



FUTURE OF ILOTTERY:

ANALYZING, DEVELOPING MULTI-CHANNEL STRATEGY

Prepared for NeoPollard Interactive
March 15, 2022



200 Lakeside Drive, Suite 250
Horsham, PA 19044 USA
+1.609.926.5100
spectrumgaming.com

Executive Summary

The survival of every consumer-facing industry depends on having a significant online presence, and lotteries are no exception. The full development of a digital channel to reach consumers is no longer an option; it is a requirement to grow a lottery's revenue and expand its demographic reach.

A robust digital lottery offering – known as iLottery – can achieve core goals through a carefully crafted plan, as already evidenced in multiple jurisdictions. The experience in Michigan, New Hampshire, Virginia and Pennsylvania and other early adopters of iLottery has shown that an iLottery offering:

- Will not cannibalize retail sales
- Will reach more consumers, including younger players who have not embraced the lottery's retail offerings
- Can successfully co-exist with other forms of gaming

A. Capturing new demographics is opportunity, necessity

The lottery industry has long been concerned that its traditional customer base is aging and is not being replaced by younger demographics. Such concerns are well-founded.

A 2017 report from Reuters noted:

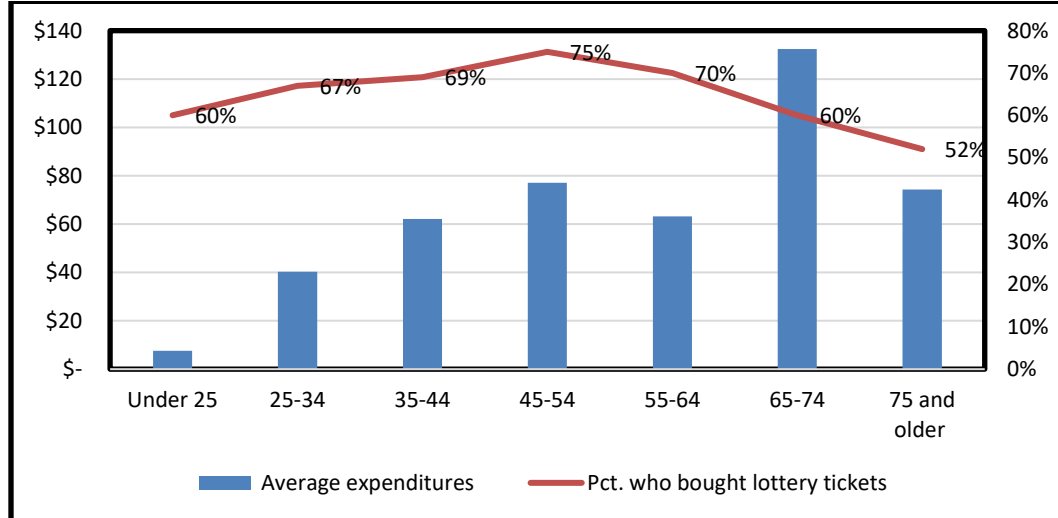
- Only a third of Americans aged 18 to 29 said they played the lottery in the past year, compared with 61% for those aged 50 to 64, according to a 2016 Gallup survey.
- The rate for millennials fell from 39% in surveys conducted in 2003 and 2007, Gallup said. For all other age groups, the likelihood of playing went up over the past decade.
- “Most millennials don’t want to wait two days to see if they won the Powerball. They consume entertainment content just much faster than consumers did 20 years ago,” said Charles McIntyre, executive director of the New Hampshire Lottery. “We’re not broke, we’re just at the inflection point where a failure to change will have a steep decline over time.”

Such concerns were also expressed by Oregon Lottery Director Barry Pack, who told the Oregon House of Representatives Revenue Committee in 2017 that lotteries cannot simply rely on their existing customer base, which is aging, and have to identify means of attracting younger players, who are “looking for skill-based games, they’re looking to play on their mobile devices. ... So, I think one of the future revenue risks is how do we stay current with the player base, and how do we reach out across broader demographics to attract a different set of players than may be playing now?”

Millennials – a generation of more than 80 million Americans born between 1982 and 1996 – made 47% of their purchases online in 2017, and that grew to 60% by 2019. As emerging generations, including millennials, continue to gravitate toward mobile and digital purchases, lotteries need to adapt. A survey conducted by the US Bureau of Labor Statistics noted that for the 12-month period ending June 2018, the average annual spend on lottery tickets was nearly \$70, but adults under 25 spent less than \$8, and for adults between 25-34, the average spend was slightly more than \$40.

While disparities in income account for some of that differential, as the following chart shows, younger adults are simply not as attracted to retail lottery.

Figure 1: US annual lottery ticket spending, percent of players by age group, 2017-2018



Source: Statista, US Bureau of Labor Statistics

The growth of iLottery has demonstrated an ability to reach younger generations. Data gleaned from the participating iLottery jurisdictions of Michigan, New Hampshire, North Carolina, Virginia, and the Canadian province of Alberta, show that, in Fiscal Year (“FY”) 2021:

- 25% of those who played digital draw-based games were 35-44 years old, an increase of 3 percentage points over FY 2016.
- 27% of those who played digital Instant games were 35-44 years old, an increase of 5 percentage points over FY 2016.

The data also showed that the average age of adults who played iLottery on mobile devices was 47. That data point makes clear that the willingness of consumers to purchase lottery tickets via a mobile device cuts across all age groups. This creates an opportunity to capture a younger demographic, while also making inroads into older age groups.

Enhancing the ability to capture a full range of age groups has motivated retailers of all stripes to create digital channels for their offerings. The goal extends beyond reaching younger consumers, and can best be described as providing consumers with a broader, more convenient range of options.

B. Working with Retailers to Achieve Common Goals

Achieving policy goals, including reaching more consumers, requires establishing clear policies and partnerships with stakeholders, most notably with retailers, who are critically important partners. Lottery retailers have expressed concerns that are both understandable and addressable. These retailers seek to ensure that they have a role in the digital future, and they have developed suggestions that are gaining consideration in various jurisdictions.

Such suggestions include:

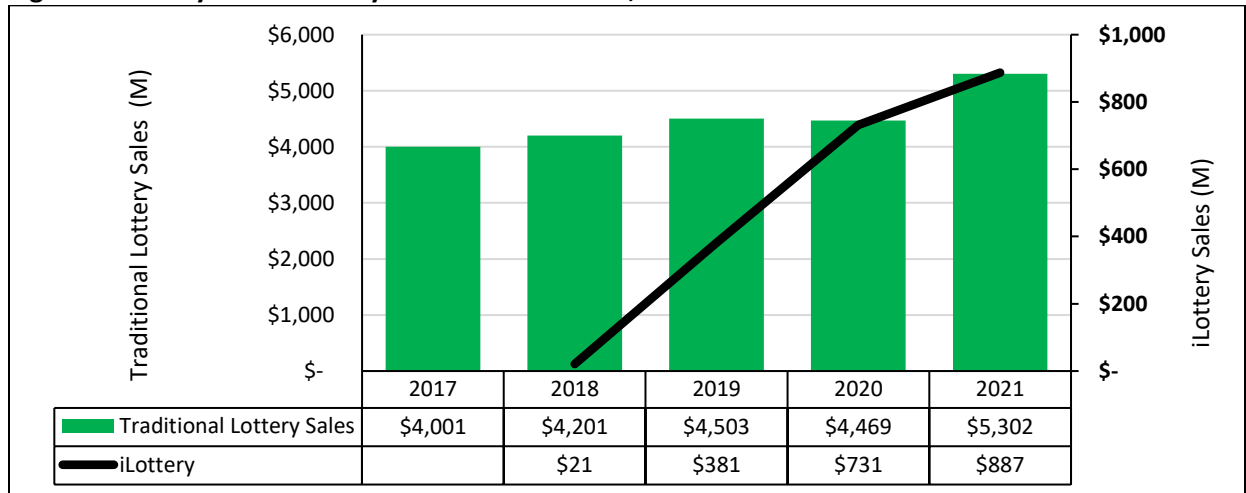
- Review of retailer commissions
- Enabling features to redeem online winnings at retailers
- Sharing of databases with retailers
- Offering retailers free advertising opportunities to lottery players within their local regions and through their affiliate programs.

Based on the experience in all states that Spectrum has evaluated for this and other studies dating back to 2010, the data clearly demonstrate that:

- Retailers will not be hurt by the advent of iLottery
- iLottery and traditional lottery can co-exist and grow

By way of example, Figure 2 below contrasts Pennsylvania retail sales and iLottery sales, showing clearly that the introduction of digital products has not cannibalized traditional lottery products.

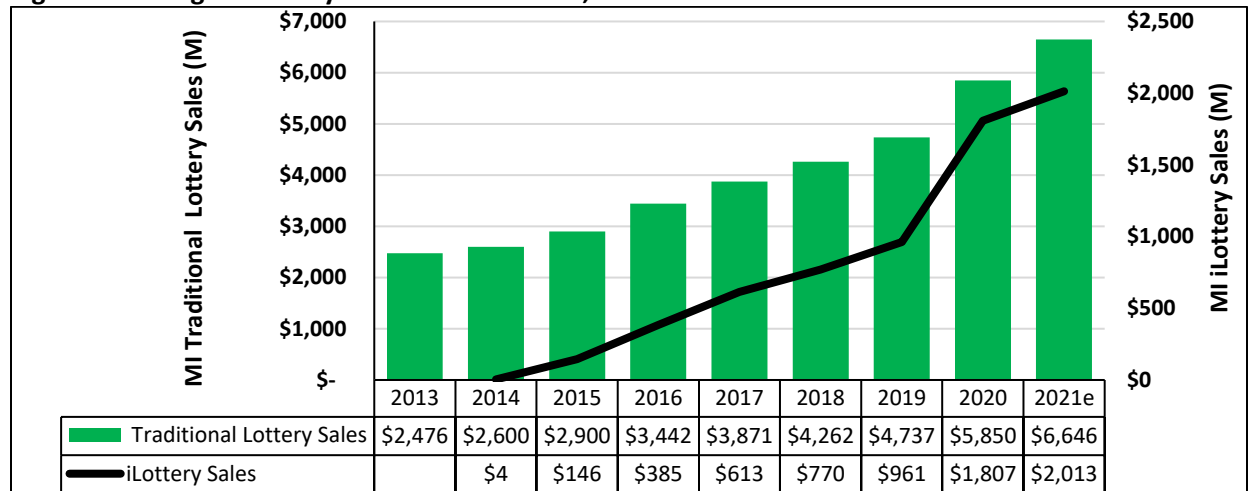
Figure 2: Pennsylvania iLottery vs. traditional retail, FY 2017-FY 2021



Source: H2 Gambling Capital

Figure 3 shows similar trends in Michigan, again demonstrating parallel growth of iLottery alongside traditional retail sales. The iLottery sales are plotted against the right axis on the graph, which highlights the 183% compound annual growth rate in the six years from 2014, and the more than doubling of sales since 2019.

Figure 3: Michigan iLottery vs. traditional retail, FY 2013-FY 2021



Source: H2 Gambling Capital

Various lottery directors and their teams are having productive discussions with their retailer networks, and they are developing promising ideas that can be shared. For example, the Pennsylvania Lottery has developed an initiative in which a retailer can earn a greater commission on in-store sales if that store increases its quarterly sales by an amount equal to or exceeding the total sales goal established for the Lottery.

As an additional example, to illustrate to the retailers that iLottery can drive players to retail, the Michigan Lottery and the Pennsylvania Lottery provided their iLottery players with coupons that could only be redeemed in stores. In a normal lottery coupon program, about 5% of coupons are typically redeemed. The redemption rate on the coupons offered online, for retail redemption only, reached 25%.

Lotteries that have experience with launching iLottery programs, including Michigan, Virginia and Pennsylvania, have developed programs that further engage the retailer in iLottery. In Michigan and Pennsylvania, the lotteries allowed retailers to sell bar-coded iLottery vouchers that could be used to play iLottery games. The cost of the voucher was \$20, and it provides the player \$25 in iLottery play. Consequently, the retailer becomes a part of iLottery by providing an additional method for a player to play the lottery online while the retailer earns its normal retailer commission for the sale of the voucher.

The data from FY 2021 in Michigan shows that retailers are participating fully, noting that the state’s retailer base earned \$370.9 million in commissions last year. That record amount was more than double the \$167.3 million in commissions earned in FY 2015. Among Michigan’s 10,000-plus retailers, the payment to retailers last year was 7.4%.

The New Hampshire Lottery adopted an innovative approach to making the retailers an integral part of the iLottery process: Upon the launch of iLottery, the lottery would hold back 5% of the net gaming revenue of iLottery sales. Then, on a quarterly basis, each retailer receives a check representing the retailer’s percentage of the 5% iLottery hold-back based upon the retailer’s total in-store sales compared to all other New Hampshire lottery retailers’ in-store sales.

In Virginia, the lottery offered a program called “Online Cash.” In this promotion, players can purchase vouchers at retail that are processed like a typical terminal-based sales, so the retailer earns its

normal sales commission. These vouchers can be used by players to redeem and/or fund their iLottery accounts. Periodically, these vouchers have promotional values added as an additional incentive (particularly during the December Holiday Season).

C. Responsible Gaming programs can adapt, respond

The growth of iLottery offers opportunities to better identify and address problem gambling. Traditional lottery products are sold anonymously, with no requirements for player identification in advance of a purchase. As anonymity is not an option with iLottery, consumer patterns become detectable and opportunities to identify and address problem gambling behavior can be implemented quickly and thoroughly.

