming on November 8, 2013. This followed the test launch of free play poker and casino games via Facebook and IGT’s Double Down website on August 28.⁴⁰ Delaware, a relatively small state with only three casino operators, adopted an iGaming business model where the licensed operators can offer iGaming to customers through their branded casino websites, but the platform is administered by the Delaware Lottery. Dragonfish, the business-to-business division of 888.com, was chosen as the primary platform provider through a competitive request for proposal (RFP) process, interfacing their software in cooperation with Scientific Games, the primary lottery vendor.

One of the major factors inhibiting the success of iGaming in Delaware is its iGaming business model. In designing a revenue sharing agreement with the state’s casino operators, they were required to provide the first \$3.75 million in iGaming revenue to the Delaware Lottery in order to cover start-up and operating expenses. Given that the combined iGaming revenue for all three operators has never approached that figure, there is little profit motive for Delaware’s operators to

³⁹ J.D. Morris, “Online Poker Dealt a Tough Hand in Nevada,” *Las Vegas Sun*, November 9, 2014 (<https://lasvegassun.com/news/2015/nov/09/online-poker-dealt-a-tough-hand-in-nevada/>).

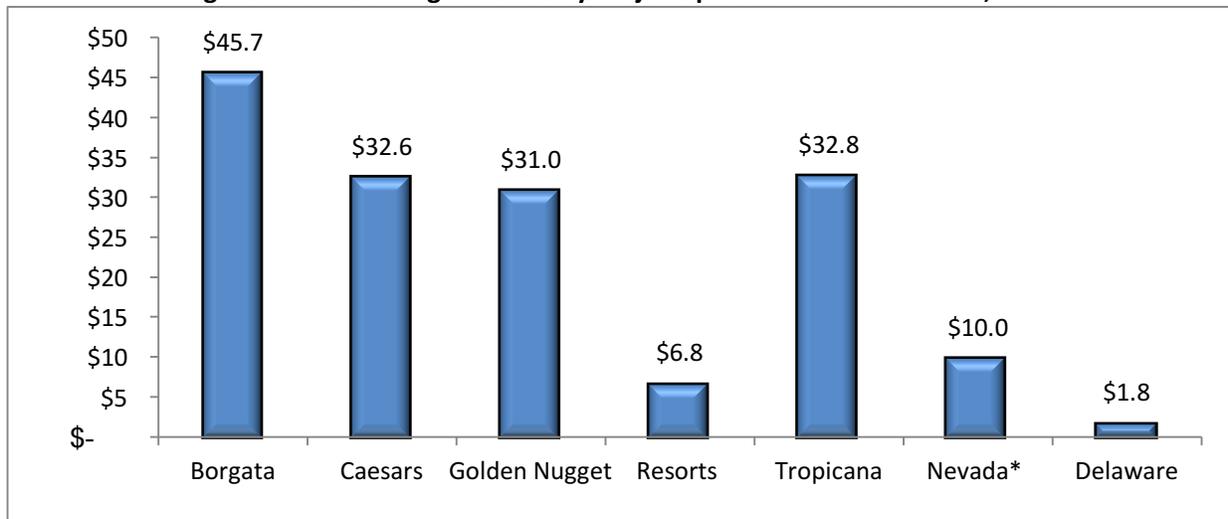
⁴⁰ Doug Denison, “Delaware’s 3 Casinos Launch Free Online Gaming,” *USA Today*, August 28, 2013 (<http://www.usatoday.com/story/money/business/2013/08/28/online-gambling-delaware/2712361/>).

invest in advertising and promotion.⁴¹ Delaware could serve as a cautionary example of how legislation and regulation can impact the success of the business model.

New Jersey launched iGaming operations on November 26, 2013.⁴² Monthly gross gaming revenue increased from \$7.4 million in December 2013, its first full month of operations, to \$18.4 million in December 2016.⁴³ In calendar 2016, New Jersey iGaming produced a total of \$188.1 million in net gaming revenue and \$29.5 million in state tax revenues.⁴⁴ Since inception, iGaming in New Jersey has generated a total of \$477.4 million in gross gaming revenues, \$454.7 million in net gaming revenues (i.e., gross gaming revenue minus all promotional gaming credits), and \$71.6 million in state gaming taxes.⁴⁵

A look at 2015 iGaming revenues by New Jersey operator compared to the Nevada and Delaware iGaming markets in their entirety provides some perspective on the relative success of the three business models. As Figure 6 illustrates, every New Jersey operator individually generated more iGaming revenue than the combined total of all three Delaware iGaming sites. Further, with the exception of Resorts Atlantic City, which commenced online operations in February 2015, each New Jersey operator generated significantly more revenue than the entire iPoker industry in Nevada.

Figure 6: US iGaming Revenue by Major Operator and Jurisdiction, 2015



Sources: New Jersey Division of Gaming Enforcement, Nevada Gaming Control Board, Delaware Lottery.

*Nevada estimated annual iPoker revenues.

⁴¹ OnlineCasinosElite.com, "Unexpected Revenues Penalize Online Gambling in Delaware," June 2014 (<https://www.onlinecasinoselite.org/post/unexpected-revenues-penalize-online-gambling-in-delaware>).

⁴² Kate Zernike, "New Jersey Now Allows Internet Gambling," *The New York Times*, November 26, 2013 (<http://www.nytimes.com/2013/11/27/nyregion/new-jersey-opens-up-for-online-gambling.html>).

⁴³ New Jersey Division of Gaming Enforcement.

⁴⁴ Ibid.

⁴⁵ Ibid.

iPoker originally seemed a safer alternative for legalization, particularly in states with established casino industries because poker is a “peer to peer” game in which participants compete against one another instead of playing against the casino. In efforts to increase liquidity and bolster lagging poker revenues, Delaware and Nevada signed an agreement on February 25, 2014, to pool players across state lines.⁴⁶ This interstate compacting agreement has undoubtedly had a positive effect, but even combining these two states’ pool of poker players has proven insufficient to move the needle and Delaware poker revenues have only improved marginally. iGaming operators anticipate that iPoker may find more success in a larger state market with greater liquidity, such as New York or California.

As of the writing of this report, no other states have authorized iGaming following Nevada, Delaware, and New Jersey. Since the end of 2013, various bills regulating online gaming in some form have been introduced in a number of states, including California, Hawaii, Illinois, Iowa, Massachusetts, Michigan, Mississippi, New York, Pennsylvania, and Washington. Over the same period, multiple bills prohibiting different forms of iGaming have been introduced at the federal level. This situation reflects a definite lack of consensus between the federal government and states and the need for further study of the impact of legal, regulated U.S. iGaming. With the growing success of the New Jersey model, state legislatures, brick and mortar operators, and other stakeholders are taking a fresh look at iGaming possibilities in 2017, given the popularity of gaming and the impact of emerging technology in providing enhanced access and mobility.

4.2 NEW JERSEY MARKET ASSESSMENT

4.2.1 iGaming Revenue

Initial expectations for New Jersey iGaming revenue were overly optimistic. Early forecasts for fully implemented iGaming in New Jersey generally fell within a range of \$200 million to \$400 million. When the enabling legislation was signed by Governor Christie in 2013, iGaming was officially projected to generate \$150 million in tax revenues in its first year of operation, with hopes of filling holes in the current state budget. With a 15 percent tax rate, this meant that this new industry would have had to bring in at least \$1 billion in iGaming revenue.⁴⁷

Industry analysts quickly disparaged this unreasonably high estimate, but the precedent of high expectations for New Jersey iGaming revenue was set. Almost all of the initial analyst projections proved to be higher than the total revenue generated over the first three years of iGaming operations. The unwarranted optimism was due in part to incomplete understanding of the challenges presented by regulated iGaming in New Jersey, but also in part to the unanticipated closure of four of the twelve Atlantic City casinos in 2014. Internet poker also played a role in the inflated revenue projections as analysts anticipated that iPoker participation and play would be

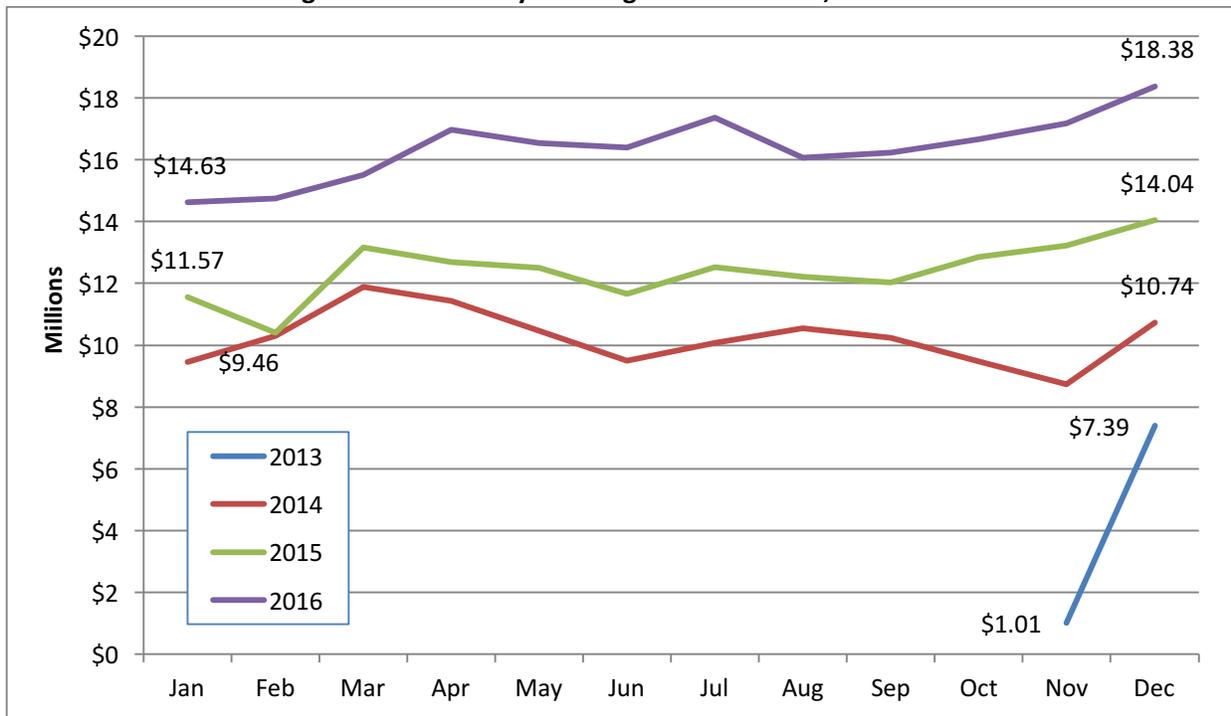
⁴⁶ Steve Tetreault and Howard Stutz, “Nevada, Delaware Signing Online Poker Partnership,” *Las Vegas Review Journal*, February 25, 2014 (<http://www.reviewjournal.com/news/nevada-delaware-signing-online-poker-partnership>).

⁴⁷ Kate Zernike, “New Jersey Now Allows Gambling via Internet,” *The New York Times*, November 26, 2013 (<http://www.nytimes.com/2013/11/27/nyregion/new-jersey-opens-up-for-online-gambling.html>).

much greater than actually proved to be the case in a geo-fenced state market with a relatively small adult population.

Setting aside the unrealistic upfront expectations, iGaming in New Jersey has experienced strong growth since its inception. New Jersey iGaming has posted steadily improved results year over year since it was launched in late 2013. This revenue growth has occurred due to both greater awareness of legal iGaming and growing enthusiasm for the convenience of playing online. Operators and suppliers interviewed for this report suggest that other growth factors include increased player understanding of the games, improved quality and availability of online products, more user-friendly payment options, more targeted and effective marketing programs, and growing acceptance among the general public.