However, the ability of iLottery to make lottery purchases more accessible makes the need for effective Responsible Gaming (“RG”) programs more pressing. Lotteries should provide a Responsible Gaming program that includes evidence-based Responsible Gaming tools.

Strategies that have been developed for Responsible Gaming include setting self-imposed deposit limits and accurately assessing gaming expenditure. The anonymity and absence of data in traditional retail lottery makes it difficult for players to accurately track their wins and losses. Mobile-based venues and player-rewards programs can provide the opportunity to better inform players about their play behavior.

Responsible Gaming training programs can help educate lottery players about healthy positive play. Lotteries also can develop school-based programs to train adolescents toward healthier internet use habits.

Researchers indicate that the internet and mobile platforms can raise new addictive gaming risks due to improved availability and accessibility. They raise the concern that smartphones are ubiquitous and therefore may accelerate “maladaptive learning behaviors” from recreational players. Therefore, they recommend using effective RG strategies to minimize harm.

Every state that has adopted iLottery has also adopted measures designed to address this issue. For example, Michigan’s Responsible Gaming program includes the following iLottery controls, as posted on its website (excerpted here):

- **Self-Exclusion** – Players may choose to take a break from Michigan Lottery’s online gaming.
- **Deposit Limits** – Players may set daily and weekly deposit limits. A default \$505 weekly limit is set at registration.
- **Age Verification** – Age and identity-verification technology is used during account registration to ensure all players are at least 18 years of age.
- **Play History** – Players can monitor the time and money they spend on Michigan Lottery’s online gaming through their personalized account histories.
- **Geolocation** – Players must be physically located in Michigan to make purchases and use some other features. Advanced technology is used to determine each player’s location.

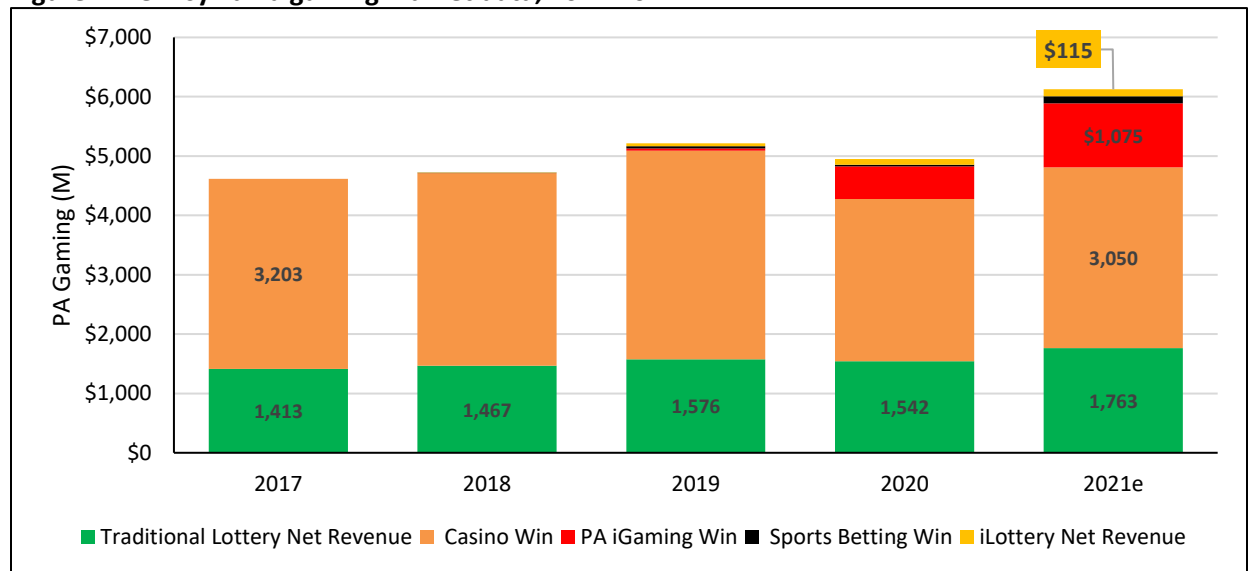
- **Security and Privacy** – The Michigan Lottery has strong mechanisms in place to maintain the security of players’ financial information and to protect their privacy.

D. Coordinating with Other Forms of Gaming

The lottery industry is not alone in expanding its offerings in the digital realm. The casino industry is simultaneously expanding into digital gaming – known as iGaming – for many of the same reasons.

While the data make it clear that iLottery and iGaming can co-exist, areas of contention and conflict have emerged, notably in the potential overlap between digital instant games and digital slot machines. Those potential conflicts can best be addressed through dialogue between the operators, as well as by policymakers who can devise lanes for their respective gaming industries, but there are no national solutions that will address these issues in all jurisdictions. These have to be addressed through detailed dialogue leading to substantive policy goals established in each gaming jurisdiction.

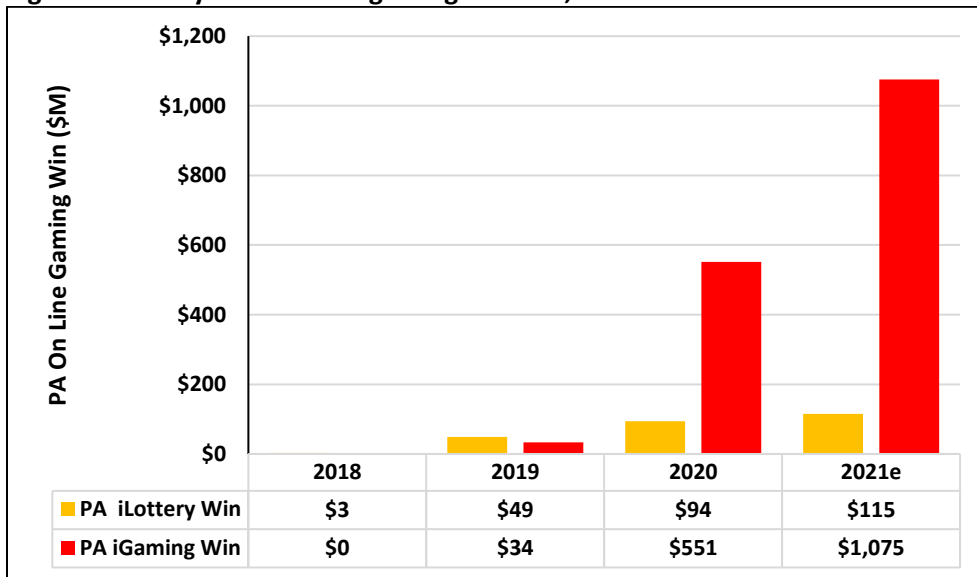
Figure 4: Pennsylvania gaming market data, 2017-2021



Source: H2 Gambling Capital

The Pennsylvania data present net revenue (revenue after prizes) for traditional lottery and other forms of gaming. As in the earlier charts, the importance lies in tracking the trends of the lines. While casino gaming has declined from 2017, we believe that is largely due to capacity restrictions during the Covid-19 pandemic. Pennsylvania authorized both iLottery and iGaming, and has been offering both for three years. Both forms have grown significantly in the state since inception as seen in the data presented in Figure 5 below.

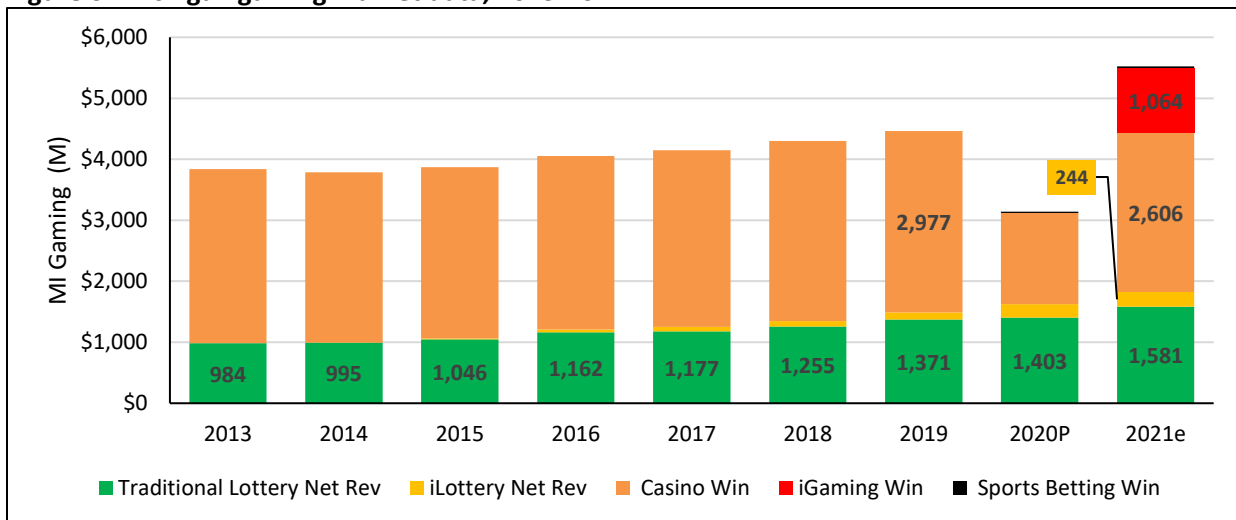
Figure 5: Pennsylvania online gaming revenue, 2018-2021



Source: H2 Gambling Capital

Michigan was an early adopter of iLottery, having started in 2014. Since the introduction of iLottery, Michigan has expanded gaming to include online casino gaming and sports betting. Neither of these introductions seems to have impacted traditional lottery, as can be seen below. Michigan began offering iGaming in January of 2021, making year-over-year comparisons impossible. However, it is notable that the growth of iLottery sales continued in 2021 even as iGaming was simultaneously being implemented.

Figure 6: Michigan gaming market data, 2013-2021



Source: H2 Gambling Capital

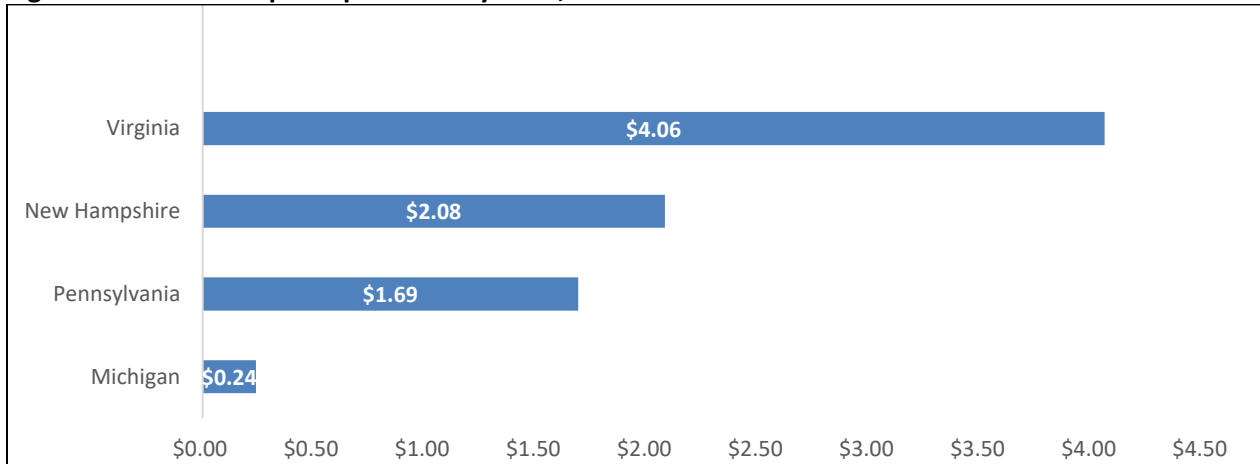
E. Rolling out iLottery: Guidance for emerging states

As consumers across the United States become more accepting of various forms of digital commerce, the acceptance of iLottery in emerging states can be expected to result in rollouts that are smooth and robust. By way of example, the chart below depicts the first month of gross sales for

Michigan, Pennsylvania, New Hampshire and Virginia on a per capita basis. Our analysis focuses on per-capita sales because this allows comparisons among states with differing populations, although we caution this is not a perfect comparison, as other factors – such as disposable income – can lead to differing results.

This comparison is significant because Michigan was an early adopter of iLottery, having launched in 2014. Notably, Michigan started with a much more limited product selection compared to the three other states. However, the initial success of the three other states as shown in Figure 7 below indicates a changing consumer acceptance of digital commerce and a growing acceptance and knowledge of iLottery products, specifically digital instant tickets.

Figure 7: First-month per capita iLottery sales, selected states



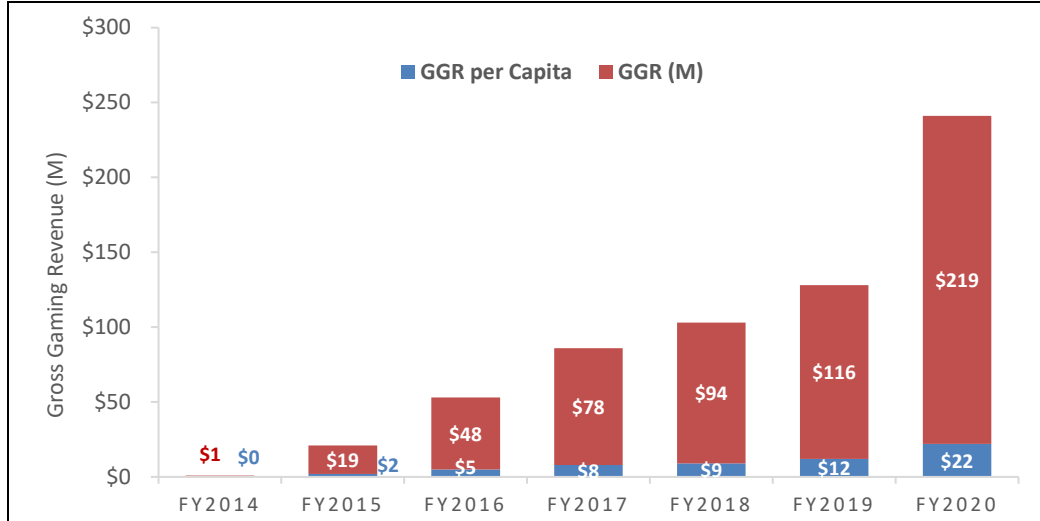
Source: NeoGames, S.A. Form F-1: Preliminary Prospectus, November 16, 2020

As a pioneering iLottery state, Michigan offers an experience that is both relevant and replicable. Because lottery markets are geographically defined and restricted, there are no first-mover advantages or second-mover disadvantages, yet there are lessons to be learned.

While Michigan started slowly with a limited iLottery offering, it managed to achieve a three-year compound annual growth rate (“CAGR”) of 34% in its first three fiscal years, which were all pre-pandemic. In FY 2020, the growth was even more dramatic, nearly doubling, in part due to pandemic-related factors such as the combined effects of casinos being closed and residents staying home more.¹

¹ “NeoGames, S.A. Form F-1: Preliminary Prospectus NeoGames S.A. November 16, 2020, at p. 89. https://www.sec.gov/Archives/edgar/data/1821349/000110465920125524/tm2029242-14_f1a.htm#tBUS.

Figure 8: Michigan Lottery digital instant revenue and per capita revenue, 2014-2020



Source: Michigan Lottery, Spectrum Gaming Group

So, while focusing on the pre-pandemic period to avoid such distortions, traditional retail lottery sales in Michigan increased at a CAGR of 7.8% from the introduction of iLottery through the last full pre-pandemic year of 2019, a rate that outpaced growth in traditional retail lottery in most states that have yet to implement iLottery.²

² Ibid., p. 78

Contents

EXECUTIVE SUMMARY	II
A. CAPTURING NEW DEMOGRAPHICS IS OPPORTUNITY, NECESSITY	II
B. WORKING WITH RETAILERS TO ACHIEVE COMMON GOALS.....	III
C. RESPONSIBLE GAMING PROGRAMS CAN ADAPT, RESPOND.....	VI
D. COORDINATING WITH OTHER FORMS OF GAMING	VII
E. ROLLING OUT ILOTTERY: GUIDANCE FOR EMERGING STATES	VIII
1. INTRODUCTION	1
A. MEETING THE DIGITAL FUTURE	1
2. ILOTTERY: MULTIPLE PATHWAYS, OPPORTUNITIES	9
3. VIEWS FROM RETAILERS	12
A. PUTTING RETAILER CONCERNS IN HISTORICAL CONTEXT.....	12
B. UNDERSTANDING LOTTERY RELATIONSHIP WITH CONVENIENCE STORES	14
1. Lottery retailers face challenges	18
2. Addressing Retailer Concerns, Growing Retail Sales	19
4. RESPONSIBLE GAMING AND ILOTTERY.....	25
A. SELF-EXCLUSION.....	26
B. BEHAVIORAL MARKERS OR PATTERNS	27
C. SETTING GAMING LIMITS (PRE-COMMITMENT)	28
D. RG SPECIFIC GAME FEATURES (WARNING MESSAGES)	28
E. RG TRAINING PROGRAMS.....	28
F. RG AND MOBILE GAMING	29
5. TRACKING ILOTTERY IN STATES, PROVINCES	30
A. UNITED STATES	30
1. Georgia.....	30
2. Illinois.....	31
3. Kentucky.....	32
4. Michigan.....	33
5. New Hampshire.....	34
6. New York.....	35
7. North Carolina.....	35
8. North Dakota.....	36
9. Pennsylvania	37
10. Rhode Island.....	38
11. Virginia	38
B. CANADA.....	39
1. Atlantic Lottery.....	40
2. British Columbia	40
3. Manitoba.....	41
4. Ontario	41
5. Quebec	42
C. ILOTTERY AND IGAMING	43
6. CONCLUSION	46
7. ABOUT THIS REPORT	49

Figures

Figure 1: US annual lottery ticket spending, percent of players by age group, 2017-2018	iii
Figure 2: Pennsylvania iLottery vs. traditional retail, FY 2017-FY 2021.....	iv
Figure 3: Michigan iLottery vs. traditional retail, FY 2013-FY 2021	v
Figure 4: Pennsylvania gaming market data, 2017-2021.....	vii
Figure 5: Pennsylvania online gaming revenue, 2018-2021	viii
Figure 6: Michigan gaming market data, 2013-2021.....	viii
Figure 7: First-month per capita iLottery sales, selected states.....	ix
Figure 8: Michigan Lottery digital instant revenue and per capita revenue, 2014-2020	x
Figure 9: Lottery industry in perspective	1
Figure 10: Average lottery and pari-mutuel expenditures by age group, 3Q 2017 through 2Q 2018	4
Figure 11: Annual lottery and pari-mutuel sales by income group, 3Q 2017 through 2Q 2018 ...	4
Figure 12: US annual lottery ticket spending, percent of players by age group, 2017-2018	5
Figure 13: Lottery play by detailed age group	6
Figure 14: NCEL iLottery sales by game, FY 2014-FY 2022.....	9
Figure 15: Demographics of participants in online vs. casino vs. sports betting.....	10
Figure 16: Share of the public who gamble online in Great Britain, 2017-2021, by age group ..	11
Figure 17: Lottery retailer commissions and bonuses.....	14
Figure 18: What c-store customers did inside store.....	16
Figure 19: Percentage of c-store customers who purchased various items.....	17
Figure 20: Michigan iLottery performance, FY 2016-FY 2019.....	21
Figure 21: Michigan Lottery sales and iLottery digital instants net win, 2013-2019.....	21
Figure 22: iLottery states, systems providers	30
Figure 23: Georgia lottery data, FY 2012-FY 2021	31
Figure 24: Illinois lottery data, FY 2011-2021	31
Figure 25: Illinois VGT locations, units, win, and win per unit, CY 2013-CY 2021.....	32
Figure 26: Kentucky lottery data, FY 2015-2021.....	33
Figure 27: Michigan lottery data, FY 2013-2021.....	33

Figure 28: Michigan gaming data, FY 2013-FY 2021	34
Figure 29: New Hampshire lottery data, FY 2018-FY 2021	34
Figure 30: North Carolina lottery data, FY 2012-FY 2021	36
Figure 31: North Dakota iLottery subscription sales, 2017-2021	36
Figure 32: Pennsylvania lottery data, FY 2017-FY 2021.....	37
Figure 33: Pennsylvania gaming market FY 2016-FY 2021	37
Figure 34: Rhode Island lottery net revenue, FY 2019-FY 2021.....	38
Figure 35: Virginia lottery sales, FY 2010-FY 2021	39
Figure 36: Studied Canadian Provinces Gaming Win, 2010-2021	40
Figure 37: Atlantic Lottery Provinces Gaming Win, 2010-2021	40
Figure 38: British Columbia gaming win, 2010-2021	41
Figure 39: Manitoba gaming win, 2010-2021.....	41
Figure 40: Ontario gaming win, 2010-2021	42
Figure 41: Quebec gaming win, 2010-2021	42
Figure 42: United States iLottery sales and iGaming win trends, 2012-2021.....	43
Figure 43: Gaming revenue by source for states with both gaming and iLottery, 2016-2019....	44
Figure 44: Per capita iLottery sales in first month after launch, selected states.....	47
Figure 45: Michigan Lottery digital instant GGR and per capita GGR, 2014-2020	48

1. Introduction

NeoPollard Interactive commissioned Spectrum Gaming Lottery Group (“Spectrum,” “we” or “our”) to produce a study to advise critical stakeholders as to the potential impact of iLottery on state policies, including – but not limited to – a focus on the impact to lottery retailers. This independent report endeavors to:

- Provide state policymakers with guidance as to the need for lotteries, as a major consumer-facing industry, to expand their delivery channels to include digital offerings.
- Examine how a well-designed iLottery system can grow revenues, gain consumer acceptance, and allow lotteries to reach a broader range of adults.

A. Meeting the Digital Future

At some point in their respective life-cycles, all consumer-facing industries will have to determine how to reach consumers through digital offerings. That time has already arrived for lotteries in North America. The lottery industry’s fiscal and economic impact makes this industry too large and too important to continue to maintain such heavy reliance on retail-only sales.

This evolution is critical, particularly if lotteries seek to retain their popularity and economic value. Recent Gallup polls have found that playing the lottery is the most popular form of gambling, showing that approximately half of all respondents have purchased a lottery ticket in the previous year.³

So, how big has the lottery industry become and how important to a state is the additional revenue generated by its lottery? Figure 9 below illustrates the total economic weight of the US lottery industry:

Figure 9: Lottery industry in perspective

US Lottery Sales, FY 2021	\$94.9 billion
Prizes, FY 2021	\$57.0 billion
Transfers to Beneficiaries, FY 2021	\$26.0 billion
Retailer Commissions and Bonuses, FY 2021	\$4.3 billion
Number of Lottery Retailers	185,000

Source: All info estimated on most recent and complete data by North American Association of State and Provincial Lotteries (NASPL) and LaFleur’s (TLF Publications).

Moreover, the lottery industry does not show any immediate sign of slowing down.

Lottery sales help states recognize revenues that are not raised through taxes and bond sales.⁴ Most states designate lottery proceeds to one or more designated causes, such as education, senior

³ Amelia Josephson, “The Economics of the Lottery,” *Smart Asset*, March 18, 2021. <https://smartasset.com/taxes/the-economics-of-the-lottery>

⁴ Ibid.

services, natural resources or the environment.⁵ Regardless of how lottery funds are earmarked, the fiscal impact is clearly material. Notably, in some states lottery proceeds can equal or exceed proceeds from corporate income taxes.⁶ States also recognize tax revenues from the retailers on the amount of commissions and bonuses earned, along with tax revenues on the players' winnings.

Irrespective of their size, few industries can maintain or sustain a business model that ignores massive shifts in consumer sentiment or buying preferences. Those preferences are clear, unassailable and unyielding. In pre-pandemic 2019, the last full year for which data are available, US consumers spent \$578.5 billion on online purchases, a 14.3% increase over 2018.⁷ In an economy weighted down by a pandemic, the e-commerce spending trends became even more pronounced. E-commerce sales for the second quarter of 2021, adjusted for seasonal variation, totaled \$222.5 billion, an increase of 3.3% over the first quarter.⁸

For millennials – a generation of more than 80 million Americans born between 1982 and 1996 – the trend toward e-commerce is even more pronounced. In 2017, millennials made 47% of their purchases online, and that grew to 60% by 2019.⁹

That growing preference, however, does not in any sense portend the doom of in-store sales. In 2018, *Forbes* noted:

The facts are clear. In most major markets, physical retail continues to grow, albeit at a far slower rate than online shopping. Lots of stores continue to be opened, including by quite a few brands that are hardly new or “digital-first” (think Dollar General or Aldi). And it is true that physical stores account for roughly 90 percent of all retail sales (at least in North America). Five years from now, by most estimates, that number is still likely to be well over 80 percent.¹⁰

Lotteries are not immune to such trends, and those who fear for the future of in-store sales can take heart in the clear understanding that physical stores will continue to represent the overwhelming majority of sales for the foreseeable future.

⁵ Olivia Berlin and Jackson Brainard, “Keeping State Lottery Revenues Alive,” National Conference of State Legislatures, September 2017. <https://www.ncsl.org/research/fiscal-policy/keeping-state-lottery-revenue-alive.aspx#:~:text=On%20average%2C%20about%201%20percent%20of%20state%20revenue,projects%2C%20like%20schools%2C%20senior%20services%20or%20environmental%20protection>

⁶ Ibid.

⁷ “2019 E-Stats Report: Measuring the Electronic Economy,” US Census Bureau, August 5, 2021 <https://www.census.gov/newsroom/press-releases/2021/e-estats-report-electronic-economy.html>

⁸ “Quarterly Retail E-Commerce Sales, 2nd Quarter 2021,” US Census Bureau, August 19, 2021 https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf

⁹ “The Millennial Shopping Report,” CouponFollow, March 19, 2019. <https://couponfollow.com/research/millennial-shopping-report>

¹⁰ Steve Dennis, “E-Commerce May be Only 10% of Retail, but That Doesn’t Tell the Whole Story,” *Forbes*, April 9, 2018. <https://www.forbes.com/sites/stevendennis/2018/04/09/e-commerce-fake-news-the-only-10-fallacy/?sh=59f5b0ec39b4>

By way of example, convenience stores – a longstanding pillar of the lottery industry – offer some encouraging data of their own, including statistics that were reported during the Covid-19 pandemic.