Figure 7: New Jersey iGaming Gross Revenue, 2013-2016

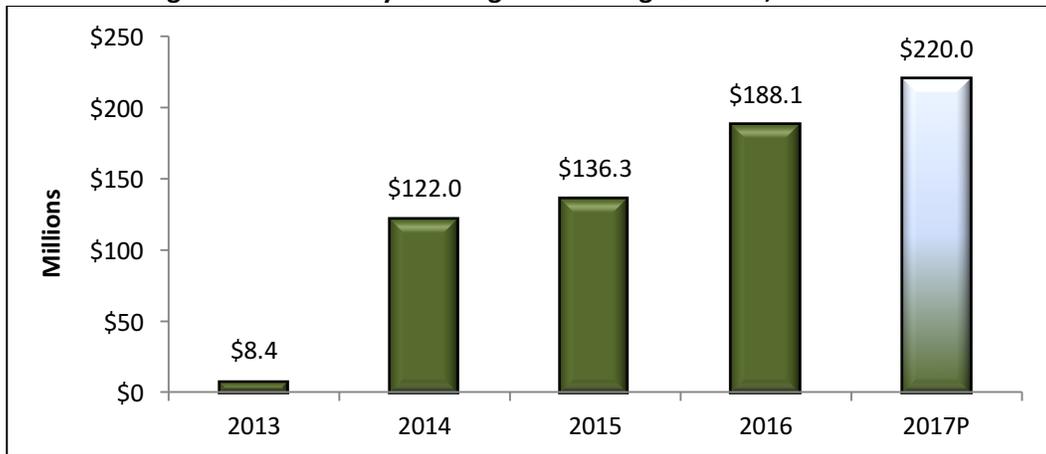


Source: New Jersey Division of Gaming Enforcement.

Since 2014, the first full year of operations, revenue for New Jersey’s iGaming industry has grown at a compound annual growth rate (CAGR) of 27%. In calendar 2016, iGaming generated total gross gaming revenue of \$196.9 million, a 32% increase from 2015. Net gaming revenue totaled \$188.1 million, a 38% increase over 2015 revenues. New Jersey iGaming looks to continue this strong growth. Projections anticipate a 17% increase in gaming revenue in 2017.⁴⁸ At this rate, net revenues for New Jersey iGaming would reach \$220 million this year.

⁴⁸ Eilers & Krejcik Gaming, “US iGaming Industry Update - 2017,” January, 2017 (<http://ekgamingllc.com/downloads/u-s-igaming-update-2017/>).

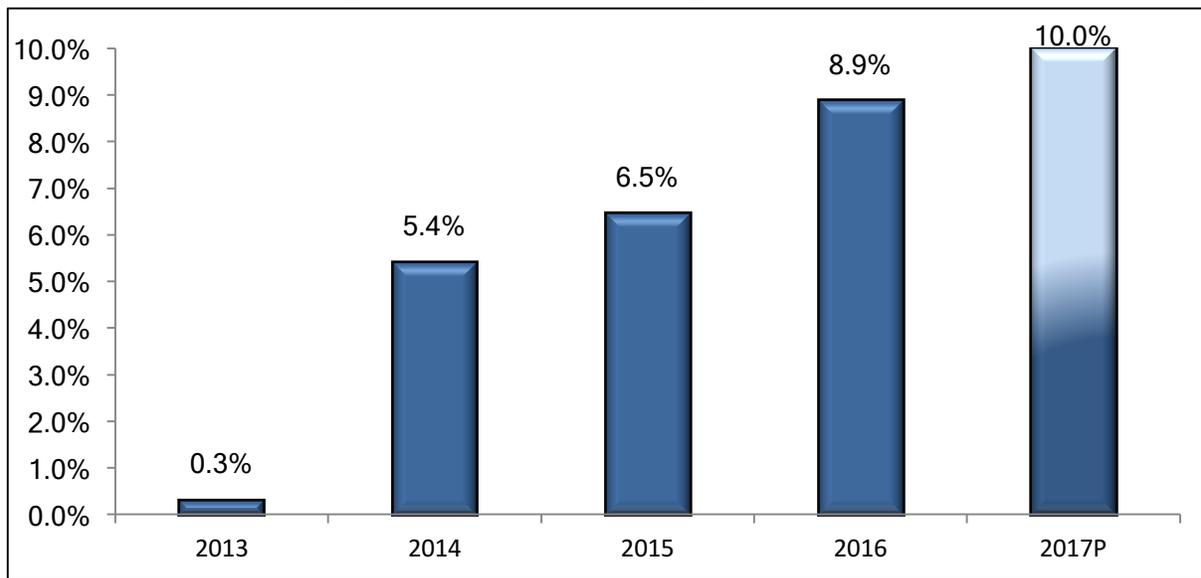
Figure 8: New Jersey iGaming Net Gaming Revenue, 2013-2017P



Sources: New Jersey Division of Gaming Enforcement; Nathan Associates/Victor-Strategies analysis.

As a proportion of land-based net gaming revenue, iGaming in New Jersey has steadily increased in every year of operation, rising from 5.4% in 2014, its first full year of operation, to 8.9% in 2016. It is projected iGaming revenue will reach 10% of land-based revenue in 2017.

Figure 9: New Jersey iGaming Net Revenue as a Percentage of Land-based Net Revenue, 2013-2017P

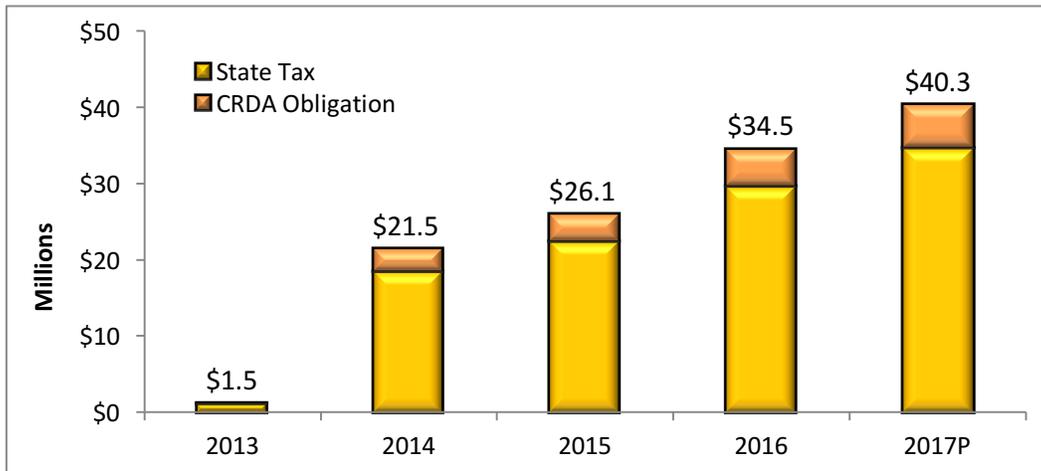


Source: New Jersey Division of Gaming Enforcement.

4.2.2 Tax Revenues

iGaming in New Jersey has produced significant tax revenues rising every year to a total of \$34.5 million in 2016, including approximately \$29.5 million to the State and \$4.9 million locally to the Casino Reinvestment Development Authority (CRDA). This reflects a 32% increase over 2015. Cumulatively, iGaming has delivered a total of \$71.6 million in tax revenues for the state from inception through December 2016.

Figure 10: New Jersey iGaming Tax Revenue, 2013-2017P



Source: New Jersey Division of Gaming Enforcement.

Figure 11

New Jersey iGaming Tax Revenue, 2013-2016			
Year	State Tax [1]	CRDA Obligation [1]	Total
2013	\$1,255,723	\$209,287	\$1,465,010
2014	\$18,464,535	\$3,077,422	\$21,541,957
2015	\$22,354,469	\$3,725,745	\$26,080,214
2016	\$29,528,811	\$4,921,469	\$34,450,280
Total	\$71,603,538	\$17,692,041	\$83,537,461

Note:
 1. State Gaming Tax is 15% of Gross Internet Gaming Revenue and CRDA Obligations is 2.5% of Gross Internet Gaming Revenue.
 Sources: New Jersey Department of Gaming Enforcement (2017); Nathan Associates analysis.

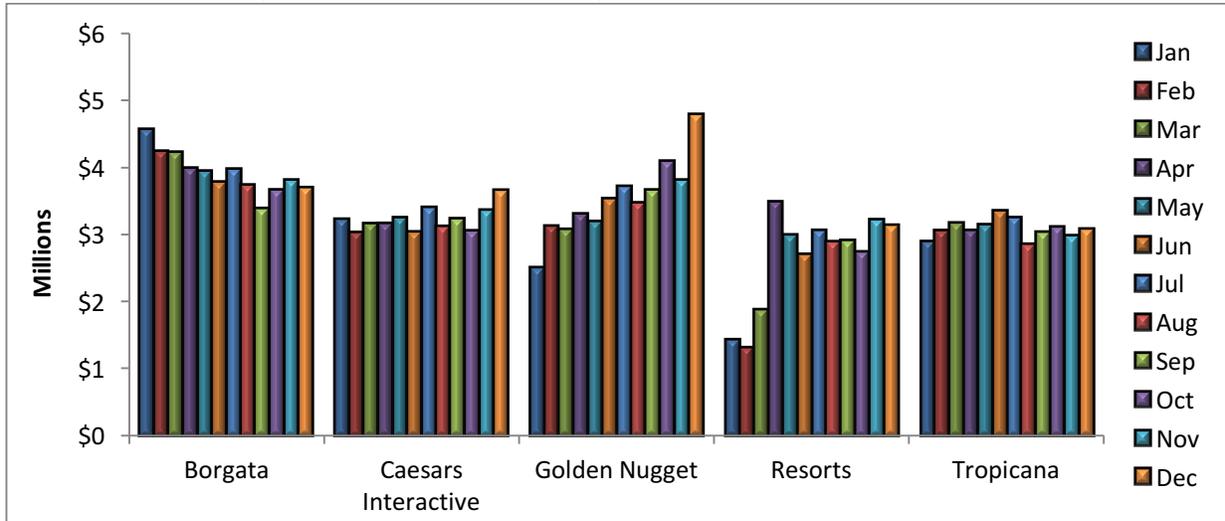
4.2.3 Market Share

The New Jersey iGaming market has developed over the past three years into a dynamic and highly competitive industry. In 2014, the first full year of iGaming operations, the dominant brands were also among the first to market, namely Borgata and Caesars Interactive. Two casinos, the Atlantic Club and Revel, never initiated iGaming operations and both are now shuttered along with the Trump Plaza in the wave of 2014 casino closures due to surging competition in the regional market.

In 2016, a stable market emerged with five operators competing strongly against one another. The year opened with Borgata as the market leader and late market entrants Golden Nugget and Resorts ramping up their operations. As the year progressed, Borgata’s market share declined as the

newcomers grew their customer bases. By the end of the year, Golden Nugget had become the leading operator, possibly due to offering a wide variety of skins and content options through a single licensee, as well as being the first New Jersey online casino to offer live dealer.

Figure 12: New Jersey iGaming Market Share by Licensee, 2016



Source: New Jersey Division of Gaming Enforcement.

4.2.4 Player Accounts

Initial interest in New Jersey iGaming was strong and has continued to grow over the past three years. As of November 27, 2013, after only two days of full operations, a total of 32,319 accounts had been created.⁴⁹ About a month later on December 29, 2013, the number had risen to 126,231. After a little over one full year of operations, as of November 30, 2014, a total of 506,172 accounts had been created. While this number is not an indication of total participation, as registration is site specific and a single player can open accounts across multiple websites, it is still a valid indication of the popularity of iGaming in New Jersey, and the level of public interest in registering to play online during the first 12 months of iGaming operations.

4.2.5 Player Motivations, Behavior, and Demographics

According to a statewide gambling prevalence study conducted by Rutgers University, the primary attraction attributes of iGaming for New Jersey citizens are convenience, speed of play, 24/7 availability, comfort of gambling from home, price (e.g., bonuses and free credits), and the ability to utilize free play or social media sites.⁵⁰

⁴⁹ David Rebeck, “RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future,” January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

⁵⁰ Nia Lower, Kyle Caler, and Rongjin Guan, “Internet Gaming in New Jersey, Calendar Year 2015 Report to the Division of Gaming Enforcement,” Center for Gambling Studies at Rutgers University School of Social Work (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

The gambling prevalence study also found that only a small proportion of those surveyed, 5.3%, gambled exclusively online, while about three times as many, 19.2%, gambled both online and at land-based casinos.⁵¹

Regulated iGaming in New Jersey has brought greater trust and protection to the player community than existed previously. The great majority of online gamblers in the prevalence study, roughly two-thirds of those sampled, said they had gambled online before it became legal in New Jersey.⁵² This finding indicates that prior to legalization, large numbers of New Jersey players were utilizing offshore sites to gamble online. This phenomenon is occurring today in states across the U.S. where iGaming has not been legalized and taxed.

Analysis of 2014 year-end data found that a total of 378,103 individuals signed up for iGaming accounts in New Jersey.⁵³ However, the study also discovered that a majority of people who initially signed up, 72%, never deposited money or actually played real money games. Many of these customers presumably preferred to play for free, but some proportion of this statistic can reasonably be attributed to the aforementioned registration and payment processing implementation issues. The study also showed that a significant proportion of registered players listed addresses outside the state of New Jersey, evidently playing online when they visited the state. A number of players even listed addresses outside the continental U.S. These statistics indicate that there is consumer demand for state-regulated iGaming beyond New Jersey borders.

In terms of customer demographics, those who actually gambled online in the 2014 data were overwhelmingly male, outnumbering females by a three to one margin (76.7% to 23.2%). The average age across all online customers was 38.3 years old,⁵⁴ a statistic more than a decade younger than the average for most land-based casino database players. Men skew slightly younger with a mean age of 37, versus women with a mean age of 41. The largest age category was found in the 25 to 34 year old cohort, but the players at each end of the age range, the youngest and the oldest, were least likely to be playing online.⁵⁵ Women were more likely than men to stick to casino-only games, generally slots, while men were more likely to play both casino games and poker. Gender is somewhat more balanced among those who played casino games only, with males predominating less strongly at 60% to 40%. Online casino game players averaged 40 years of age, while poker players averaged even younger at slightly over 35 years of age.

4.3 POKER VS. CASINO

iPoker has generally failed to meet initial expectations in New Jersey. A number of analysts, many operators, and several of legislators sponsoring New Jersey iGaming bills expected two-thirds of all

⁵¹ Ibid.

⁵² Ibid.

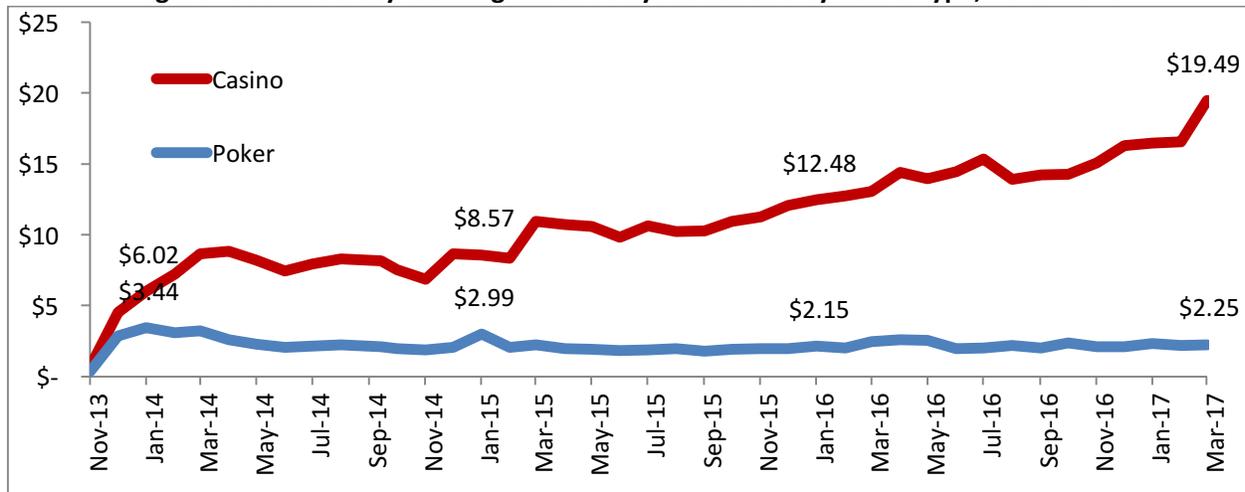
⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid.

iGaming revenue to come from iPoker.⁵⁶ Despite an impressive start and strong support from online poker player associations, the geographic constraints required for operating iPoker in a single state with a relatively small population have prevented poker from achieving the same growth observed with casino iGaming. These results should be viewed within the context of a general declining trend in iPoker revenues and participation after the global market peak reached in 2006. There are many reasons for this international erosion, including UIGEA, Black Friday, the effect of high skill players, and the rise in popularity of new forms of gaming, such as daily fantasy sports (DFS) and eSports, but the net effect has been negative on iPoker globally.⁵⁷

Figure 13: New Jersey iGaming Revenue by Month and by Game Type, 2013–2016



Source: New Jersey Division of Gaming Enforcement.

With a total population of 8.9 million as of July 2016, of which 22.3% are under 18 years of age,⁵⁸ the New Jersey geo-fenced state market simply does not provide the level of liquidity or critical mass necessary to generate a high volume of play. In its simplest terms, liquidity refers to the number of poker players playing on a particular site. Sites with a high volume of players tend to attract more players because they can easily find open seats at multiple tables in their preferred price range at any time. High liquidity is essential to attracting players and operating profitably. iPoker’s weaker appeal is borne out not just by revenue but also participation, as the DGE’s 2014 year-end statistics attributed 75% of new accounts to casino players and only 25% to poker players.⁵⁹

This is the same reason that iPoker in Nevada, with only 2.9 million residents, essentially one-third the population of New Jersey, has also not met the high initial expectations voiced by proponents.

⁵⁶ Kate Zernike, “New Jersey Now Allows Gambling via Internet,” *The New York Times*, November 26, 2013 (<http://www.nytimes.com/2013/11/27/nyregion/new-jersey-opens-up-for-online-gambling.html>).

⁵⁷ Sandrine Rastello, “Amaya Rises as PokerStars Owner Shows Less Reliance on Poker,” Bloomberg, March 22, 2017 (<https://www.bloomberg.com/news/articles/2017-03-22/amaya-profit-misses-estimates-on-slowing-sales-for-online-poker>).

⁵⁸ U.S. Census Bureau, Quick Facts: New Jersey (<http://www.census.gov/quickfacts/table/PST045216/34>).

⁵⁹ David Rebeck, “RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future,” January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

Relatively small state populations are also a reason why the three states now operating iGaming, Delaware, Nevada, and New Jersey, have pursued efforts to pool poker operations across state lines and increase liquidity. In fact, the sharing of liquidity is also happening overseas as European regulators in France, Italy, Portugal, Spain, and the United Kingdom recently released a statement of commitment to sign an agreement enabling interstate online poker sharing liquidity by mid-2017.⁶⁰ Given the successful performance of iGaming in New Jersey, Nevada legislators may one day consider future legislation to expand their poker-only industry to full iGaming operations.

4.4 IGAMING LANDSCAPE

The components of the New Jersey iGaming landscape, including licensees, platform providers, and websites, are illustrated in Table 14 (operators and sites no longer in operation are represented in grey).

4.5 OPERATORS, SUPPLIERS, AND VENDORS

Legal regulated iGaming has without doubt brought new jobs and new businesses to New Jersey, as found in our interviews with operators, regulators, suppliers, and service providers, and as documented in Section 5 of this paper. As of January 27, 2017, the New Jersey DGE lists on its website a total of five iGaming licensees, 42 iGaming “ancillary companies” or business enterprises that provide goods or services ancillary to gaming activity, and a total of 524 iGaming related vendors.⁶¹

Many of the technology providers who entered the New Jersey market were successful transplants from European iGaming, but a large number have been entirely new companies, many founded in the U.S. to supply high technology applications and solutions to an emerging market. These suppliers and vendors also include companies offering and developing technology products and services that did not even exist just a few years ago, such as geolocation technology providers.

iGaming technology companies coming to the U.S. from Europe faced a steep learning curve as they encountered a very different and much more actively regulated gaming environment. For many European companies, dealing with a strong regulatory authority was a new experience and the stronger regulation and compliance increased the cost of doing business. These companies were now required to qualify for licensing and to report much more corporate and operational information than was the case with offshore or European Union jurisdictions. Their customers were going to be asked to provide much more personal information at account registration, they would be required to provide a social security number, which would prevent a portion from registering, and these players would experience inconvenience with credit card acceptance and with installing geolocation plug-ins.

⁶⁰ Giulio Corragio, “International Online Poker Sharing Liquidity Speeds Up,” *Gaming Tech Law*, accessed 02-12-17 (<http://www.gamingtechlaw.com/2016/12/international-online-poker-sharing-liquidity.html>).

⁶¹ New Jersey Division of Gaming Enforcement, “Internet Gaming Ancillary Companies,” accessed May 30, 2017 (<http://www.nj.gov/oag/ge/docs/InternetGaming/AncillaryCompaniesVendor.pdf>).

Figure 14: New Jersey iGaming Operators, Platform Providers, and Websites

NJ Gaming Licensee	Platform Provider	Content	Site/Skin	Product	URL
Borgata	GVC/bwin	GVC/bwin	bwin	Casino/ Peer to Peer Poker	www.NJ.Partypoker.com
		NYX	Borgata	Casino Peer to Peer Poker	www.borgatacasino.com www.borgatapoker.com
	Pala Interactive	Pala NYX	Pala	Casino Bingo	www.palacasinocom.com www.palabingousa.com
Caesars Interactive Entertainment	NYX	NYX	Caesars	Casino	www.CaesarsCasinocom.com
	888	888	Harrah's	Casino	www.HarrahsCasinocom.com
			888	Casino/ Peer to Peer Poker	us.888.com us.888poker.com us.888casino.com
			WSOP	Casino/ Peer to Peer Poker	www.WSOP.com
Golden Nugget	NYX	NYX	Golden Nugget	Casino	www.goldennuggetcasinocom.com nj-casino.goldennuggetcasinocom.com
	GAN	GAN NYX	Betfair	Casino	www.betfaircasinocom.com
	Rush Street Interactive	Rush NYX	SugarHouse	Casino	www.playsugarhouse.com
Resorts Digital Gaming	NYX	NYX	Resorts	Casino	www.resortscasinocom.com
			Mohegan Sun	Casino	www.mohegansuncasinocom.com
	PokerStars	NYX	PokerStars	Casino/ Peer to Peer Poker	www.pokerstarsNJ.com
Tropicana	Gamesys	Gamesys NetEnt	Tropicana Virgin	Casino Casino	www.tropicanacasinocom.com www.virgincasinocom.com
Trump Plaza	Game Account/ Betfair	Game Account/ Betfair	Betfair	Casino/ Peer to Peer Poker	www.betfaircasinocom.com
Trump Taj Mahal	Ultimate Casino	Ultimate Casino	Ultimate Casino	Casino/ Peer to Peer Poker	www.Ucasinocom.com

Source: New Jersey Division of Gaming Enforcement.

Some European companies also discovered that player behavior was quite different in an iGaming landscape dominated by large, well-known, land-based casino brands. Player acquisition costs were similar or higher than the European experience, but player retention rates were much higher in New Jersey due to both a strong brand affinity with land-based operators and the generally more limited number of competitive options available. Established land-based casino brands lend credibility to gambling on the Internet and online brands have become more attractive to U.S. players when operating in a stable, regulated U.S. market. While the DGE does not release revenue figures

specific to the individual sites and skins, interviews with operators confirm that land-based casino brands are effectively competing with longer established international iGaming brands.