While many retail segments lost in-store customers during the pandemic, convenience-store inside sales (not counting fuel revenue) increased 1.5% in 2020 to a record \$255.6 billion, and the average purchase rose by 18.4% to \$7.34, although total transactions fell by 13.9%.¹¹

To put that data in context, however, we note that, during the pandemic and the many stay-at-home orders that were enacted across the country, convenience stores were always deemed by the respective authorities to be “essential services” and, as such, were allowed to remain open.¹²

While the growth of in-store revenues indicates a positive outlook for convenience stores, the opportunities afforded by online shopping cannot be ignored. Indeed, another long-term trend must also be considered: Online offerings reach a broader demographic, including consumers who are often younger, may not be familiar with retail offerings or who simply find such in-store purchases to be inconvenient.¹³

Enhancing the ability to capture a full range of age groups has motivated retailers of all stripes to create digital channels for their offerings. The goal extends beyond reaching younger consumers, and can best be described as providing consumers with a broader, more convenient range of options.

The willingness of consumers to purchase lottery tickets via a mobile device cuts across all age groups. This creates an opportunity to capture a younger demographic, while also making inroads into older age groups.

Enhancing the ability to capture a full range of age groups has motivated retailers of all stripes to create digital channels for their offerings. The goal extends beyond reaching younger consumers, and can best be described as providing consumers with a broader, more convenient range of options.

The following tables show average US spending on lottery sales, based on a survey conducted by the US Bureau of Labor Statistics, for the 12-month period ending June 2018. The survey notes how much consumers spent on such purchases, and not the amount wagered on individual tickets and pari-mutuel bets. Such information has always been unknown for the retail purchase due to anonymity of the transaction. While the US Bureau of Labor Statistics (“BLS”) combines lottery and pari-mutuel expenditures, the survey makes clear that lottery accounts for the majority of those purchases.¹⁴

¹¹ “Convenience Stores Saw In-Store Sales Growth During Tumultuous 2020,” National Association of Convenience Stores, April 14, 2021 https://www.convenience.org/Media/Daily/2021/Apr/14/1-C-Stores-Saw-In-Store-Sales-Growth-2020_Research

¹² “Homeland Security Recognizes C-Stores as Essential Businesses,” CSNews, March 20, 2020 <https://www.csnews.com/homeland-security-recognizes-c-stores-essential-businesses>

¹³ Paul Skeldon, “Gen Z and Millennial shoppers have shifted online, and the move is permanent for many,” *Internet Retailing*, December 16, 2020 <https://internetretailing.net/customer/customer/gen-z-and-millennial-shoppers-have-shifted-online-and-the-move-is-permanent-for-many--22461>

¹⁴ “How Much Money do Americans Spend on Lottery Tickets?” US Bureau of Labor Statistics, August 29, 2019. <https://www.bls.gov/opub/ted/2019/how-much-money-do-americans-spend-on-lottery-tickets.htm>

The following table shows average expenditures by age groups.

Figure 10: Average lottery and pari-mutuel expenditures by age group, 3Q 2017 through 2Q 2018

Age Group	Average expenditures
All ages	\$69.52
Under 25	\$7.55
25-34	\$40.32
35-44	\$62.08
45-54	\$77.04
55-64	\$63.20
65-74	\$132.43
75 and older	\$74.29

Source: US Bureau of Labor Statistics

According to a 2017 Gallup survey, 49 percent of US adults reported buying a lottery ticket in the last year. About 56 percent of people earning between \$36,000 and \$89,999 said they had bought a ticket in the past year. That compared to 40 percent of people making less than \$36,000 and 53 percent of people making \$90,000 or more.¹⁵

The next table shows lottery expenditures by income grouping.

Figure 11: Annual lottery and pari-mutuel sales by income group, 3Q 2017 through 2Q 2018

Income group	Average expenditures
All households	\$69.52
Lowest 20%	\$32.94
Second 20%	\$81.98
Third 20%	\$64.55
Fourth 20%	\$94.72
Highest 20%	\$73.37

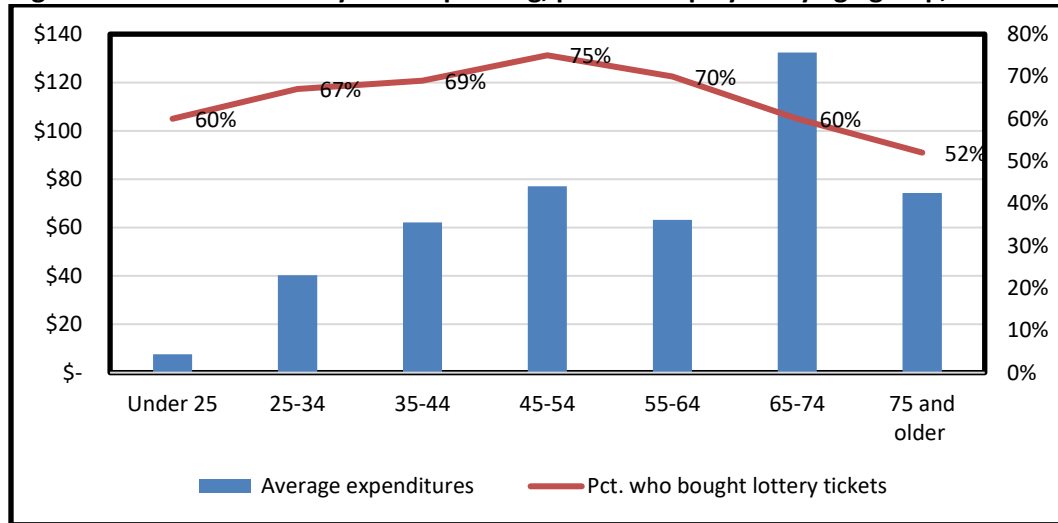
Source: US Bureau of Labor Statistics

The following chart combines the expenditures and the percentage of adults in each age group who played the lottery within the most recent 12-month period, relying on a 2018 survey by Statista.¹⁶

¹⁵ Chris Isidore, "Who is Buying Powerball and Mega Millions Tickets?" CNN, January 6, 2018. <https://money.cnn.com/2018/01/06/news/powerball-mega-millions-who-buys/index.html>

¹⁶ "Lottery Play in the US by Age, 2018," June 25, 2021. <https://www.statista.com/statistics/1108791/lottery-play-age/>

Figure 12: US annual lottery ticket spending, percent of players by age group, 2017-2018



Source: Statista, BLS

The combination of those two surveys illustrates both the level of lottery play, and the opportunities for future growth, noting that while only 25 percent of adults in the 45-to-54 group have not played the lottery within the past year, that percentage of non-players increases to 33% and 40% for the 25-to-34 group and the under-25 group, respectively.

The following chart, based on a 2011 survey, shows the level of lottery play in detail, and the data clearly shows increased lottery play among the older age groups.¹⁷

¹⁷ Barnes, Welte, Tidwell, Hoffman, "Gambling on the Lottery: Sociodemographic Correlates Across the Lifespan," Journal of Gambling Studies, December 27, 2011. <https://link.springer.com/article/10.1007%2Fs10899-010-9228-7>

Figure 13: Lottery play by detailed age group

Sociodemographic Group		Percent Who Gambled on Lottery (past year)	Mean Number of Days Gambled on Lottery (past year)
Total Sample		49%	14.9
Gender	Male	50%	18.3
	Female	48%	11.7
Age	18-19	49%	9.6
	20-21	48%	13.6
	22-29	70%	16.2
	30-39	71%	24.8
	40-49	69%	25.7
	50-59	64%	26.6
	60-69	67%	26.4
70 +	45%	18.5	

Source: US National Library of Medicine, National Institutes of Health

Younger groups are likely to have lower income levels, but a more realistic explanation is that the individuals in the two youngest age categories are only playing the national jackpot games when the jackpot is extremely high. The number of times these two age groups play is not much less than the other age groups, yet they are spending the least amount when they do play. It is unlikely, however, that having less discretionary income is the main reason. Notably, a Next Gen Personal Finance report from November 2021 states that Americans spent \$56.9 billion on video games in 2020.¹⁸

In a 2021 survey, Statista discovered that the 18-to-34 age group represented 38% of video gamers, followed by the 35-to-44 age group, which represented 14% of video gamers. With that in mind, the 18-to-34 age group would certainly appear to have sufficient discretionary income to play lottery games, if the games had some of the features of video games.¹⁹

This is one area where iLottery can attract a younger demographic, particularly through the e-instant games, which offer a different playing experience than the retail instant game. The e-instant game contains different playstyles, graphics, bonus rounds, partial wins within the game, perceived skill, and various price points than the retail product. Use of these features can bring the e-instant games closer to the video game experience. That illustrates how iLottery, especially through the e-instant category, could be instrumental in reaching a new generation of lottery players.

While the traditional retail lottery, which allows players to purchase tickets anonymously, relies on surveys, iLottery tracks the age of players with precision, as all players must register their dates of

¹⁸ Mason Butts, “Question of the Day: How much money did Americans spend on video games in 2020?” *Next Gen Personal Finance*, Nov 10, 2021. <https://www.ngpf.org/blog/question-of-the-day/question-of-the-day-how-much-money-did-americans-spend-on-video-games-in-2020/>

¹⁹ J. Clement, “Distribution of video gamers in the United States in 2021, by age group,” *Statista*, Aug 20, 2021. <https://www.statista.com/statistics/189582/age-of-us-video-game-players/>

birth. With that in mind, the data on iLottery ages should be considered a census – i.e., they track virtually all players.

Looking at FY 2021 data compiled by NeoPollard Interactive, which would constitute a census of iLottery play in the participating jurisdictions of Michigan, New Hampshire, North Carolina, Virginia and the Canadian province of Alberta, we note that:

- 25% of those who played digital draw-based games were 35-44 years old, an increase of 3% over FY 2016.
- 27% of those who played digital Instant games were 35-44 years old, an increase of 5% over FY 2016.
- The average age of players for draw-based games played on mobile apps was 50.5.
- The average of players for e-instant games played on mobile apps was 47.²⁰

Enhancing the ability to capture a full range of age groups has motivated retailers of all stripes to create digital channels for their offerings. The goal extends beyond reaching younger consumers, and can best be described as providing consumers with a broader, more convenient range of options.

With that in mind, the challenge for the lottery industry in North America is clear:

- To remain relevant for consumers
- To reach consumers through their preferred channels
- To grow revenue through an expanded demographic reach
- To be aware of, and sensitive to, the concerns of all lottery stakeholders

That final point represents a particularly critical challenge. A broad range of stakeholders have an interest in the future of lotteries, ranging from retailers to lottery players to the beneficiaries of the causes that lottery revenues support. With that in mind, this report will state a necessary principle: Those who have a stake in the future of the lottery can best help shape that future by recognizing the larger trends that are both relevant and inexorable.

Harold Mays, a veteran lottery executive who serves as Director of the Illinois Lottery – which was the first US lottery to offer single-ticket iLottery sales – put it succinctly: “Every state is different and brings a different set of concerns, but there are things that are common, that lottery is an industry. Either we can continue to develop and expand, or we won’t.”²¹

Expanding the demographic reach of lottery products will also serve to advance critical policy goals, such as ensuring that lotteries do not prey on those who can least afford it. This longstanding criticism of lotteries is exemplified in a 2015 article in *The Atlantic*:

A political cynic might say lotteries are the perfect public policy: A tax disguised as a game without an organized lobby to oppose it. Corporate income taxes punish corporations, and companies respond with lobbyists. Personal income taxes and estate taxes hurt the rich, and rich families fund elections, so no need

²⁰ Age Analysis Summary, NeoPollard Interactive, provided by email, January 4, 2022.

²¹ Interview with Harold Mays, December 23, 2021.

to elaborate on that problem. But lotteries disproportionately affect the poor, who vote at lower rates, donate less to campaign funds, and have inconstant representation on K Street and its equivalents in the states.²²

Lotteries and their critics have long been involved in providing dueling data that show whether lotteries are – or are not – disproportionately popular with lower-income groups. Irrespective of whether lotteries or their critics are on the right side of these policy debates, the core issue for purposes of this study is that lotteries can best advance policy goals by expanding the ability of lotteries to reach a broader demographic base.

A 2012 Spectrum report for the Massachusetts State Lottery on the prospect of a digital lottery noted:

The overarching finding that is at the heart of our research can be summed up thusly: The status quo is not a viable option. This is true, regardless of the equally undeniable finding that many stakeholders have a vested interest in the status quo, and an understandable fear of the unknown consequences of online wagering. The Lottery has historically operated under a business-to-business model (“B2B”), and online wagering is, by definition, a business-to-consumer (“B2C”) model. By any measure, this will alter the historic and successful relationship, and retailers fear that their supplier will become their competitor. Still, we must note that the lottery population is aging, and coming generations of adults cannot necessarily be expected to adopt the same spending habits of their forebears, and this is particularly true as new technologies are quickly adopted and just as quickly replace previous technologies.²³

While the Massachusetts Lottery elected at the time not to pursue an iLottery offering, the points made then remain valid. As this report will make clear, the macro trend toward digital offerings will not translate into automatic success for iLottery. The offerings must be sufficiently compelling to fully capture the opportunities inherent in these trends, and they must endeavor to take into account the interests, hopes and concerns of a full range of stakeholders.

As Harold Mays of Illinois put it: “It’s all in how you sell and develop the messaging around it.”²⁴

²² Derek Thompson, “Lotteries: America’s \$70 billion Shame,” *The Atlantic*, May 11, 2015.

<https://www.theatlantic.com/business/archive/2015/05/lotteries-americas-70-billion-shame/392870/>

²³ “Facing the Lottery’s Future: Implications and Strategies Regarding Internet Sales,” Spectrum Gaming Group, December 4, 2012.

<https://assets.ctfassets.net/45roy5e8ztf/30gMZeRNnHpxUX2349bM1M/14ea74ce4cfbc157231d36dded9c7b17/SpectrumGamingGroupFinalReport12-4-12Ammended.pdf>

²⁴ Mays interview.

2. iLottery: Multiple Pathways, Opportunities

Lotteries hold a distinct advantage over most other industries in their ability to study and adopt emerging opportunities for expansion: Because lotteries in North America are agencies of their respective state and provincial governments, they do not do business beyond their respective borders, and thus do not compete against each other. This creates an opportunity to learn what works and what doesn't work, and to adapt. Different circumstances mean that lotteries do not need to mimic each other, but they can learn from each other.

The iLottery offering that is most common and least controversial – offering draw games online – can move the needle slightly. For example, the North Carolina Education Lottery (“NCEL”), which has been offering draw games since 2013, has found that the iLottery player is approximately two years younger than the retail player, and while that demographic differential is slight, the revenue numbers are more dramatic.

When NCEL first offered a subscription model, it was viewed by players as more of a convenience. Since 2017, when it began offering same-day, single-draw games, sales have risen noticeably. Single ticket sales began in FY 2018, then converted to the NeoPollard Interactive Platform in late October 2019 (FY 2020).

As shown below, the growth trend has been dramatic since 2019, when NCEL began the partnership with NeoPollard Interactive that included significant marketing efforts; annual online sales increased to approximately \$65 million in FY 2021, and as of this writing, digital sales are on track to generate between \$82 million and \$85 million in the current fiscal year.²⁵

Figure 14: NCEL iLottery sales by game, FY 2014-FY 2022

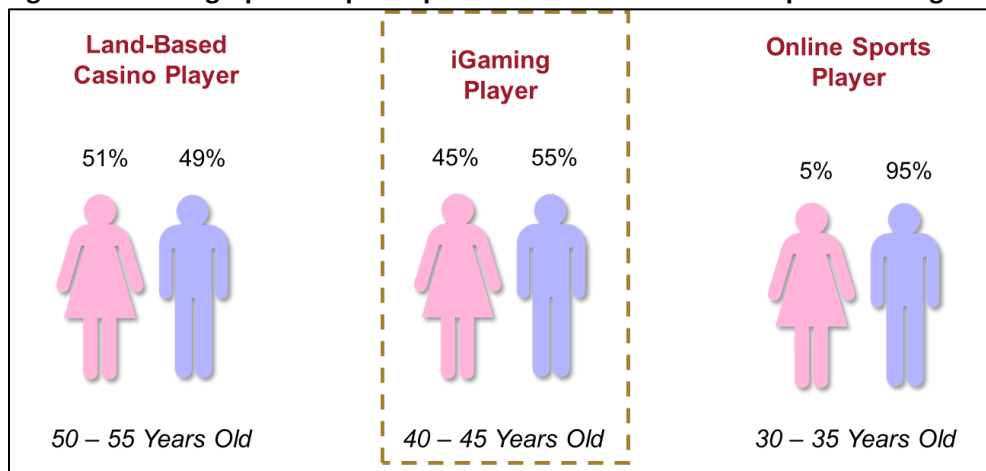
Fiscal Year	Cash 5	Powerball	Mega Millions	Lucky for Life	Total
2014	\$223,208	\$228,655	\$163,388		\$615,251
2015	\$462,391	\$507,075	\$332,203		\$1,301,669
2016	\$600,962	\$732,003	\$405,740	\$195,470	\$1,934,175
2017	\$1,018,324	\$1,127,358	\$559,686	\$527,930	\$3,233,298
2018	\$1,868,174	\$2,375,657	\$1,630,346	\$975,760	\$6,849,937
2019	\$3,615,436	\$4,489,730	\$4,060,004	\$1,612,832	\$13,778,002
2020	\$7,891,511	\$7,182,282	\$7,028,332	\$3,079,234	\$25,181,359
2021	\$17,554,987	\$20,651,664	\$19,901,146	\$6,943,164	\$65,050,961
2022 YTD	\$8,082,228	\$20,041,303	\$9,172,145	\$7,226,840	\$44,522,516
Weekly Average					
2021	\$337,596	\$397,147	\$382,714	\$133,522	\$1,250,980
2022 YTD	\$278,698	\$691,079	\$316,281	\$249,201	\$1,535,259

Source: North Carolina Education Lottery

²⁵ Interview with NCEL Executive Director Mark Michalko and Deputy Executive Director of Product Development and Digital Gaming Randy Spielman, January 6, 2022.

The casino industry has also produced data that make clear the demographic opportunities presented by digital forms of gaming. Golden Nugget Online Gaming President Thomas Winter presented the following graphic in 2020:

Figure 15: Demographics of participants in online vs. casino vs. sports betting



Source: Thomas Winter, Golden Nugget Online Gaming

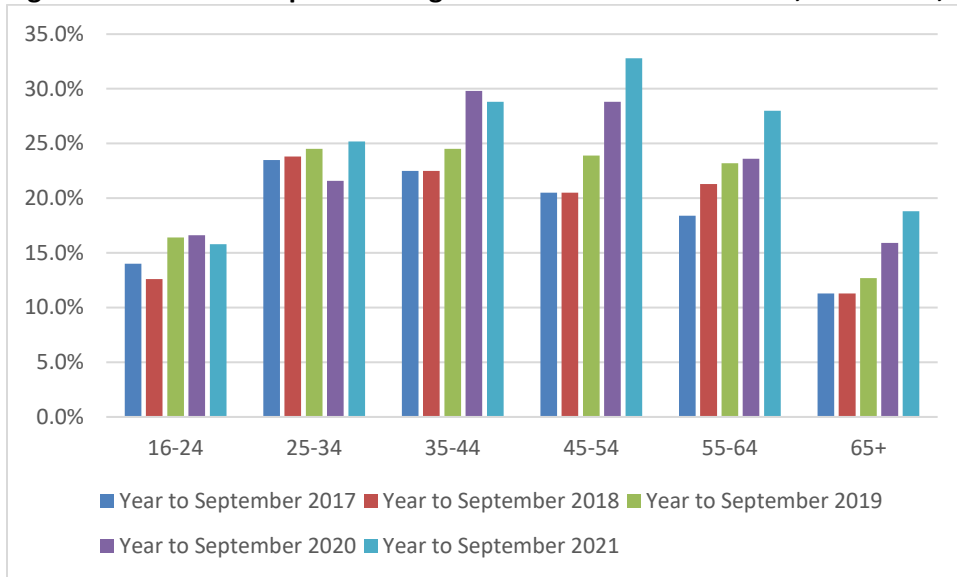
Such demographic differences demonstrate that the quest for a new demographic is quite warranted. Considering the potential overlap between iLottery and iGaming, this shows that the digital player can be expected to be younger than traditional lottery players as well.

In Great Britain, which has a longer history of digital gaming, the data show that all age groups participate in iGaming, and that participation has generally grown, although the sweet spot tends to be adults between ages 45 to 54. According to the survey firm Statista, as of September 2021, 32.8% of respondents in Great Britain in that demographic said they participated in some form of online gambling in the four weeks prior to being surveyed. The age group that participated the least during this period was those between 16 and 24.²⁶

As Figure 16 below shows, the oldest and youngest groups are generally the least likely to participate in digital gaming, although the 65+ demographic has grown significantly, particularly during the pandemic. Such data do offer salutary implications for the future of iLottery as a strategy for both growth and sustainability, allowing the lottery to expand while maintaining its existing demographic base.

²⁶ “Share of the Public Who Gamble Online in Great Britain from 2017 to 2021 by Age Group,” Statista <https://www.statista.com/statistics/543361/online-gambling-participation-united-kingdom-uk/> (Accessed December 9, 2021)

Figure 16: Share of the public who gamble online in Great Britain, 2017-2021, by age group



Source: Statista

3. Views from Retailers

The vast networks of lottery retailers across the United States offer varying levels of concern regarding their role(s) in the coming age of iLottery. The concerns range from cannibalization to a sense that lotteries may be leaving retailers behind as iLottery takes hold. The initial concerns were expressed by Joe Rossi, president of the 7-Eleven Franchise Owners Association of Chicagoland, who told a radio station one month prior to the launch of iLottery in Illinois in 2012: “At the end of the day we could possibly see this being a 7,000-job decrease in the state of Illinois.” Rossi estimated in another interview that lottery sales accounted for 30% of the business at 7-Elevens in the state, noting that lottery players spent an average of \$5 in goods on top of their tickets. In the interview, Rossi asked the Lottery to help protect convenience stores (“c-stores”).²⁷

At the same time, retailers also voice the optimistic view that they can play a role in a digital future, as long as lotteries keep their interests in mind.

Across this range of views, retailers are generally unanimous in their beliefs that:

- Retailers serve as the spine of the current lottery business model – the critical link between the lotteries and their consumers
- The success of lotteries, to date, is built on a partnership with retailers, with both partners striving toward the common goal of increased sales
- Lottery sales are an essential element of any retailer’s business, with clear ties toward the sale of other merchandise, thus magnifying the benefits of lottery commissions

A. Putting Retailer Concerns in Historical Context

The near-universal concern by lottery retailers as to how iLottery will impact their bottom lines is both understandable and welcome. The expression of such concerns will help ensure that lotteries will take reasonable steps to ensure that retailers remain as key stakeholders, and that they will retain a role in the digital future.

These concerns are understandable because they are hardly unique. The unstoppable progress of digital commerce had similarly created concerns among other forms of gaming, most notably the land-based casino industry.

The early concerns that had been expressed by casino operators are extraordinarily similar to the concerns now being expressed by lottery retailers: A new technology is creating new competition – and threatening a proven business model.

In 2002, Spectrum developed a response to that concern, known as the Spectrum Internet Gaming Heuristic Theorem (“SIGHT”), which accurately forecast how the relationship between retail and iGaming

²⁷ “Illinois Online Lottery Could Cost Jobs,” *NACS Daily*, February 20, 2012.
<https://www.convenience.org/Archive/News/NACSDailyArticles/2012/ND0220122>

would evolve from rejection to acceptance to embrace, and that relationship has precisely followed that projected continuum.²⁸

The development of that projection required an examination as to how other, similar industries have reacted to landscape-shifting technologies, such as the Internet. Indeed, history has shown that many industries initially react to new technologies as a threat. Rather than adapt the technology to create a new business model, existing industries often begin by affirmatively rejecting the technology. This rejection evolves into acceptance and ultimately into an embrace.

SIGHT is grounded in a long-term view of history, initially noting by way of example that the tension between land-based gaming and Internet gaming was not the first time that private industries in the entertainment field have wrestled with the challenges created by new technologies. In the late 1920s and early 1930s, professional baseball — then in its heyday as the national pastime — was faced with the new technology of radio, which was viewed as a threat to the game’s primary source of revenue: ticket sales.

In their book, “Baseball,” authors Geoffrey C. Ward and Ken Burns quote pioneer broadcaster Red Barber:

When radio came along and began to broadcast some baseball games, some of the entrenched conservative owners said, “Wait a minute. Why give away something that you’re trying to sell for your living, to try and keep your enterprise afloat? And especially on days of threatening weather when people would say, ‘Well, it looks like it may rain. I’ll just listen to the radio. I won’t go.’” They did not realize at the time the beneficial effect of radio, that it would be making families of fans.²⁹

It is no coincidence that baseball’s greatest years of attendance — when top teams could draw 3 million, 4 million or more fans a season — happened long after the advent of radio and television. Those potential threats ultimately generated new interest, which laid the groundwork that encouraged that live attendance.

So, past has been proven to be prologue when some existing industries are confronted by world-changing technologies such as radio and the Internet. But will that same pattern – rejection to acceptance to embrace – follow in the relationship between lottery retailers and iLottery?

To some degree, the same pattern that emerged in the relationship between retail casinos and iGaming is emerging in the lottery world in a similar fashion.

When Spectrum first studied the potential of iLottery in 2010, rejection by lottery retailers was fairly universal. Since then, more states are recognizing the opportunities afforded by iLottery, and in doing so, are demonstrating that retailers are not adversely affected by this new form of commerce with lottery players, thus the movement from rejection to acceptance by retailers is underway.

²⁸ “Online Gaming from Land-Based Perspective: Observing 15th Anniversary of SIGHT,” Spectrum Gaming Group, June 2017. <https://spectrumgaming.com/wp-content/uploads/2017/12/spectrum-internet-gaming-heuristic-theorem-white-paper-june-2017.pdf>

²⁹ “Baseball,” by Geoffrey C. Ward and Ken Burns, Alfred A. Knopf Publishers, 1994, p. 236.

The movement from acceptance to embrace, however, will require more than simply an understanding that retailers will not be adversely impacted by iLottery. It will require creativity and effort by lotteries to work with their retailers to help them turn iLottery into what iGaming has done for casinos and what broadcasting did for professional sports: a vehicle that can help attract new demographics and create new revenue streams.

The first step in that process is to view the lottery from the retailers’ perspective.