4.6 REGULATION

Legalized iGaming in New Jersey has been effective from a regulatory perspective. According to the DGE, player protection measures are working, and strict regulation is ensuring a safe and trustworthy iGaming environment.⁶² Geographic fencing is a fundamental requirement for intra-state regulated iGaming, and it works effectively today, erring on the side of caution along densely populated state borders. KYC procedures are among the most rigorous instituted by any iGaming regulator in the world, and while they may discourage some potential customers, they have proven highly effective at preventing underage gambling and money laundering.

One of the most revealing developments since the establishment of legal iGaming in the U.S. is the trend observed in Europe where online gaming markets are increasingly being regulated by state authorities whose regulatory regimes bear a remarkable similarity to those developed in Delaware, Nevada, and especially New Jersey. In other words, since the establishment of legal regulated iGaming in the U.S., some European countries are increasingly beginning to emulate the U.S. regulatory model and develop more structured national compliance regimes for iGaming. A prime example of this is the U.K.'s Gambling (Licensing and Advertising) Act of 2014.⁶³ This law requires licensing and institutes a point of consumption tax on offshore and domestic iGaming firms as part of a general effort to license, regulate, and tax all remote gambling providers operating in the UK market.⁶⁴ Other examples include the more recent efforts by multiple European Union nations (France, Italy, Portugal, Spain, and the U.K.), to pool poker liquidity across national boundaries,⁶⁵ and the U.K. Gambling Commission's effort to develop a national self-exclusion regime.⁶⁶

4.7 CANNIBALIZATION

One of the unfounded criticisms directed at iGaming in 2013 was that the greater convenience and availability of real money gaming over the Internet would cannibalize land-based casino revenues and decrease physical visitation.

⁶² David Rebuck, "RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future," January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

⁶³ U.K. Parliament, Gambling (Licensing and Advertising) Act 2014, (http://www.legislation.gov.uk/ukpga/2014/17/pdfs/ukpga_20140017_en.pdf).

⁶⁴ Peter Howitt, "UK's New e-Gaming and Betting Regulations Could Create a New Black Market," *New Statesman*, May 6, 2014 (<http://www.newstatesman.com/gibraltar/newstatesman-gibraltar/2014/05/uk-s-new-e-gaming-and-betting-regulations-could-create-new>).

⁶⁵ Giulio Coraggio, "International Online Poker Liquidity Sharing Speeds Up," *Gaming Tech Law*, accessed June 6, 2017 (<http://www.gamingtechlaw.com/2016/12/international-online-poker-sharing-liquidity.html>).

⁶⁶ Gambling Commission, "Briefing Note on the National Online Self-Exclusion Scheme," May 2015 (<http://www.gamblingcommission.gov.uk/pdf/Briefing-note-on-the-national-online-self-exclusion-scheme.pdf>).

In many ways, iGaming is the next evolution of casino gaming, and the evidence from markets where it is legal, in Europe and three U.S. states, indicates that this new vertical is primarily attracting a new generation of players who currently do not visit land-based casinos. There are no conclusive examples in the U.S. or internationally that online gaming cannibalizes brick-and-mortar casino revenues, jobs, and tax revenues. On the contrary, existing evidence from academic studies on the subject of cannibalization indicates that iGaming to date has exerted a complementary effect on brick-and-mortar gaming revenues, and that iGaming operation by casino companies will enable those companies to engage new customers in innovative ways across multiple channels that will collectively grow future revenues.

A cross-sectional analysis of U.S. state and Canadian provincial casino revenue in the post-UIGEA/pre-Black Friday period showed that iPoker and land-based casino gaming are complementary, suggesting that the presence of online poker increases the demand for offline gaming.⁶⁷ The researchers found that a market with an additional \$1 million in casino revenue would receive an additional \$2,700 in online poker revenue. That means that the larger the online poker market, the larger the offline gambling market and vice versa. It also means that a reduced online poker market has a negative effect on the size of the offline gaming industry.

A peer-reviewed study published in 2015 found that “A robust complementary (positive) relationship between online and offline gambling is found, using ordinary least squares, two-stage least squares, and two-part modeling techniques. These particular findings suggest that economic concerns around the cannibalization of traditional gambling industries should be reconsidered, and provide support for prior research showing that Internet based firms can be complementary to brick and mortar businesses.”⁶⁸

In European markets where iGaming is a large and well-established industry, the evidence supports the contention that these forms of Internet wagering are complementary to traditional casino gaming, not cannibalistic. In the United Kingdom, where online gaming is not tied to the land-based industry and has become a multi-billion dollar industry, brick-and-mortar casinos have still shown strong year over year growth. The gross gaming yield of the “offline” casino industry rose from £597.7 million in 2001 to £803.4 million in 2011.⁶⁹ This is also the case in Belgium, where online gaming is tied to the land-based industry. Since the regulation of online gaming, there has been a 77% increase in turnover of the total gaming market.⁷⁰

⁶⁷ Kahlil S. Philander and Ingo Fielder, “Online Poker in North America: Empirical Evidence on its Complementary Effect on the Offline Gambling Market,” March 14, 2012 (<http://ssrn.com/abstract=2021993> or <http://dx.doi.org/10.2139/ssrn.2021993>).

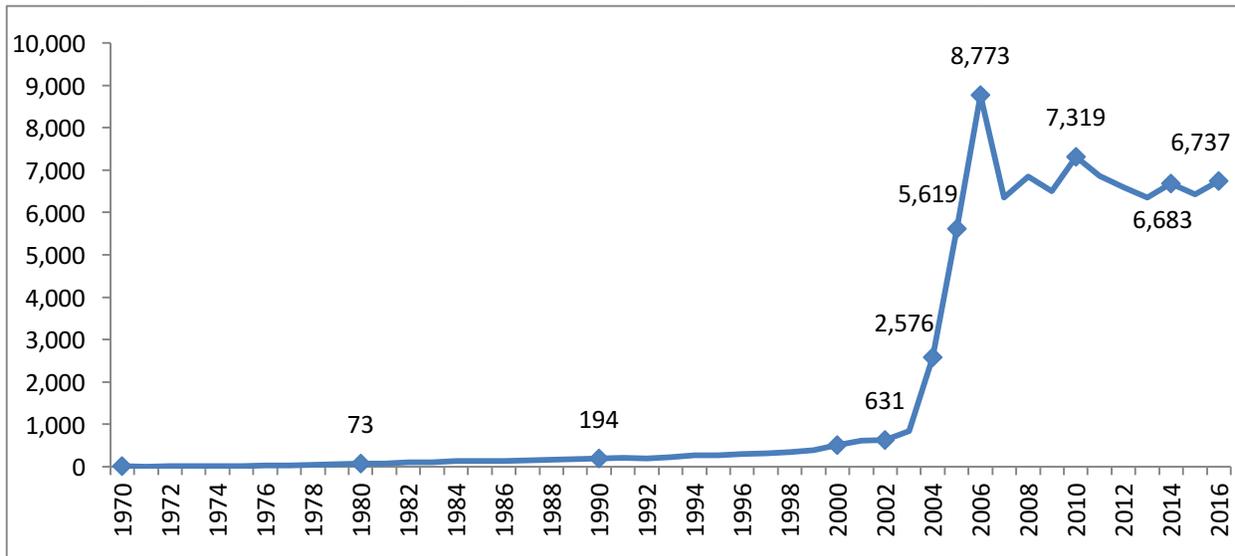
⁶⁸ Kahlil S. Philander, Brett L.L. Abarbanel, Toni Repetti, “Consumer Spending in the Gaming Industry: Evidence of Complementary Demand in Casino and Online Venues,” *Journal of International Gambling Studies*, June 2, 2015 (<http://www.tandfonline.com/doi/abs/10.1080/14459795.2015.1042002?journalCode=rigs20&>).

⁶⁹ H2 Gambling Capital, *UK Gambling Turnover*, April 4, 2012.

⁷⁰ H2 Gambling Capital, *Belgium Gross Gambling Turnover*, January 1, 2013.

Additional evidence of the complementary results of the gaming industry leveraging interactive channels can be found in the emergence of online poker. While online poker has had its ups and downs over the past fifteen years, it has definitely been a positive development for the land-based casino industry. The huge surge in online play beginning in 2003 introduced many new players to casino poker rooms as the Internet sparked new interest in this quintessentially American social game and provided a vast connected playing field for preliminary rounds of tournament play. Participation in the World Series of Poker Main Event, the \$10,000 No-Limit Hold 'Em Championship, held at a brick-and-mortar casino, increased from 631 participants in 2002 to nearly 9,000 in 2006. While participation has fallen from that all time high point, due to the UIGEA, it has remained consistently above 6,000 participants over the past 10 years.

Figure 15: Number of Participants in World Series of Poker Main Event, 1970-2016



Source: World Series of Poker.

Most importantly, evidence in New Jersey has overwhelmingly demonstrated a lack of cannibalization by iGaming. The demographic information emerging from New Jersey, including the Rutgers University iGaming surveys, shows a stark contrast between the characteristics of players at New Jersey iGaming websites as compared to players at New Jersey land-based casinos. The iGaming customer is generally younger than the average casino patron and the majority of them are new players who have not previously or recently set foot in an Atlantic City casino. One iGaming operator interviewed for this study stated that the average age of their online players is 16 years younger than the average age of players in the traditional land-based casino. iGaming players generally visit an online casino more frequently than land-based players visit casinos, but they wager far less per visit. Traditional casino customers usually reflect an older demographic with more disposable income and available time to visit the casino. iGaming offers the prospect of engaging a previously underserved demographic who are currently not visiting Atlantic City casinos due primarily to time constraints.

In addition, all of the New Jersey casino operators interviewed for this study were unanimous in saying that iGaming has not cannibalized land-based casinos. In fact, they argue that the net result

of the introduction of iGaming has been just the opposite, serving to grow the existing customer database and adding incremental revenue to conventional land-based casino earnings. For example:

- In a 2014 press release to shareholders, Keith Smith, President and Chief Executive Officer of Boyd Gaming, was quoted as saying, "When matching our online and land-based databases, we found that 60% of online casino customers had not been to Borgata in over a year, and over 75% had made fewer than two trips to Borgata in the past year. And on a combined basis, online and land-based poker revenue at Borgata was up more than 40% from our land-based play in December 2012. Clearly, online gaming is complementary to our land-based business, not competitive."⁷¹
- In the summer of 2015, Michael Cohen, Senior Vice President and General Counsel for Caesars Interactive Entertainment, stated in testimony before the Pennsylvania Senate Committee on Community, Economic, and Recreational Development that: "During the first 19 months of online gaming operations in New Jersey, over 70% of Caesars players were not players at Caesars brick and mortar casinos, demonstrating that the online player is a new player. Furthermore, 15% of Caesars online players who are also Caesars brick and mortar customers had been inactive casino players that reactivated (by visiting a casino) after signing up online, showing the ability of the online channel to reinvigorate brick and mortar gaming. Caesars New Jersey experience is that online gaming is attracting a younger player; as over 60% of players online are between 21 and 39. For offline casinos, that same age group makes up fewer than 30% of the players. These are new players that may also be attracted to the offline casinos."⁷²
- One of the Atlantic City operators confidentially interviewed for this report described a recently concluded internal study of their customer base, which showed that 80% of all iGaming registrations are customers new to the brand.
- In March 2017, Pennsylvania legislative hearings exploring the legalization of iGaming heard testimony from New Jersey iGaming licensees concerning their real world experience operating iGaming and traditional gaming in the same market. Management for Golden Nugget testified that 89% of online registrations were not previously rated in their player loyalty database.⁷³ An additional 3% were 12-month inactive players. This means that 92% are new or reactivated players, and only the residual 8% of online players are current brick-and-mortar casino customers. Furthermore, for these 8% of online players, they increased their brick-and-mortar casino spending by an average of 15% after re-engaging with the brand as online customers.