B. Understanding Lottery Relationship with Convenience Stores

Convenience stores have historically served as the most common form of lottery retailers. C-store operators indicate that the net margin to the c-store on the sale of lottery tickets is one of the smallest of all items that the c-store offers, second only to the sale of gasoline, which is estimated to be 5%.³⁰ This comports with the estimates provided by Sheetz as to its range of margins.

The range of the sales commission for the sale of lottery tickets varies by state but typically ranges between 5% and 7%. In addition to sales commissions, most states also offer a winning-ticket bonus of prizes exceeding certain amounts. A breakdown of sales commissions and winning ticket bonuses for each state lottery is shown below.

Figure 17: Lottery retailer commissions and bonuses

State	Commission on Ticket Sales	Winning Ticket Bonuses
Arizona	6.5% on all sales	\$50,000 on jackpot ticket
Arkansas	5% base commission	1% of prize; max bonus \$50,000
California	4.5 – 6%	½ of 1% of prize; max bonus \$ 1 million
Colorado	6% on all sales	\$50,000 on jackpot ticket
Connecticut	5% on every \$1 in lottery sales	1% of prize
Delaware	5% on all games allowed by license	\$10,000 on jackpot ticket
Florida	5% on all lottery sales	\$20,000 on jackpot ticket
Georgia	6% on all sales	\$50,000 on jackpot ticket
Idaho	5% on all sales	\$20,000 on jackpot ticket
Illinois	5% on draw games and instant tickets	1% of prize
Indiana	6% on draw and scratch-off sales	1% of prize; plus, extra bonuses
Iowa	5.5% on ticket sales	\$10,000 on jackpot ticket
Kansas	5% selling commission	\$10,000 on jackpot ticket
Kentucky	Based on sales goals/performance	Based on sales goals/performance
Louisiana	5% on every ticket sale	Min \$25,000 or 1% of LA’s contribution
Maine	7% on instant tickets	Up to \$50,000 on jackpot ticket
Maryland	5.5% on ticket sales	1/10th of 1% of jackpot ticket
Massachusetts	5% on sales	1% on prizes claimed
Michigan	6% on ticket sales	\$50,000 bonus commission for jackpot
Minnesota	5.5% on ticket sales	1% bonus
Mississippi	6% on ticket sales	Various bonuses for high tier winning
Missouri	5 cents for every \$1 sold	\$50,000 on jackpot ticket
Montana	5% sales commission	None (quarterly additional commission)
Nebraska	5.5% on ticket sales	1% on jackpot ticket up to \$50,000

³⁰ “Improve Your Lottery Sales with C-Store Management,” Success Systems 2021. <https://success-systems.com/lottery-sales-c-store-management/>

State	Commission on Ticket Sales	Winning Ticket Bonuses
New Hampshire	5% sales commission	1% on NH games only
New Jersey	5% on sales	\$30,000 on jackpot ticket
New Mexico	6% on each ticket sold	\$50,000 on a jackpot ticket
New York	6% with no cap	None
North Carolina	7% sales commission	\$50,000 on a jackpot ticket
North Dakota	5% commission	None
Ohio	5.5% on every sale	Up to 1.5% of jackpot ticket
Oklahoma	6% sales commission	Various bonuses
Oregon	5-10%	1% of prize
Pennsylvania	5% commission rate	Various bonuses
Rhode Island	5-8%	1% of prize
South Carolina	7% sales commission	Up to \$50,000 (cap)
South Dakota	5% on all sales	Various bonuses for high tier winning
Tennessee	6.5% of sales	\$25,000 on a jackpot ticket
Texas	5% commission on all sales	1% of jackpot; \$1 million cap
Vermont	5.75% sales commission	1% of jackpot; \$30,000 cap
Virginia	5% on all sales	1% of prize
Washington	5% commission	Various bonuses
West Virginia	7% commission	1% of jackpot; \$100,000 cap
Wisconsin	5.5-6.25%	2% of jackpot; \$100,000 cap

Source: Playport Gaming Systems, LLC. August 5, 2019.

In late 2019, Playport Gaming Systems estimated that on average, a c-store earns approximately \$15,000 per year in commissions and bonuses for selling lottery tickets.³¹

Many variables can determine the actual yearly return a particular c-store could recognize on lottery sales. These variables include, but are not limited to, customer traffic, which can vary considerably between rural and urban locations, the number of mega-jackpots during any given year, the total number of different instant ticket games offered, the method of instant ticket display, and the overall commitment of the c-store owner and employees to selling lottery tickets, including always asking the customer if they want any lottery tickets.

Under any circumstance, however, it is clear that, to some extent, selling lottery tickets can drive additional foot traffic into the c-store, which leads to additional sales of non-lottery items. The importance of lottery to the c-store business model has long prompted concerns dating back several years.

The National Association of Convenience Stores (“NACS”), the industry trade group, and its state associations have historically had significant influence in decisions affecting lotteries. It is not surprising that NACS and the state retailer associations feel strongly about the importance of lottery sales for their member stores.

The 2020 NACS Consumer Fuels Survey found that the previous decade saw a steady climb of more and more people filling up at retailer gas stations and then going inside the adjacent c-store. In fact, for the first time in the history of the NACS’s surveys, the majority of drivers who bought gas also went

³¹ “Do Stores Make Money Selling Lottery Tickets – How Much?” Playport Gaming Systems, LLC 2019.

<https://playport.com/do-stores-make-money-selling-lottery-tickets-how-much/>

inside the store (52% in 2020 vs. 35% in 2015). Further, more than two in three drivers ages 18-34 go inside the store when they fill up their vehicles (68%).³²

The NACS study also detailed what those customers did while they were inside the store:

Figure 18: What c-store customers did inside store

Activity in Store	Activity Percentage
Paid for gas at register	42%
Bought a drink	39%
Bought a snack	30%
Bought lottery tickets	20%
Used the restroom	19%
Bought a tobacco product	19%
Bought sandwich/other meal	13%
Bought gum/mints	13%
Used ATM	12%
Bought beer/wine	11%
Bought grocery items	9%
Went in but did nothing	6%

Source: NACS Magazine, March 2020

At 42%, the most frequent reason for coming into the store was to pay for the gasoline. Except for cash purchases, however, the customer could have easily paid for the gasoline at the pump. Consequently, something else must be drawing the customer into the store. As seen above, the next most common activity was purchasing a drink or a snack. The third most common thing that the customer did while in the store was to purchase a lottery ticket.³³

This in-store activity is consistent with the NACS findings in its 2018 survey. In that survey, NACS looked at the in-store behavior of frequent customers and rare customers. “Frequent customers” are defined as the 28% of fuel purchasers who shop “daily” or “multiple times per week.” The “rare customers” are defined as the 37% of fuel purchasers who shop in a convenience store either “less than once or twice per month” or “never.” The products purchased inside the store by the frequent and rare customers (other than fuel) for the top 10 items are listed in Figure 19 below.³⁴

³² “The 2020 NACS Consumer Fuels Survey,” NACS Magazine March 2020.

<https://www.nacsmagazine.com/issues/march-2020/2020-nacs-consumer-fuels-survey>

³³ Ibid.

³⁴ “Three Insights on Frequent Convenience Store Customers,” NACS Magazine, May 2018.

<https://www.convenience.org/Topics/Fuels/Documents/Three-Insights-on-Frequent-C-Store-Customers.pdf>

Figure 19: Percentage of c-store customers who purchased various items

Item Purchased	Frequent Shopper	Rare Shopper
Soda/fountain drink	49%	8%
Coffee	39%	7%
Candy	36%	7%
Lottery ticket	44%	3%
Chips	10%	3%
Bottled water	31%	4%
Cigarettes/tobacco	37%	2%
Energy drink/energy shot	24%	1%
Doughnut	17%	2%
Beer/alcohol	19%	2%

Source: NACS Magazine, May 2018

As reflected by the NACS data above, lottery sales are an integral component to a c-store’s overall business. NACS suggests that lottery sales drive foot traffic, which results in more sales of non-lottery products, which have a greater margin of return. It is not surprising then, that the NACS data and the story they tell are very similar to the views of those c-store owners and state associations cited in this report: lottery sales are important to c-stores.

NACS is the predominant association for the c-store industry. Yet, other c-store studies reflect similar buying habits of in-store customers.

In 2021, Success Systems stated that: “Adding lottery sales to your product mix has residual beneficial effects across your operation. In addition to the financial gains from lottery ticket sales alone, its research found that 95% of lottery ticket buyers will buy at least one additional item while visiting a convenience store. This behavior translates to a spend by lottery customers 65% higher than non-lottery customers.”³⁵

Playport’s position regarding the benefits of selling lottery is consistent with NACS. Playport tells its c-store clients that “the revenue the store will realize from the commission/winning ticket bonus amounts is not going to support your entire business. ... (T)he real money you make will come from the additional foot traffic the lottery can draw.”³⁶

In September 2019, *Small Business Trends* provided insights on the process of becoming a lottery retailer and its ensuing benefits. The immediate benefits certainly include the commission the retailer stands to earn on the direct sales, but also the bonuses that can be earned in many states. As for the commissions alone, licensed retailers in Michigan in 2018 received \$5.2 million from Mega Millions alone and \$264 million in total lottery earnings.³⁷

³⁵ “Do Stores Make Money Selling Lottery Tickets – How Much?” Playport.com, August 5, 2019.

<https://playport.com/do-stores-make-money-selling-lottery-tickets-how-much/>

³⁶ Ibid.

³⁷ “How to Become a Lottery Retailer,” *Small Business Trends* September 25, 2019, and updated February 4, 2020.

<https://smallbiztrends.com/2019/09/lottery-retailer.html>

In addition to the commission, however, another important reason for a retailer to add lottery sales is that selling lottery tickets drives more customers into the store who are then more likely to purchase other items that offer a higher profit margin. Also, because lottery tickets are such a popular product, those customers may likely become frequent customers of the store.³⁸

1. Lottery retailers face challenges

Whether they operate convenience stores, gas stations, taverns or big-box retailers – or a combination of these – lottery retailers face a host of challenges to their existing business model.

In the present climate, that means they are navigating multiple challenges, which in recent years have ranged from supply-chain issues to labor shortages to a pandemic. As iLottery is being layered atop such challenges, retailers generally agree that the timing is less than propitious.

The pandemic led to a 26.1% decline in fuel sales in the United States in 2020, and that in turn led to a drop of 13.9% in retail sales at convenience stores.³⁹ Notably, c-stores account for about 80% of fuel sales.⁴⁰ On the positive side, for convenience stores, the average purchase – or “basket size” – was clearly rising in 2021 from its 2020 level of \$7.34, but that hardly means an end to challenges for these retailers.

As the Conference Board noted in an October 2021 report:

Bottlenecks in global supply chains made it difficult for businesses to keep up with elevated demand for many goods earlier this year, resulting in a sharp contraction in private inventories. We expect this trend to reverse over the coming months as the December holiday period approaches, and forecast a rebound in private inventories. However, the pace of restocking will be slower than previously anticipated as the Delta variant has hindered manufacturing and shipping activity in key economies around the world.⁴¹

Amid this stew of macro issues, lottery retailers do not view the expansion of iLottery as particularly well-timed. From the perspective of many retailers, lottery sales are somewhat akin to fuel sales in that they drive foot traffic to the sale of higher-margin products.

Indeed, the question of whether lottery sales drive foot traffic – or benefit from foot traffic – is central to the future of lottery sales, and this report addresses that concern in the next chapter. But whether their lottery offerings are the catalyst for or the beneficiary of foot traffic is not the sole reason for concern. As Alex Boehnke, Manager of Public Affairs for the Ohio Retail Merchants Association, noted: “It is hard to convince that group that having potentially fewer people come into the store is beneficial for them.”⁴²

³⁸ Ibid.

³⁹ Marianne Wilson, “C-Store Sales Fall Nearly 14% in 2020 as Fuel Sales Plunge,” *Chain Store Age*, April 15, 2021. <https://chainstoreage.com/c-store-sales-fall-nearly-14-2020-fuel-sales-plunge>

⁴⁰ Ibid.

⁴¹ “Supply-Chain Trends to Extend into Mid-2022, Economists Say,” NACS, The Association for Convenience & Fuel Retailing, October 18, 2021. https://www.convenience.org/Media/Daily/2021/Oct/18/1-Supply-Chain-Strains-Extend-Mid-2022_Research

⁴² Interview with Ohio Retail Merchants Association, November 15, 2021.

Ashley Englefield Dewitt, Vice President of Merchandising and Marketing for Ohio-based Englefield Inc., which operates 120 Duchess convenience stores in Ohio and one in West Virginia, noted: “We have a customer base that is heavily lottery-only. They can spend a whole morning at our store.”⁴³

Sheetz, one of the prominent lottery retailers, is emblematic of the symbiotic relationship between lotteries and c-stores.

Sheetz, which sells lottery products in each of its 632 locations spread over six states, prides itself on being innovative and adaptable to changing circumstances, noting on its website: “We continue to reinvent ourselves and bring innovation to our industry. In fact, our Vision is to create the business that will put Sheetz, as we know it today, out of business. That's what keeps us on top and keeps us focused on ways to make our business even more successful in the future.”⁴⁴

In interviews, Sheetz executives made it clear that lotteries last year reached No. 3 in sales among all of the chain's sundry retail categories, but was 13th in margin, far behind food sales, which had the leading margin.⁴⁵

Still, Sheetz – like other lottery retailers – views lottery as a driver of traffic, more so than as an impulse buy for customers who are primarily focused on other items. That is a critical distinction behind the general wariness of lottery retailers to embrace iLottery.