⁷¹ Borgata, "Boyd Gaming Provides Update on Borgata Online Gaming Operations," press release, January 14, 2014 (<https://www.theborgata.com/press/press-releases/current/boyd-gaming-online-results>).

⁷² Michael Cohen, Testimony before the Pennsylvania Senate Committee on Community, Economic, and Recreational Development, June 10, 2015.

⁷³ Steve Ruddock, "PA Lawmakers Should Understand This: Online Gambling Customers are Not Like Land-Based Patrons," US Poker.com, March 15, 2017 (<http://www.uspoker.com/blog/online-gambling-customers-pa/16752/>).

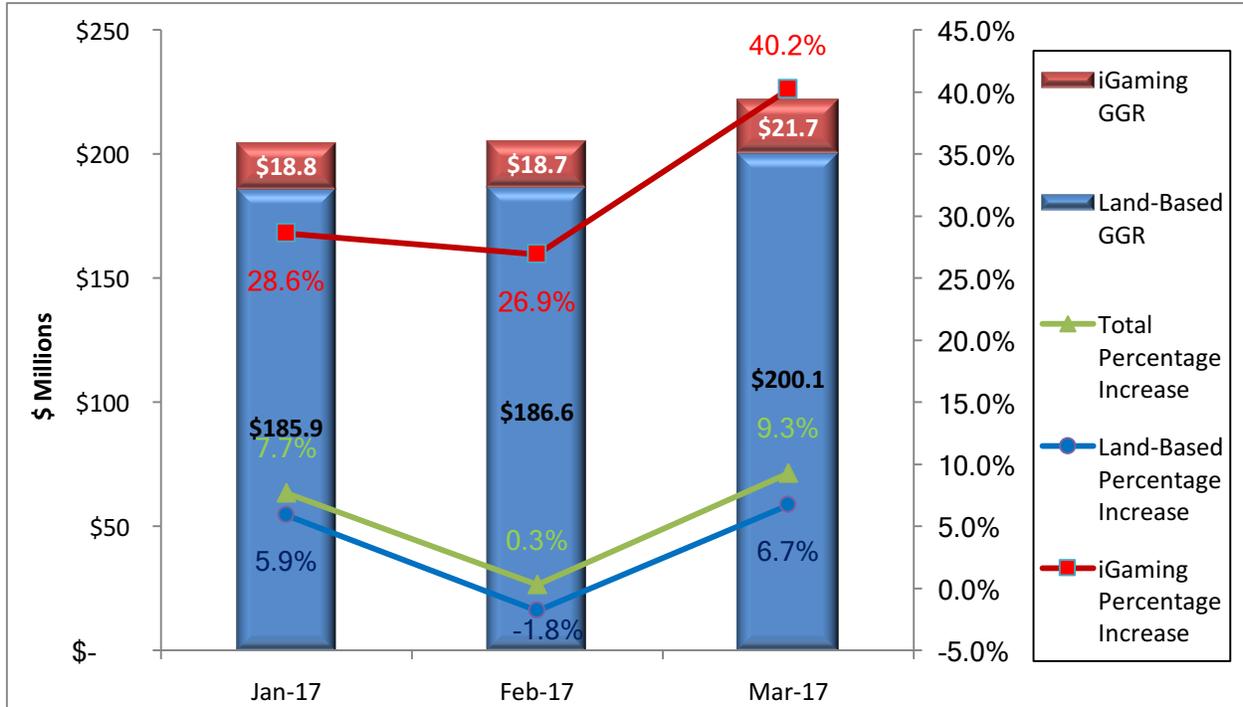
- At the March 2017 Pennsylvania hearings, Caesars Interactive Entertainment reported that 80% of its online registrants are new players who had never previously visited the land-based casino and another 8% are inactive players at one of the company’s three Atlantic City casinos.⁷⁴

These findings provide strong evidence that multi-channel engagement is bringing new customers to the casino, increasing brand loyalty, and growing the overall player database instead of substituting online for brick-and-mortar customers and revenues.

Until recently, quantitative data on New Jersey iGaming had been inconclusive on the issue of cannibalization by iGaming due to radical contraction of the casino gaming market in the face of increased regional competition. However, in 2016, the land-based casino market stabilized for the first time in a decade, with both land-based casino and iGaming revenues increasing. Atlantic City casinos on the whole saw a 0.4% increase in net gaming revenue, the first such increase since 2006. Concurrently, iGaming revenue increased 38%.

In the first quarter of 2017, New Jersey saw gross gaming revenue growth for both the land-based casinos and iGaming as compared to 2016. Land-based casino revenue grew substantially in month-to-month comparisons during January and March 2017 and only declined marginally in February due to a leap year comparison in 2016. Meanwhile, iGaming revenues have grown more than 25% compared to 2016 in each of the first three months of 2017.

Figure 16: New Jersey Casino and iGaming Q1 2017 GGR and GGR Growth over Q1 2016



Source: New Jersey Division of Gaming Enforcement.

⁷⁴ Ibid.

4.8 UNDERAGE GAMBLING

The casino industry has long contended with the problem of underage gambling and despite all prevention efforts, every year stories appear in the press describing how an underage patron managed to finagle their way on to the casino floor and gamble. While some allege that the potential for underage gambling increases online, where there are no physical security guards or table game supervisors to inspect the players, the facts say otherwise.

To date and to the extent of our knowledge, no minors have succeeded in creating accounts and wagering as adults over the Internet in New Jersey. This is primarily due to the rigorous KYC identity verification protocols required for account registration and funding. The KYC protocols requiring entry of a physical address and social security number render New Jersey iGaming much less vulnerable to underage gambling than is currently the case in Europe or with offshore gambling sites. However, this remains an ongoing enforcement issue and undoubtedly will continue to require constant vigilance by casino operators and regulators. Just as security guards, dealers, and bartenders must continually conduct age verification checks with young patrons, iGaming systems must be continually monitored to prevent underage gambling. While there have been isolated incidents of minors logging on to parents' accounts reported via 1-800-GAMBLER, there are no instances of minors succeeding in establishing online accounts and surreptitiously gambling as adults in New Jersey.

European experience corroborates that iGaming identity verification procedures make it more difficult for minors to gamble online than at physical casinos. The European Commission sought feedback on the effectiveness of KYC age verification procedures as part of its 2011 iGaming review. The Children's Charities' Coalition on Internet Safety responded as follows:

Since the online age verification laws came into force in the UK in September 2007, the children's organizations have not been made aware of a single instance where a child has beaten the system and got online to gamble. There have been instances where a child has "borrowed" a parent's credit or debit card and has been able to pass themselves off as the parent, but that raises different issues. There is nothing that laws can do about that, neither is there an easily foreseeable technology fix that can solve it. However, we are not aware of any instances where a child was able to lie about their age and get away with it in an online environment, as they used to do quite easily before the law was changed. By comparison it may not be so difficult to "PhotoShop" a fake ID to use in a real world setting.⁷⁵

4.9 RESPONSIBLE AND PROBLEM GAMBLING

One of the arguments made by iGaming opponents during legalization debates is that the anonymous, anywhere, anytime, 24/7 access provided by Internet gaming will drastically increase problem gambling.

⁷⁵ Children's Charities' Coalition on Internet Safety, "Green Paper on Online Gambling in the Internal Market," (www.chis.org.uk/file_download/50).

The National Council on Problem Gambling (NCPG) defines problem gambling as gambling behavior that causes disruptions in psychological, physical, social, or vocational areas of personal life. The term “problem gambling” is usually broadly interpreted to include several types of disordered gambling behavior. The worst condition is termed disordered, pathological, or compulsive gambling, which is a progressive addiction characterized by increasing preoccupation with gambling, the increasing need to bet more money and more frequently, restlessness or irritability when attempting to stop, a penchant for “chasing” losses, and loss of control manifested by continuation of the gambling behavior in spite of mounting, serious, negative consequences.⁷⁶ According to NCPG, roughly 1% of the U.S. population (approximately 2.3 million people) meets the criteria for a gambling disorder in a given year. Another 2% to 3% should be considered to be problem gamblers, which is less severe of a condition.⁷⁷ Problem gambling rates may differ significantly depending upon which particular diagnostic criterion is used to identify the incidence of problem gambling.⁷⁸

Cambridge Health Alliance’s Division on Addiction at Harvard Medical School analyzed a large sample of Internet players extracted from the database of bwin, one of the largest international online poker operators, and found that the incidence of problem gambling behavior on the Internet is consistent with worldwide prevalence rates for other forms of gambling.⁷⁹ These findings indicate that problem gambling is primarily a function of the human psyche rather than increased access to gaming. Cambridge Health Alliance researchers also elaborated on the novelty effect, which suggests that as populations adapt to new phenomena (e.g., iGaming), problem gambling stabilizes around the same rates that existed before it was introduced.

Other research also shows that increased availability has not led to increased rates of problem gambling. The brick-and-mortar gaming industry has undergone a tremendous expansion over the past 30 years. Prior to 1978, when gambling was legalized in New Jersey, Nevada was the only state in the union where gambling was legal. Today a total of 40 U.S. states offer casino-style gambling in some form, hosting a total of over 1,300 commercial, racetrack, and tribal casinos and cardrooms.⁸⁰ Despite this explosive growth, research for the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health & Long Term Care shows that the rate of past year problem gambling prevalence has remained around 1% to 3% in the U.S. over time (averaging 2.2% across

⁷⁶ Matthew Garbis, “Internet Gambling: The Problems of the Current Policy Environment and How to Fix Them,” December 2009 (<http://www.indiana.edu/~hightech/papers/Garbis.htm>).

⁷⁷ National Council on Problem Gambling, “What is Problem Gambling?,” accessed February 16, 2017 (<http://www.ncpg.org.sg/en/Pages/LearnAboutProblemGambling.aspx?category=2>).

⁷⁸ Christine Reilly and Nathan Smith, “The Evolving Definition of Pathological Gambling in the DSM-5” (http://www.ncrg.org/sites/default/files/uploads/docs/white_papers/ncrg_wpdsm5_may2013.pdf).

⁷⁹ Christine Reilly and Nathan Smith, “Internet Gambling: An Emerging Field of Research,” National Center for Responsible Gaming (http://www.ncrg.org/sites/default/files/uploads/docs/white_papers/ncrg_wp_internetgambling_final.pdf).

⁸⁰ American Gaming Association, “2016 State of the States: The AGA Survey of the Casino Industry” (https://www.americangaming.org/sites/default/files/2016%20State%20of%20the%20States_FINAL.pdf); Alan Meister, *Indian Gaming Industry Report*, 2016 Edition, Newton: Casino City Press.

states/jurisdictions),⁸¹ despite the fact that participation in iGaming in the U.S. has increased seven-fold between 1999 and 2013, from 0.3% to 2.1%.⁸²

In an effort to control problem gambling, the New Jersey iGaming regulatory regime incorporates a number of responsible gaming features designed to limit losses and to reduce the adverse impacts of problem gambling behavior:

- The regulations require each Internet gaming permit holder to pay \$250,000 annually for state programs combatting problem gambling.⁸³
- Systems are in place that must contain logic to identify and report potential problem gamblers to the licensee, and all licensees are required to maintain records of all actions taken regarding those patrons identified as potential problem gamblers.
- All of the iGaming operating sites allow players to set deposit limits, loss limits, and time limits on their Internet gambling sessions. iGaming customers can also set a minimum 72 hour “cooling off period” to prevent chasing losses and those who have acknowledged a gambling problem can easily self-exclude themselves from gambling online for a period of one to five years. Unlike the situation in European iGaming, self-exclusion is statewide, effectively preventing an iGaming customer from gambling on any site in New Jersey, not simply the site where they have initiated the self-exclusion protocol. These patrons are required to verify their exclusion status during new registrations and at each login attempt.⁸⁴
- A mandatory player protection feature is also triggered once a player’s cumulative deposits exceed \$2,500, after which they are required to acknowledge that they have the ability to set responsible gaming limits on their accounts and that 1-800-GAMBLER is available for assistance.⁸⁵
- Computerized systems provide on-demand activity statements for a minimum of 180 days of patron gaming activity, and all iGaming platform providers are required to maintain complete records of customer activity for at least ten years.