In keeping with its corporate mission of remaining relevant and adaptable to change, Sheetz's leadership made clear that, if iLottery will become a fixture of the retail landscape, retailers need to fully participate, perhaps in ways that tie in to loyalty programs and other means that tie the lottery player – including the much-desired younger demographic – back to retailers, such as enabling signups or payouts at retailers.

2. Addressing Retailer Concerns, Growing Retail Sales

Retail representatives interviewed for this analysis make clear that they are not latter-day luddites who seek to blindly block the lottery industry from embracing online sales. Rather, they seek to ensure that they have a role in the digital future. The retailers and their associations would like the lotteries to directly provide the retailers benefits as the result of introducing an iLottery program. These benefits would include:

- Increasing retailer commissions
- Requiring the redemption of online winnings at retailer
- Allowing the retailers exclusivity on popular instant games

While these actions would certainly benefit the retailers, the actions would likely not have any positive impact on the growth of the Lottery, either retail or online. The most productive solution for both the retailers and the lottery would be to create opportunities for retailers to have a role in iLottery and

⁴³ Interview with Ashley Englefield DeWitt, November 16, 2021.

⁴⁴ “Committed to Our Customers.” <https://www.sheetz.com/sheetz> (accessed December 14, 2021)

⁴⁵ Interview with Sheetz executives, December 9, 2021.

receive additional benefits for their participation. Pennsylvania, New Hampshire, and Michigan have creatively provided retailers the opportunity to have a role in iLottery and, more importantly, the continued overall growth of retail lottery. Moreover, as seen in the retailer programs in these States, for their successful efforts associated with iLottery, retailers are proportionately rewarded with additional commissions.

Connecticut Lottery Corporation President and CEO Greg Smith suggests that an online presence helps grow overall lottery sales, including retail, through more extensive marketing efforts coupled with greater awareness of lottery products among adults who have never been players.⁴⁶

Smith notes that the historic trend has been for lottery retail sales to grow by 2%-3% per year, while approximately 30% of retailers typically face declining sales. Such declines, he said, can largely be attributed to stores that face non-lottery challenges, such as a poor location, inadequate cleanliness or other factors.^{47 48}

Jason Lisiecki, Instant Win Gaming's Vice President, North America, and previously Digital Products Director for the Michigan Lottery, made a similar point in a 2018 *LaFleur's* interview: "It is understandable that lotteries have concerns about a new online platform eating into their retail income, but thankfully there isn't one single example of this being the case."⁴⁹

In the *LaFleur's* interview, Lisiecki noted that: "Michigan (has) done a tremendous job in positioning products and promotions to drive players from online to retail. ... When this is done correctly it boosts retail commission and the savvy retailers will pick up on this and actually promote online lottery."⁵⁰

LaFleur's followed up with: "His (Lisiecki's) claims are backed up by the numbers. In the first full year of its internet program, Michigan Lottery achieved online sales of \$146 million and after three years this had grown 320% to \$613 million. On the retail side, sales rose from \$2.75 billion in year one to over \$3 billion in year three — setting new sales records every year after the online lottery launched — which is an impressive feat especially when you consider the maturity of the retail offering."⁵¹

⁴⁶ Greg Smith interview, January 4, 2022.

⁴⁷ Ibid.

⁴⁸ The Connecticut Lottery will only offer draw games online. This limitation is not attributable to pressure from retailers, but rather was negotiated by the state, which has given the two Indian casinos an online duopoly on digital slot machines.

⁴⁹ "Retail and Online Can Coexist in Perfect Harmony," *LaFleur's Magazine*, August 23, 2018. <https://lafleurs.com/magazine-feature/vendor-story/2018/08/23/retail-and-online-can-coexist-in-perfect-harmony/#:~:text=There%20are%20always%20going%20to%20be%20clear%20differences,Article%20Ohio%20Lottery%20Launches%20Alchemy3-Licensed%20Skee-Ball%20Lottery%20Games>

⁵⁰ Ibid.

⁵¹ Ibid.

The experience in Michigan has shown that steps can be taken to address the needs and concerns of lottery retailers. The strategy employed by the Michigan Lottery included a soft rollout combined with offering distinct digital instant ticket games that were not available at retailers.

At the same time, the Michigan Lottery employed a cross-marketing strategy that incentivized online players to visit the traditional lottery retailer and incentivized the customers of the traditional lottery retailer to visit the iLottery portal. The growth of Michigan iLottery GGR over the four pre-pandemic fiscal years is depicted in Figure 20 below.

Figure 20: Michigan iLottery performance, FY 2016-FY 2019

	FY 2016	FY 2017	FY 2018	FY 2019
Gross Sales	\$384,992,537	\$613,382,462	\$770,064,903	\$961,444,089
Prizes	\$336,959,286	\$535,477,984	\$676,315,594	\$845,128,490
Net Sales (i.e., GGR)	\$48,033,251	\$77,904,478	\$93,749,309	\$116,315,599

Source: Michigan Lottery Comprehensive Annual Financial Reports

At the launch of its iLottery, Michigan introduced the Online Game Card program, which allowed players to purchase those cards at a retailer and provided the retailer a commission on the sale. The Michigan Lottery also offers regular cross promotions that drive traffic to both the iLottery platform and to traditional lottery retailers. As shown below in Figure 21, in the pre-pandemic years of 2013 through 2019, the Michigan Lottery experienced growth across its platform after the launch of its iLottery in 2014.

Figure 21: Michigan Lottery sales and iLottery digital instants net win, 2013-2019

(M)	2013	2014	2015	2016	2017	2018	2019
Instant Tickets	\$827.0	\$913.1	\$1013.2	\$1136.8	\$1321.6	\$1488.2	\$1655.5
iLottery Instants Net Win ⁵²		\$0.6	\$18.5	\$48.0	\$77.9	\$93.7	\$116.3
Club Games	\$565.8	\$583.5	\$613.8	\$658.2	\$673.7	\$660.7	\$650.9
Draw Games	1,083.6	1,099.2	1,126.4	1,263.8	1,262.3	1,342.2	1,469.7
Total Ticket Sales	\$2,476.4	\$2,596.4	\$2,771.9	\$3,104.5	\$3,329.8	\$3,578.0	\$3,884.2

Source: Michigan Lottery

At the same time, the Michigan Lottery improved its traditional product-development process, particularly in its instant games. That – combined with the development of the iLottery program – increased sales at retailers.

The data from FY 2021 in Michigan show that retailers are participating fully, noting that the state’s retailer base earned \$370.9 million in commissions last year. That record amount was more than double the \$167.3 million in commissions earned in FY 2015. Among Michigan’s 10,000-plus retailers, the payment to retailers last year was 7.4%.⁵³

⁵² The term “win” is synonymous with gross gaming revenue (GGR) and refers to the amount of money players wager minus the amount players win (Handle X Hold% = GGR), before any expenses or taxes have been deducted.

⁵³ Nick Ware, “Michigan Lottery Raises Over \$1.4bn for Schools in Record-Breaking FY21,” *Lottery Daily*, February 15, 2022. <https://lotterydaily.com/2022/02/15/region/north-america/michigan-lottery-raises-over-1-4bn-for-schools-in-record-breaking-fy21/>

As noted by *Lottery Daily*:

The lottery's record-breaking streak started in FY15 and its contribution to the School Aid Fund has increased by 78.5% over the previous six years, with \$1.18bn contributed in FY20, \$1.07bn in FY19, \$941.2m in FY18, \$924.1m in FY17, \$888.9 million in FY16, and \$795.5m in FY15.

Since 1972, the lottery has raised over \$26bn for public education in Michigan. Approximately \$7.2bn (28%) of that amount was raised over the last seven record-breaking years. Under state law, all profits from the lottery must go to the School Aid Fund.

In FY21, the lottery achieved more than \$5bn in sales and more than \$3.1bn in prizes to players. Record sales were driven in large part by instant games, a \$1bn Mega Millions jackpot, and the lottery's internet platform.

Lottery Commissioner Brian O. Neill added: "Lottery purchases help support Michigan schools and businesses. These incredible results would not be possible without our players, retailers, vendors, the dedicated team at Lottery, and support across state government."⁵⁴

Lessons from Pennsylvania

Drew Svitko, Executive Director of the Pennsylvania Lottery, which launched its iLottery program in May 2020,⁵⁵ has addressed the concerns expressed by both individual lottery retailers and the Pennsylvania Food Merchants Association. The association's members include convenience stores and grocery stores. The concerns expressed mirrored those in other states, as they stemmed from the expectation that online lottery sales would reduce foot traffic in their stores by providing an alternative to customers who were otherwise coming to the store to purchase lottery tickets.

Suggestions were made by the retailers that their commission should be increased. The lottery, however, had historical data that showed that a higher retailer commission did not equate to more retail sales.

Svitko made it clear to the retailers that, collectively, they had always been – and would continue to remain – the lottery's most important partner. Subsequently, the lottery developed retailer program structures to demonstrate the importance of retailers to the lottery and its success. As was done in New Hampshire, Svitko wanted to make the retailers feel as though they had a vested interest in the success of online sales.

The lottery implemented several retailer incentive programs for both retail sales and iLottery sales: Regarding retail sales, a retailer can earn a greater commission on in-store sales if that store increases its quarterly sales by an amount equal to or exceeding the total sales goal established for the lottery. For example, if the lottery's annual retail sales goal for the year is 4 percent greater than the prior year's sales goal, then the retailer's sales must be 4 percent greater than the same period in the prior year to receive the extra commission. If the retailer sales meet the threshold of a 4 percent increase over the prior year, that retailer earns an extra 0.75 percent commission on any amount at or over the 4 percent increase goal. The normal lottery retailer commission is 5 percent.

⁵⁴ Ibid.

⁵⁵ Interview with Drew Svitko, January 7, 2022.

As a result, the retailer would receive the normal 5 percent commission on the amount of the prior year's sales and a commission of 5.75 percent on the amount of the sales increase of 4 percent or greater over the prior year's sales.

Additionally, if the retailer's quarterly sales from the above example is 8 percent over the prior year's quarter or greater, the retailer would earn an extra 1.5 percent commission on the amount of the increased sales. In this example, the retailer would earn 5 percent on the base amount (prior year's sales) and 6.5 percent on the amount over the base amount.

The Pennsylvania Lottery also has implemented retailer programs that further engage the retailer in iLottery. First, the lottery allowed retailers to sell bar-coded iLottery vouchers that could be used to play iLottery games. The cost of the voucher was \$20, and it provided the player \$25 in iLottery play. Consequently, the retailer becomes a part of iLottery by providing an additional method for a player to play the lottery online while the retailer earns its normal retailer commission for the sale of the voucher.

Further, to illustrate to the retailers that iLottery can drive players to retail, the lottery provided its iLottery players with coupons that could only be redeemed in-store. In a normal lottery coupon program, a typical percentage of coupons that are redeemed is around 5 percent. For the coupons offered online for retail redemption only, the redemption rate reached 25 percent.

The initiatives implemented by the Pennsylvania Lottery have confirmed to the lottery retailers in Pennsylvania that they are the lottery's most important partner. According to Svitko, the retailer concerns voiced prior to the iLottery launch have not been heard since these steps were taken.⁵⁶

Lessons from New Hampshire

New Hampshire offers an important example as to how lotteries can potentially work with their retailer networks with digital offerings. When New Hampshire launched its digital draw and e-instants in 2018, it faced expected opposition from retailer groups that were afraid the online offerings would cannibalize in-store sales.

Charles McIntyre, the New Hampshire Lottery Director, adopted an innovative approach to making the retailers an integral part of the iLottery process: Upon the launch of iLottery, the lottery would hold back 5 percent of the gross revenue of iLottery sales. Then, on a quarterly basis, each retailer would receive a check representing the retailer's percentage of the 5 percent iLottery hold-back based upon the retailer's total in-store sales compared to all other New Hampshire lottery retailers' in-store sales.⁵⁷

For example, if a retailer's total sales for a quarter equaled 0.64 percent of total retailer sales, then that retailer would receive 0.64 percent of the iLottery hold back (5 percent of gross iLottery revenue sales). During the first year of iLottery, there were still some complaints heard from retailers, but after the first year the complaints diminished. The retailers feel as though they are a part of the iLottery sales

⁵⁶ Ibid.

⁵⁷ Charles McIntyre interview, January 4, 2022.

and are being compensated, according to McIntyre. Moreover, the lottery solidified the notion that the retailers are the lottery's largest partner and always will be.

In Virginia, the lottery offered a program called "Online Cash." In this promotion, players can purchase vouchers at retail that are processed like a typical terminal-based sales, so the retailer earns its normal sales commission. These vouchers can be used by players to redeem and/or fund their iLottery accounts. Periodically, these vouchers have promotional values added as an additional incentive (particularly during the December Holiday Season).⁵⁸

⁵⁸ Email from Deborah Courtney, Director of Finance, Virginia Lottery, March 14, 2022

4. Responsible Gaming and iLottery

The issue of Responsible Gaming (“RG”) has long been central to the mission of all lotteries. As government agencies, lotteries are particularly sensitive to issues that range from underage gambling to problem gambling.