New Jersey statute N.J.S.A 5:12-95.18 also requires a study to be published on an annual basis to review the impact of Internet gaming in New Jersey.⁸⁶ This statute formed the basis for an agreement with Rutgers University and the New Jersey Department of Human Services to produce four successive annual reports.

⁸¹ Robert J. Williams, Rachel Volberg, and Rhys M.G. Stevens, “The Population Prevalence of Problem Gambling: Methodological Influences, Standardized Rates, Jurisdictional Differences, and Worldwide Trends,” Ontario Problem Gambling Research Centre & Ontario Ministry of Health & Long Term Care, May 8, 2012 ([https://www.uleth.ca/dspace/bitstream/handle/10133/3068/2012-PREVALENCE-OPGRC%20\(2\).pdf?sequence=3](https://www.uleth.ca/dspace/bitstream/handle/10133/3068/2012-PREVALENCE-OPGRC%20(2).pdf?sequence=3)).

⁸² John Welte, et al., “Gambling and Problem Gambling in the United States: Changes Between 1999 and 2013,” *Journal of Gambling Studies* (advance publication June 1, 2014).

⁸³ David Rebuck, “RE: New Jersey Internet Gaming One Year Anniversary – Achievements to Date and Goals for the Future,” January 2, 2015 (<http://www.nj.gov/oag/ge/2015news/Internetgamingletter.pdf>).

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ Ibid.

An initial study by Rutgers University showed that the prevalence of problem gambling in New Jersey is lowest among land-based-only gamblers, followed by online-only gamblers and then dual gamblers (i.e., both online and at land-based casinos).⁸⁷ A newly released and more thorough analysis of these data by Rutgers University shows that problem gambling prevalence rates in New Jersey have increased over time and are currently three times higher than observed in other jurisdictions.⁸⁸ These findings are due primarily to a high rate of prevalence within a specific portion of the study. The self-selected, opt-in Internet panel sample (n=2,134) reported a rate of gambling disorder at 10.5% and problem gambling at 21.6%, figures which are remarkably high compared to other gambling prevalence studies. Conversely, among the randomly contacted telephone sample (n=1,500), the prevalence of gambling disorder was 0.3% and problem gambling 5.7%, figures which are generally below average and well within the tolerance of past problem gambling studies.

The Rutgers study does not claim that iGaming is a specific cause of observed increases in the prevalence of problem gambling, as only 5.3% of survey respondents gambled exclusively online. Rather, the Rutgers study found that the severity of problem gambling is highly correlated with the frequency and number of gambling activities as well as other addiction disorders. Dramatic differences in problem gambling prevalence between the two survey populations raise questions regarding comparisons to previous gambling studies in New Jersey and studies in other jurisdictions. However, the results of the Rutgers study call for continued research to better understand the factors causing gambling disorder and to carefully monitor problem gambling levels in New Jersey going forward.

⁸⁷ Nia Lower, Kyle Caler, and Rongjin Guan, "Internet Gaming in New Jersey, Calendar Year 2015 Report to the Division of Gaming Enforcement," Center for Gambling Studies at Rutgers University (<http://www.state.nj.us/oag/ge/2016news/2016ResponsibleGamingInternetGamingReport.pdf>).

⁸⁸ Lia Nower, Rachel A. Volberg, and Kyle R. Caler, "The Prevalence of Online and Land-Based Gambling in New Jersey," Center for Gambling Studies at Rutgers University Report to the New Jersey Division of Gaming Enforcement, 2017 (<https://socialwork.rutgers.edu/file/2695/download>).

5. Economic Impact Analysis

In order to measure the contribution of New Jersey iGaming to the state economy, we employed an economic impact analysis. Set forth below are details on the economic impact analysis methodology, the data used in the analysis, and the results of the analysis.

5.1 METHODOLOGY

5.1.1 Input-Output Analysis

An economic impact analysis utilizes an input-output analysis to estimate the total economic impact of an initial change in an economy, including secondary effects that result from the initial change. Input-output analyses model these effects by accounting for the economic interdependence between industries, households, and government institutions in the economy.

The initial change in economic activity is typically referred to as the direct effect. The direct effect is the “input” into the input-output analysis. In this report, the direct effect is measured as the total expenditures by players at New Jersey iGaming websites.

Secondary effects come about as player expenditures are subsequently spent by the gaming operators and then re-spent by suppliers and employees throughout the economy. The successive rounds of spending are often referred to as the “multiplier effect.” The secondary effects continue until leakages (e.g., imports from outside the study area, profit, and savings) stop the cycle.

There are two types of secondary effects: indirect and induced. The indirect effect relates to the iteration of businesses purchasing from other businesses as a result of the direct effect. In this report, the indirect effect includes purchases of goods and services by gaming operators from suppliers, who in turn purchase goods and services from their suppliers, and so on. The induced effect relates to household spending resulting from wages directly or indirectly earned as a result of the direct effect. In this report, the induced effect is household purchases by employees of gaming operators, their suppliers, and other businesses down the supply chain (i.e., businesses captured in the indirect effect).

Given that other segments of the economy are supported, at least in part, by the initial change in economic activity, the total economic impact equals the sum of the direct, indirect, and induced effects.

5.1.2 Study Area

In conducting an economic impact analysis, a study area must be defined. The study area is the geographic region in which the economic impact is to be measured. A wide range of geographic regions can be analyzed with economic impact analyses. A study area can be defined as small as a zip code, as large as the entire U.S., and everywhere in between. In our analysis in this report, we used the State of New Jersey as our study area.

5.1.3 Measures of Economic Impact

Employing a widely-accepted and frequently-used economic modeling system (described in the next subsection below), an input-output analysis can measure economic impact in four ways: output, employment, wages, and taxes. Output equals the value of production or sales. Employment is the total number of jobs, computed as full-time equivalents (FTEs). Wages consist of the current value of income earned by households, including self-employed individuals. It also includes tips, as well as benefits, such as health insurance and retirement payments. Taxes equal the amounts received by federal, state, and local governments from businesses, employees, and households. Note that Direct State Taxes in our results tables include state iGaming revenue taxes and Direct Local Taxes include CRDA obligation payments.

5.1.4 Economic Modeling System

In this report, the economic impact analysis was conducted using the IMPLAN economic modeling system.⁸⁹ IMPLAN was originally developed by the USDA Forest Service in cooperation with the Federal Emergency Management Agency and the USDI Bureau of Land Management.⁹⁰ The IMPLAN system has been in use since 1979 and continues to be widely used by universities, government agencies, corporations, and private consultants to conduct economic impact analyses involving a wide range of issues and industries. IMPLAN's data and accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the U.S. Bureau of Economic Analysis and the format recommended by the United Nations. IMPLAN is largely based upon data from the U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics. The region data used in IMPLAN was for 2015. However, IMPLAN results presented in this study are reported in current dollars (2017).

Our IMPLAN models use Type SAM multipliers with households internalized, which are "generally accepted" and considered to be the "best practices formulation."⁹¹ However, these multipliers yield conservative results as they do not allow tax revenue to federal, state, and local governments to generate multiplier effects (i.e., indirect and induced effects) like they actually would do.⁹²

Our IMPLAN analysis uses the National Trade Flows Model, which is used to estimate Regional Purchase Coefficients and other trade data for the Study Area. We use National Trade Flows Model as it is considered to be "superior to econometric methods for estimating regional RPCs."⁹³

⁸⁹ Minnesota IMPLAN Group, Inc. (MIG), IMPLAN system 3.0 (software and region data).

⁹⁰ Minnesota IMPLAN Group, Inc., *IMPLAN Professional Version 2.0 User's Guide, Analysis Guide, Data Guide*, 1999.

⁹¹ Type SAM multipliers allow the estimation of indirect and induced impacts. IMPLAN Group LLC, "Explaining the Type SAM Multiplier," October 15, 2013.

⁹² Using Type SAM multipliers with federal government and/or state and local government internalized would yield greater economic and fiscal impact results.

⁹³ IMPLAN Group LLC, "Updating and Enhancing IMPLAN's Econometric Regional Purchase Coefficients," 2011.

Note that IMPLAN only separates tax revenue impacts into two categories: federal and state/local. Thus, U.S. Census Bureau data on government financing were used to separate state and local taxes.⁹⁴

5.1.5 Custom Economic Impact Models

We developed two types of IMPLAN models in order to capture the total contribution of New Jersey iGaming to the state economy: (1) investment and (2) operations. The investment models captured all one-time, in-state investments in buildings, offices, furniture and fixtures, equipment, and technology necessary to make iGaming operational.⁹⁵ The operations models captured the ongoing, day-to-day operations of New Jersey iGaming.⁹⁶ We implemented two operations models, one cumulative for 2013 through 2016, and another for 2016, the most current year for which we have data.

5.2 DATA

In order to customize and run our IMPLAN models, we gathered and utilized a variety of data:

- Data on iGaming investments were gathered from New Jersey iGaming operators and platform providers in order to run the investment models.⁹⁷
- Employment and wage data were gathered from New Jersey iGaming operators and platform providers in order to customize the operations models.
- Data on player expenditures at New Jersey iGaming websites (i.e., New Jersey iGaming net gaming revenue) were gathered for all iGaming operators from the New Jersey Department of Gaming Enforcement in order to run the operations models.

⁹⁴ United States Census Bureau, Governments Division, “State and Local Government Finances by Level of Government and by State: 2014,” December 7, 2016.

⁹⁵ We utilized the following IMPLAN codes to capture these one-time investments: 57 (construction of other new commercial structures, including farm structures), 301 (electronic computer manufacturing), 395 (wholesale trade), and 452 (computer systems design services).

⁹⁶ We utilized the following IMPLAN codes to capture these day-to-day operations: 430 (data processing, hosting, and related services), 432 (internet publishing and broadcasting and web search portals), and 495 (gambling industries except casino hotels).

⁹⁷ Four of the five iGaming operators/licensees and seven of the eight platform providers provided data for this analysis. Note that in some cases there was more than one platform provider per operator/licensee. In one case (NYX), a platform provider served more than one operator/licensee. See Table 14 for details.

5.3 RESULTS

Set forth below are the results of our investment and operations economic impact analyses measuring the contribution of New Jersey iGaming on the state economy. All monetary impacts are presented in current dollars (2017).

The first set of results represents the total impacts of both the construction and operation of iGaming in New Jersey for the first four years (2013-2016). The second set of results represents the impact of operations for the most current year for which data were available (2016).

5.3.1 Investment Impact (2013-2016)

The investment in New Jersey iGaming by market participants from 2013 through 2016 totaled \$40.7 million. This investment yielded the following economic and fiscal impacts (see Figures 17 and 18):

- \$68.5 million in output,
- 307 jobs,
- \$27.5 million in wages, and
- \$3.2 million in state and local tax revenue.

Figure 17

Economic Impact of Investment in iGaming on State of New Jersey, 2013-2016			
Type of Effect	Output	Jobs	Wages
Direct	\$39,178,256	147	\$17,602,873
Indirect	\$10,181,131	53	\$4,124,351
Induced	\$19,094,738	107	\$5,807,475
Total	\$68,454,126	307	\$27,534,699
Detail may not equate to total due to rounding. Output and Wages in 2017 Dollars. Jobs are measured as full-time equivalents (FTEs).			

Figure 18

Fiscal Impact of Investment in iGaming on State of New Jersey, 2013-2016				
Type of Effect	Taxes			
	Federal	State	Local	Total
Direct	\$4,306,363	\$798,403	\$505,729	\$5,610,495
Indirect	\$1,082,137	\$305,834	\$308,247	\$1,696,218
Induced	\$1,848,781	\$607,608	\$670,334	\$3,126,723
Total	\$7,237,281	\$1,711,845	\$1,484,310	\$10,433,436
Detail may not equate to total due to rounding. Taxes in 2017 Dollars.				

5.3.2 Operations Impact

5.3.2.1 Cumulative Impact (2013-2016)

From 2013 through 2016, New Jersey iGaming generated \$477.4 million in net gaming revenue. These player expenditures yielded the following economic and fiscal impacts (see Figures 19 and 20):

- \$929.8 million in output,
- 3,067 jobs,
- \$191.4 million in wages, and
- \$121.2 million in state and local tax revenue (plus an additional \$60.1 million in federal tax revenue).

Figure 19

Economic Impact of Operation of iGaming on State of New Jersey, 2013-2016			
Type of Effect	Output	Jobs	Wages
Direct	\$483,096,936	674	\$42,661,634
Indirect	\$305,173,737	1,597	\$105,350,501
Induced	\$141,536,078	795	\$43,367,170
Total	\$929,806,752	3,067	\$191,379,305
Detail may not equate to total due to rounding. Output and Wages in 2017 Dollars. Jobs are measured as full-time equivalents (FTEs).			

Figure 20

Fiscal Impact of Operation of iGaming on State of New Jersey, 2013-2016				
Type of Effect	Taxes			
	Federal	State	Local	Total
Direct	\$15,070,094	\$77,429,582	\$18,848,906	\$111,348,582
Indirect	\$31,335,872	\$8,175,262	\$7,257,691	\$46,768,825
Induced	\$13,705,270	\$4,507,233	\$4,974,470	\$23,186,973
Total	\$60,111,236	\$90,112,077	\$31,081,067	\$181,304,380
Detail may not equate to total due to rounding. Taxes in 2017 Dollars.				

5.3.2.1 2016 Impact

From 2016 alone, New Jersey iGaming generated \$196.9 million in net gaming revenue. These player expenditures yielded the following economic and fiscal impacts (see Figures 21 and 22):

- \$381.3 million in output,

- 1,259 jobs,
- \$77.0 million in wages, and
- \$49.9 million in state and local tax revenue (plus an additional \$24.6 million in federal tax revenue).

Figure 21

Economic Impact of Operation of iGaming on State of New Jersey, 2016			
Type of Effect	Output	Jobs	Wages
Direct	\$198,112,979	278	\$17,300,974
Indirect	\$125,141,877	655	\$42,253,983
Induced	\$58,020,094	326	\$17,440,578
Total	\$381,274,949	1,259	\$76,995,535
Detail may not equate to total due to rounding. Output and Wages in 2017 Dollars. Jobs are measured as full-time equivalents (FTEs).			

Figure 22

Fiscal Impact of Operation of iGaming on State of New Jersey, 2016				
Type of Effect	Taxes			
	Federal	State	Local	Total
Direct	\$6,174,779	\$31,917,164	\$7,756,817	\$45,848,761
Indirect	\$12,849,722	\$3,352,419	\$2,976,203	\$19,178,344
Induced	\$5,618,222	\$1,847,657	\$2,039,193	\$9,505,072
Total	\$24,642,723	\$37,117,240	\$12,772,213	\$74,532,177
Detail may not equate to total due to rounding. Taxes in 2017 Dollars.				

5.3.3 Total Impact (2013-2016)

The upfront investment in and ongoing day-to-day operations of New Jersey iGaming from 2013 through 2016 yielded significant positive impacts on the New Jersey economy (see Figure 23):

- \$998.3 million in output,
- 3,374 jobs,
- \$218.9 million in wages, and
- \$124.4 million in tax revenue to state and local governments.

Figure 23

Economic & Fiscal Impact of Investment in & Operation of iGaming on State of New Jersey, 2013-2016				
Type of Effect	Output	Jobs	Wages	Taxes
Direct	\$522,275,192	821	\$60,264,506	\$97,582,620
Indirect	\$315,354,868	1,650	\$109,474,852	\$16,047,034
Induced	\$160,630,817	902	\$49,174,645	\$10,759,645
Total	\$998,260,877	3,374	\$218,914,003	\$124,389,299

Detail may not equate to total due to rounding.
Output and Wages in 2017 Dollars.
Jobs are measured as full-time equivalents (FTEs).
Taxes include state and local taxes.

6. Conclusions

6.1 OVERALL CONCLUSIONS

When iGaming legislation was initially passed in Delaware, Nevada, and New Jersey, everyone involved, operators, technology providers, suppliers, and most of all regulators, faced a number of daunting technical, operational, and procedural challenges. It quickly became evident that launching iGaming in a highly regulated, single U.S. state market presented much greater difficulties than previous experience in European and offshore markets. New Jersey's task was by far the most difficult among U.S. state jurisdictions due to a multiplicity of platforms and products, the densely populated areas in close conjunction with adjacent state borders, and the high regulatory and compliance standards required for the land-based casino industry. Collectively participants in the New Jersey iGaming industry overcame these obstacles and established the most successful business model to date for iGaming in the U.S.

Legal regulated iGaming in New Jersey has been successful from both a business and regulatory perspective. Player protection measures are working, and there have been no significant public incidents of fraud, cheating, money laundering, or other crimes associated with iGaming. While geographic fencing initially experienced implementation issues, it works effectively today and errs on the side of caution along state borders. KYC procedures are among the most rigorous instituted by any iGaming regulator, and while they may seem cumbersome for some customers, they have proven just as effective if not more at preventing underage gambling and money laundering than those currently in place for land-based casino gaming. Most importantly, legal iGaming has added to incremental revenue for Atlantic City casino operators, equal to approximately 9% of land-based revenues in 2016, attracted new customers, increased economic output, created new jobs and wages, and generated new tax revenue in the state.

Perhaps the greatest recognition of this accomplishment is the current trend in Europe to bring offshore iGaming companies under nation-state regulatory oversight using many of the same principles and structures that were developed in U.S. markets. These measures include licensing and taxing, expanded consumer protections, iPoker liquidity sharing, anti-money laundering protocols, and problem gambling policies.

Importantly from a consumer perspective, legal iGaming has provided a safe and reputable environment for New Jersey consumers to enjoy regulated online entertainment. Multi-channel engagement is successfully acquiring new customers for land-based casinos, increasing brand loyalty, growing gaming revenue and taxes, and offering the gaming customer more convenience and more personal choices. One measure for the success of this new environment from the player's perspective is illustrated by player retention rates, often twice as high as commonly experienced internationally. Clearly U.S. players see state regulated iGaming as a positive development and an attractive entertainment option.

6.2 LESSONS LEARNED

The New Jersey model has proven that iGaming can be successfully operated under very stringent regulation in a single state environment. Just as New Jersey casino regulations served as a model for new state jurisdictions considering the legalization of casino gaming over the past twenty-five years, New Jersey's experience provides valuable lessons for other U.S. states considering iGaming legalization in the future.

6.2.1 The Type of iGaming Model Matters

The New Jersey iGaming model is clearly producing the greatest amount of revenue, jobs, wages, and tax revenue of the three legal U.S. states. Internet poker-only wagering in Nevada and the lottery administered platform in Delaware have been much less successful. Nevada and Delaware are both constrained by smaller populations than New Jersey, but the single product business model in Nevada and the legislative requirement in Delaware to surrender the first \$3.75 million in iGaming revenue to the lottery, handicap these states even more. The New Jersey structure of full casino gaming, poker, and bingo operated by casino licensees with multiple platform and technology providers, all regulated by the state gaming authority, has proven the most successful U.S. state iGaming business model by far.

6.2.2 Land-Based Brands Can Compete Online

Internationally and in Europe, iGaming has developed in a fashion largely disarticulated from land-based casino brands. In New Jersey, interviews revealed that the land-based casino brands are performing more successfully than Internet-only brands. Initial concerns that casino licensee brands could be quickly eclipsed by more experienced online operators have been put to rest as land-based brands such as the Borgata, Caesars, Golden Nugget, Resorts, and Tropicana have more than held their own against well-known competing online wagering firms such as Betfair, GVC/bwin, PokerStars, and 888.com. Anecdotal evidence from interviews with Atlantic City operators asserts that land-based casino brands are currently generating the majority of iGaming revenue in New Jersey due to their existing databases and ability to attract online gamblers with land-based amenities. Third party research confirms that the land-based casino operators are generating between 60% and 85% of total revenue.⁹⁸

6.2.3 Well-Established Regulations

The New Jersey Division of Gaming Enforcement has developed a robust regulatory regime that is working effectively to regulate and control wagering over the Internet. Its stringent regulations governing the full iGaming business model (i.e., all forms of iGaming) have proven successful in generating gaming revenue and taxes. It is not necessary to reinvent the wheel. New U.S. jurisdictions can borrow and build upon the established body of regulation, just as many land-based gaming jurisdictions have done over the past 30 years.

⁹⁸ Eilers & Krejci Gaming, LLC, "U.S. iGaming Industry Update – 2017," January 30, 2017.

6.2.4 General Legislation and Specific Regulation

When drawing up iGaming legislation, the best practice is to craft general laws and allow the regulatory authority to develop specific regulations that fulfill the intent of the legislation. Regulations are much easier and less time consuming to update as conditions change as opposed to legislation that requires consensus on the part of lawmakers and substantial effort to change existing law. Legislation that seeks to define the playing field for business investment can quickly become obsolete in a dynamic and rapidly evolving market.

6.2.5 Flexible Business Investment

Lawmakers rightly place high importance on bringing jobs and economic activity to their home states, but mandating levels of capital investment often can be counterproductive. As the U.S. iGaming industry expands, it will become increasingly important for suppliers and technology providers to operate efficiently across state lines. Mandating artificial quotas for capital investment, facility locations, or dedicated job numbers does not assure prosperity and may discourage many companies from entering a market. Investment will follow if intelligent legislation emphasizes flexibility in technology implementation and makes it possible for businesses to prosper in this new and evolving industry.

6.2.6 Comprehensive Statewide Responsible Gaming Measures

Responsible gaming measures have been included in the regulation of iGaming in Nevada, Delaware, and New Jersey. These measures ensure that customers play in a safe and regulated environment with access to tools that enable them to manage the intensity of their play. Substantial funds, \$250,000 per licensee, are collected annually by the DGE and devoted to problem gambling remediation.⁹⁹ Regulations requiring operators to allow players to set deposit, loss, and time limits, as well as “cooling off” periods, all enable customers to maintain greater control over their iGaming sessions. Voluntary self-exclusion for a period of one to five years has proven to be an effective tool for players who acknowledge a gambling problem at land-based casinos.¹⁰⁰ However, this measure can only be fully effective if it is practiced on a statewide basis instead of site by site, as is currently the situation in many European iGaming jurisdictions. Also, primary research should be conducted early on to determine problem gambling incidence rates within any new jurisdiction and these levels should be closely monitored at the point of iGaming implementation and regularly thereafter. In addition, research suggests the future possibility for utilizing predictive analytics to proactively identify and combat problem gambling behavior through analysis of play patterns.

⁹⁹ Gambling Compliance, “U.S. Online Responsible Gaming Regulations: Delaware, Nevada and New Jersey,” January 2014 (<http://www.ncpgambling.org/wp-content/uploads/2014/08/NCPG-Compliance-Comparison-Online-Responsible-Gaming-Regulations-Updated.pdf>).

¹⁰⁰ Sally Gainsbury, “Review of Self-exclusion from Gambling Venues as an Intervention for Problem Gambling,” *Journal of Gambling Studies*, 2014 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4016676/>).

6.2.8 Interstate Liquidity Sharing Compacts

State-by-state iGaming legalization is the likely model for future industry expansion as gambling policy has traditionally been a states' rights issue. For games like iPoker, which rely on high volumes of play to successfully attract players, such fractionalization of the national market limits liquidity, especially for states with small populations. Interstate compacting that enables small states to pool players will ultimately result in more rewarding experiences for players, operators, and state treasuries. Beyond poker, multi-state compacting that allows interstate liquidity sharing could prove valuable for many other activities such as bingo and casino game tournaments, as well as to open new opportunities in emerging forms of gaming such as skill-based games, daily fantasy sports, eSports, and virtual reality.

Appendix A: About the Authors

Alan P. Meister, Ph.D.

Dr. Meister is a Principal Economist at Nathan Associates. He specializes in the application of economic analysis to litigation, regulatory, public policy, and business planning and operations matters. He has extensive experience analyzing economic issues related to the gaming industry, including commercial casinos, racinos, Indian gaming, card rooms, and online gaming. His consulting work has included industry and market analyses, economic and fiscal impact studies, public policy analysis, feasibility studies, evaluations of regulations, surveys, damage analysis, and economic research, analysis, and expert testimony in litigation and regulatory matters. His clients have included gaming operators, industry suppliers, investors, governments, and gaming associations. Dr. Meister has also conducted years of independent, scholarly research on the gaming industry and authored a number of publications, most notably his annual study, the *Indian Gaming Industry Report*, which has been cited by the U.S. Supreme Court. He has presented his work at various academic, professional, and industry conferences and testified before the California State Senate on gaming issues. Furthermore, his consulting and scholarly work has been used in matters before the U.S. Supreme Court, World Trade Organization, and U.S. Department of the Interior. Dr. Meister leads the Gaming consulting practice at Nathan Associates.

In his public policy work, Dr. Meister has conducted economic analysis to identify and measure the effects of: construction, expansion, and operation of various types of businesses; regulations; legislation; taxation; the passage of ballot initiatives; government programs and services; publicly funded projects; sporting and entertainment events; commercial and mixed-use developments in low-income areas; and medical research. His work has included economic and fiscal impact analyses, assessments of the contribution of businesses and industries to the economy, cost-benefit analyses, and surveys.

Dr. Meister has significant experience developing and implementing surveys and performing statistical analysis. He has conducted this work in wide range of contexts, including analyses of: public policy issues; consumer behavior; liability and damages in litigation matters; racial profiling; forensic testing; and skill versus chance game determinations. Prior to joining Nathan Associates, Dr. Meister was a teaching assistant for five years at the University of California, Irvine, where he assisted with teaching courses on probability, statistics, econometrics, and survey design. In addition, he worked for a market research firm that implemented surveys for the motion picture industry.

Dr. Meister holds a Ph.D., M.A., and B.A. in Economics from the University of California, Irvine.

E. Eugene Johnson, MBA

Gene Johnson is an Executive Vice President of Victor-Strategies. He has over 27 years of experience in the gaming industry, including more than eight years with Atlantic City casinos. This experience ranges across the areas of MIS, Quality Assurance, Market Research, and Strategic Planning & Analysis. Mr. Johnson holds a B.A. from Washington College and an MBA from the University of Phoenix. He also holds a CQA certification from the Quality Assurance Institute. He is a member of the American Society for Quality, American Marketing Association, and Qualitative Research Consultants Association. Mr. Johnson remains an active member of QRCA and was a speaker at that organization's 2011 annual convention on the topic of identifying and analyzing influential attributes of attraction for gambling centric destination resorts.

In 1997, Mr. Johnson founded EE Johnson Research, a marketing research and consulting firm specializing in the casino industry, with secondary specialization in entertainment, tourism and travel, financial services, and credit cards. The firm provided extensive experience and expertise in primary market research with a special focus on gambling motivation and behavior. Mr. Johnson has been conducting surveys and focus groups with casino gamblers since 1992. In 2012, EE Johnson Research became part of Spectrum Gaming Group, a globally recognized casino gaming consultancy, where he served as Senior Vice President for Market Research and Internet Studies. In 2016, he returned to independent consulting with the creation of Gaming Knowledge Partners, a gaming industry expert network. With the formation of Victor-Strategies, Mr. Johnson now has extended this expert network to Indian Country and increased the established knowledge base to benefit clients nationally and around the globe.

Over his career, Mr. Johnson has managed and conducted extensive qualitative and quantitative research with gamblers of all types, including casino players, poker players, bingo and charitable game players, and online gamblers. He has also conducted a wide variety of research and analysis projects with general consumers, business customers, and employees for a broad array of corporate, government, and non-profit clients in a diverse range of businesses outside the gaming industry. Non-gaming commercial clients include some of the largest and best-know companies in the world.

Appendix B: About Nathan Associates

As one of the oldest and most respected economic consulting firms in the U.S., Nathan Associates has more than 65 years of experience applying economic principles to real world issues. Generally, our services for public and private sector clients include:

- Analysis of the economic impacts of public policy;
- Analysis of infrastructure planning, policy, investment needs, and feasibility;
- Economic development consulting;
- Analysis of and testimony on economic issues in regulatory proceedings;
- Expert analysis and testimony on liability and damages in litigation matters;
- Analysis of the economic costs and benefits of recognizing and enforcing intellectual property rights; and
- Supplementing and building capacity in trade policy.

Our consultants have served a wide variety of clients throughout the U.S., Africa and the Middle East, Asia, South America, Latin America, the Caribbean, and Europe. We have offices in the U.S., Europe, and India. Our regional U.S. offices are located on the East Coast and West Coast. Our headquarters is in Arlington, Virginia.

Our core practice areas include the Gaming Industry, Public Policy Analysis, and Economic Impact Analysis.

GAMING INDUSTRY

Nathan Associates' consultants have extensive experience analyzing issues related to the gaming industry, including commercial casinos, racetrack casinos (aka racinos), Indian gaming, card rooms, lotteries, pari-mutuel wagering, charitable gaming, and online gaming. We have conducted economic and financial consulting to help gaming operators assess opportunities and navigate challenges. Nathan Associates provides a variety of consulting services to the gaming industry, including:

- Market analysis;
- Public policy analysis;
- Economic and fiscal impact studies;
- Feasibility studies;
- Analysis of market entry and competition;
- Survey design, implementation, and data analysis;
- Evaluations of game performance; and
- Expert research, analysis, and testimony in litigation, regulatory, & public policy matters.

In addition to consulting, our experts regularly conduct independent scholarly research and analysis, publishing articles and studies, and presenting at academic, professional, and industry conferences. Our consulting and scholarly research and analyses have been relied on by the gaming industry, governments, the investment community, academics, and other gaming consultants, and have been used by and in matters before the U.S. Supreme Court, World Trade Organization, U.S. government agencies, and various states.

Our experts have researched and analyzed many facets of the gaming industry:

- Existing and proposed gaming;
- Introduction, development, and operation of gaming;
- Brick-and-mortar casinos and online gaming;
- National, state, regional, and local markets;
- Non-gaming amenities at gaming facilities, such as hotels, restaurants, retail, spas, and meeting spaces.

Nathan Associates' experts have a reputation for objective, comprehensive, and insightful research and analysis of the gaming industry. Our work is grounded in economic theory, guided by experience, supported by data and market research, and customized to the circumstances of each matter. We study market conditions, regulations, legal decisions, public policies, and political issues affecting the industry so that they can be properly considered and assessed in our analyses. For all these reasons, our experts are routinely called on to analyze complex issues and disputed matters, and our work is widely accepted and well respected by the gaming industry, governments, regulators, academics, consultants, courts, the media, and the public.

Our experts' work is regularly cited in trade publications such as *Casino Journal*, *Global Gaming Business*, *Casino Enterprise Management*, and *Indian Gaming*; law and economics publications including *Gaming Law Review and Economics*, *Gaming Research & Review Journal*, and *American Gaming Lawyer*; and general media including *The Wall Street Journal*, *USA Today*, *New York Times*, *Los Angeles Times*, *Washington Post*, *Financial Times*, *The Economist*, Bloomberg, Reuters, National Public Radio, *Indian Country Today*, *Las Vegas Review-Journal*, CNN, MSNBC, CNBC, Fox News, ABC News, and *Forbes*.

PUBLIC POLICY ANALYSIS

Nathan Associates' experts assist governments and businesses understand the economic impacts of proposed public policies and policy reforms. Our analyses help government clients formulate sound policy and help businesses and associations assess policies, respond to changes in policies, and propose new policies. Our public policy work has included:

- Market and industry research;
- Economic impact analysis;
- Policy studies;
- Assistance with economic policy formulation;

- Economic assessments of regulations;
- Survey design, development, and data analysis;
- Evaluations of other experts' public policy studies and analysis; and
- Testimony before legislative bodies, government agencies, and regulatory bodies.

Nathan Associates' clients employ our research, analysis, and testimony in a variety of contexts, including legislative hearings, regulatory proceedings, public hearings, public relations, government relations, and political and media campaigns. Our experts and academic affiliates have provided public policy research, analysis, and testimony to a wide range of legislative bodies and government agencies in the U.S..

ECONOMIC IMPACT ANALYSIS

Nathan Associates' consultants draw on extensive experience and training to develop economic impact analyses to identify and measure the effects of projects, businesses, industries, institutions, events, and public policies on national, state, regional, and local economies. We customize our economic impact models to meet the needs of each project and to take into account the unique characteristics of the relevant geographic area and economic activity being studied. Our economic impact studies are rooted in economic theory and modeled using state-of-the-art software. In conducting studies, we start by modeling the relevant economy and the initial economic activity of interest. We then use economic impact analysis to capture the secondary effects that result from the initial economic activity. Because our studies capture the economic dependencies between households, industries, and governments, we can identify segments of an economy that stand to be most affected by the initial economic activity. In our analyses, we assess the economic value of a particular activity to a community, businesses, and the government through several key measures of impact, including output (i.e., value of sales), jobs, wages, and taxes. We have conducted economic impact analyses for a wide variety of industries and issues, including public policies related to the gaming industry.

Appendix C: About Victor-Strategies

Victor-Strategies is a unique professional firm providing expert advisory services and critical business insights to the gaming industry, with a particular focus on new gaming technologies. We are dedicated to providing governments and industry leaders with the strategies, tools, data, and expertise essential for informed decision-making and effective operations. Victor-Strategies offers expert advisory services and the highest quality research and analysis capabilities to be found in the gaming industry.

The firm's three partners collectively bring more than 60 years of experience in the gaming industry spanning both commercial and tribal land-based casino operators, slot system and software suppliers, and online gaming operators. Our principals are thought leaders in the gaming industry and are committed to delivering maximum value to our clients. Our clients include tribal and commercial gaming enterprises, tribal and state governments, gaming regulators, gaming equipment suppliers, iGaming and social gaming companies, state lotteries, academic institutions, and research firms.

Victor-Strategies advises clients on public policy, media strategy and communications, economic development, and business diversification. We deliver unparalleled knowledge in the realms of casino gaming, interactive wagering, and emerging new gaming products. Our qualitative and quantitative research capabilities enable clients to make fact-based decisions in all crucial strategic and operational areas.

Our consultants have extensive experience with both online and land-based gaming. We have conducted numerous research studies, profiled the competitive landscape, analyzed consumer attitudes, behavior and demographics, and provided confidential advisory services to iGaming operators since 1999. Our consultants have been intimately involved in the development, rollout, and ongoing analysis of iGaming in New Jersey and have worked closely with many of the principal operators and suppliers in the state. Our consultants have also recently analyzed online gaming for the Massachusetts Lottery and the National Indian Gaming Association.

Our products include policy analysis, casino management consulting, market and customer research, proof of concept and feasibility studies, economic development and diversification strategies, and new business and new technology development. In addition, Victor-Strategies develops and presents cutting edge conferences where industry leaders can explore solutions to current issues and interact with the leading experts in their fields of business. Victor-Strategies conferences include the brands Indian Country Online, the iGaming Legislative Summit, and the California iPoker Summit. Our founder, Victor Rocha, is also the Conference Chair for the National Indian Gaming Association. Our lines of business include:

- Policy Consulting & Advisory Services;
- Gaming Consulting, Research, & Analysis;
- Interactive & Emerging Gaming Technologies Expertise; and
- Executive Level Conferences.