States that have adopted iLottery have endeavored to put in specific controls for this emerging form of lottery purchase. By way of example, Michigan’s Responsible Gaming program includes the following iLottery controls, as posted on its website:⁵⁹

- **Self-Exclusion** – Players may choose to take a break from Michigan Lottery’s online gaming. Self-Exclusion means your account will be closed for the selected exclusion length and will not be reopened for any reason during the exclusion period. Exclusions may be set by the player through the Responsible Gaming Tools section in “My Account” or with the help of a Michigan Lottery Support Center representative upon request.
- **Deposit Limits** – Players may set daily and weekly deposit limits. A default \$505 weekly limit is set at registration. Deposit limits can be raised or lowered at any time. Lowering a deposit limit will take immediate effect, but players choosing to raise their deposit limits must wait 48 hours for such changes to take effect.
- **Age Verification** – Age and identity-verification technology is used during account registration to ensure all players are at least 18 years of age. Any instance of a minor found playing the Michigan Lottery online games will result in forfeit of all winnings and possible referral to local law enforcement.
- **Play History** – Players can monitor the time and money they spend on Michigan Lottery’s online gaming through their personalized account histories. Each account history provides a full overview of the games played, the amount wagered on each game, wins and losses, and deposited and withdrawn funds. Players can access their account histories in the “My Account” section of the site.
- **Geolocation** – Players must be physically located in Michigan to make purchases and use some other features. Advanced technology is used to determine each player’s location.
- **Security and Privacy** – The Michigan Lottery has strong mechanisms in place to maintain the security of players’ financial information and to protect their privacy.

The longstanding, evolving concept of Responsible Gaming refers to public health programs that help produce positive play behavior that will prevent, reduce or mitigate gaming-related harms. An early and most often cited strategic framework for Responsible Gaming is known as the Reno Model, conceived of by Alex Blaszczynski, Robert Ladouceur and Howard J. Shaffer^{60 61} in 2004. This publication was intended

⁵⁹ Michigan Lottery, “Online Gaming Safeguards and Tools.” <https://www.michiganlottery.com/responsible-gaming> (accessed February 6, 2022)

⁶⁰ Shaffer has worked with Spectrum on reports that addressed these issues.

⁶¹ Blaszczynski, A., Ladouceur, R. & Shaffer, H. J. A science-based framework for responsible gambling: the Reno model. *J Gamb Stud* 20, 301–317 (2004).

to guide “key stakeholders to develop socially responsible policies and promote public health and welfare through a range of prevention efforts.” In their framework, they identified primary stakeholders as “consumers, gaming industry operators, health service and other welfare providers, interested community groups, as well as governments and their related agencies that have the responsibility to protect the public.” They noted that this disparate group of stakeholders had widely competing concerns. However, their focus was to identify that they all had collective interests in preventing gaming harms.

A significant study was conducted in 2017 that initially reviewed 2,548 peer-reviewed articles of published research dating back six decades using Responsible Gaming keywords (“Responsible Gaming,” “limit-setting,” “pre-commitment,” “warning messages,” “pop-up messages,” “game features,” “behavioral tracking,” “behavioral markers,” “behavioral indicators,” “self-exclusion,” “venue staff,” and “venue employees”). These articles were evaluated for methodology and rigor and pared down to 29 qualifying empirical studies. Out of this analysis, five primary Responsible Gaming strategies were identified that provide practical evidence for implementation.⁶² These five recommended RG strategies form the basis for Responsible Gaming programs today:

A. Self-Exclusion

Self-exclusion is a process by which players choose to opt out of a gaming environment because they find themselves in a position in which they cannot control their gaming. States such as Michigan that have adopted iLottery have made self-exclusion a centerpiece of their policies. While there is evidence that such a program has room to be improved, research indicates that those who do self-exclude generally experience benefits from the program.⁶³

With respect to the internet, technology has unique capabilities to support self-exclusion.⁶⁴ Players can request self-exclusion through their accounts; this often freezes their funds for the period in which they self-exclude and removes them from any lists of people receiving promotional material.⁶⁵ However, it is not foolproof, as players can easily open up accounts on other platforms, especially platforms that are not very stringent.

As technology advances, there have been improvements. Gamban is a popular new self-excluding technology that blocks a device from accessing thousands of online gaming websites and platforms.⁶⁶

⁶² Ladouceur, R., Shaffer, P., Blaszczynski, A. & Shaffer, H. J. Responsible gambling: a synthesis of the empirical evidence. *Addiction Research & Theory* 25, 225–235 (2017).

⁶³ Gainsbury, S. M. Review of Self-exclusion from Gambling Venues as an Intervention for Problem Gambling. *J Gamb Stud* 1–23 doi:10.1007/s10899-013-9362-0.

⁶⁴ Hayer, T. & Meyer, G. Internet Self-Exclusion: Characteristics of Self-Excluded Gamblers and Preliminary Evidence for Its Effectiveness. *Int J Ment Health Addiction* 9, 296–307 (2011).

⁶⁵ Online Gambling Player Self-Exclusion | What is Play Self-Exclusion? TransUnion, 2021. <https://www.iovation.com/topics/player-self-exclusion>

⁶⁶ “Block Gambling Websites & Apps.” Gamban. <https://gamban.com/>

B. Behavioral Markers or Patterns

Research indicates that the level of gaming involvement or intensity⁶⁷ can be an RG marker with respect to gaming behavior. With respect to online players, gaming intensity is best measured by the “theoretical loss” or the amount of money players are putting at risk while playing.

Sally Gainsbury et al⁶⁸ describe a behavioral framework to minimize harm by using a collaborative RG effort among stakeholders. In this research, Gainsbury focuses on issues such as the isolation that transpires among those who game using the internet and its unique differences from traditional brick-and-mortar venues.

In a paper titled “Is All Internet Gambling Equally Problematic? Considering the Relationship Between Mode of Access and Gambling Problems,” Gainsbury and her colleagues wrote:

Concerns exist that Internet gambling may increase rates of gambling harms, yet research to date has found inconsistent results. Internet gamblers are a heterogeneous group and considering this population as a whole may miss important differences between gamblers. The differential relationship of using mobile and other devices for gambling online has not been considered as compared to the use of computers. The true relationship of Internet gambling on related problems and differences between preferred modes for accessing online gambling may be obscured by confounding personal and behavioral factors. ... Gamblers who prefer to gamble online using computers had lower rates of gambling problems as compared to those using mobile and supplementary devices. Individual life cycle was useful to differentiate between groups, indicating age, marital, and employment status should be considered together to predict how people gamble online.⁶⁹

Richard Wood and Mark Griffiths studied behavioral gaming markers. They identified a group of frequent positive players who utilized personal RG strategies as those who gamed for entertainment and leisure. On the other hand, those who used gaming to help alter their moods – such as playing for excitement, or to hide depression or boredom – were often problematic players. They also found that online gaming was not riskier than more traditional venues, and in fact, online gaming is played most by those they defined as positive players.⁷⁰

⁶⁷ Auer, M. & Griffiths, M. D. An Empirical Investigation of Theoretical Loss and Gambling Intensity. *J Gambl Stud* 1–9 doi:10.1007/s10899-013-9376-7.

⁶⁸ Gainsbury, S. M. et al. Reducing Internet Gambling Harms Using Behavioral Science: A Stakeholder Framework. *Front Psychiatry* 11, (2020).

⁶⁹ Gainsbury, et. al., “Is all Internet gambling equally problematic? Considering the relationship between mode of access and gambling problems,” February 2016.
<https://www.sciencedirect.com/science/article/pii/S0747563215301850>

⁷⁰ Wood, R. T. A. & Griffiths, M. D. Understanding Positive Play: An Exploration of Playing Experiences and Responsible Gambling Practices. *J Gambl Stud* 31, 1715–1734 (2015).

C. Setting Gaming Limits (Pre-Commitment)

Strategies that have been developed for RG include setting self-imposed win limits⁷¹ and loss limits⁷² and accurately assessing gaming expenditure.⁷³ The literature has documented the difficulty for players to accurately track their wins and losses. Mobile-based venues and player rewards cards can provide the opportunity to better inform gamblers about their play behavior.⁷⁴

The Massachusetts Gaming Commission incorporated a pre-commitment program known as “Play My Way” into a casino that they regulate and found it to appear to show some level of improvement to players’ control.⁷⁵ Research on this program is ongoing.

D. RG Specific Game Features (Warning Messages)

Another RG harm-minimization strategy that was expected to be effective has been to provide players with warning messages to reduce excessive gaming behavior.⁷⁶ Research has indicated that the results are mixed. Messages only appear to be effective if they alter problem behavior.⁷⁷

E. RG Training Programs

Research indicates that rather than waiting for players to develop gaming problems, RG training programs can help educate players about healthy positive play.⁷⁸ Also, school-based programs can be developed to train adolescents toward healthier internet use habits.⁷⁹

⁷¹ Walker, D. M., Litvin, S. W., Sobel, R. S. & St-Pierre, R. A. Setting Win Limits: An Alternative Approach to ‘Responsible Gambling’? *J Gambl Stud* (2014) doi:10.1007/s10899-014-9453-6.

⁷² Auer, M. & Griffiths, M. D. Voluntary limit setting and player choice in most intense online gamblers: an empirical study of gambling behaviour. *J Gambl Stud* 29, 647–660 (2013).

⁷³ Auer, M. & Griffiths, M. D. Self-Reported Losses Versus Actual Losses in Online Gambling: An Empirical Study. *Journal of Gambling Studies* 33, 795–806 (2017).

⁷⁴ Ibid.

⁷⁵ Tom, M., Singh, P., Edson, T., LaPlante, D. A. & Shaffer, H. J. Preliminary Study of Patrons’ Use of the PlayMyWay Play Management System at Plainridge Park Casino: June 8, 2016-January 31, 2017. 88.

⁷⁶ Gainsbury, S. M., Aro, D., Ball, D., Tobar, C. & Russell, A. Optimal content for warning messages to enhance consumer decision making and reduce problem gambling. *Journal of Business Research* 68, 2093–2101 (2015).

⁷⁷ Monaghan, S. & Blaszczynski, A. Impact of Mode of Display and Message Content of Responsible Gambling Signs for Electronic Gaming Machines on Regular Gamblers. *J Gambl Stud* 26, 67–88 (2009).

⁷⁸ Wood, R. T. A. & Griffiths, M. D. Understanding Positive Play: An Exploration of Playing Experiences and Responsible Gambling Practices. *J Gambl Stud* 31, 1715–1734 (2015).

⁷⁹ King, D. L. et al. Policy and Prevention Approaches for Disordered and Hazardous Gaming and Internet Use: an International Perspective. *Prev Sci* 19, 233–249 (2018).

F. RG and Mobile Gaming

New technologies that would include iLottery can affect consumer behavior and the way people play the lottery.⁸⁰ Researchers indicate that health care policymakers need to be aware that the internet and mobile platforms can raise new addictive gaming risks due to improved availability and accessibility. They raise the concern that smartphones are ubiquitous and therefore may accelerate “maladaptive learning behaviors” from recreational players. Therefore, they recommend using effective Responsible Gaming strategies to minimize harms. Research conducted of online poker players indicates that increased popularity of the games, availability, and time spent on the activity results in some players increasing play amount and experiencing hardship.⁸¹

As the literature shows, it is good practice for stakeholders to provide a Responsible Gaming program and to include evidence-based Responsible Gaming tools. In the long term, lotteries benefit when their customers practice positive play behaviors. Big data can be used for marketing opportunities. However, stakeholders can also use it to identify at-risk players who are susceptible to problem gaming behavior. Technologies and tools can be personalized to offer pre-commitment breaks and to send warning messages to help players to minimize harm. Training programs can help players to better understand the games and the risk levels of the games they are playing. And for those who suffer from a gaming disorder, the self-exclusion feature has the capability to keep them off of gaming platforms for a specified period of time, allowing them to take a needed break to reflect and to reevaluate their gaming behavior.

⁸⁰ James, R. J. E., O’Malley, C. & Tunney, R. J. Understanding the psychology of mobile gambling: A behavioural synthesis. *Br J Psychol* 108, 608–625 (2017).

⁸¹ Griffiths, M., Parke, J., Wood, R. & Rigbye, J. Online Poker Gambling in University Students: Further Findings from an Online Survey. *Int J Ment Health Addiction* 8, 82–89 (2010).

5. Tracking iLottery in States, Provinces

A. United States

A growing number of US states have iLottery, and the following table lists their systems providers and contract dates.

Figure 22: iLottery states, systems providers

iLottery	iLottery Systems Provider	Contract Expiration Date
Georgia	IGT	9/30/2025
Illinois	Camelot Lottery Solutions	12/31/2027
Kentucky	IGT	7/10/2026
Michigan	NeoPollard Interactive	7/17/2026
New Hampshire	NeoPollard Interactive	6/30/2025
North Carolina	NeoPollard Interactive	6/30/2024
North Dakota	Scientific Games	6/30/2022
Pennsylvania	Scientific Games	5/31/2027
Rhode Island	IGT	6/30/2023
Virginia	NeoPollard Interactive	10/30/2026
Washington D.C.	Intralot	7/15/2024

Sources: State lotteries, providers

Traditional lottery sales across the states featuring some form of iLottery have grown in the past decade. Despite the introduction of other forms of gaming – including online lottery, distributed game terminals, sports wagering and online casino games – traditional lottery win has grown across the states. The section below looks at each state individually to highlight any local issues.

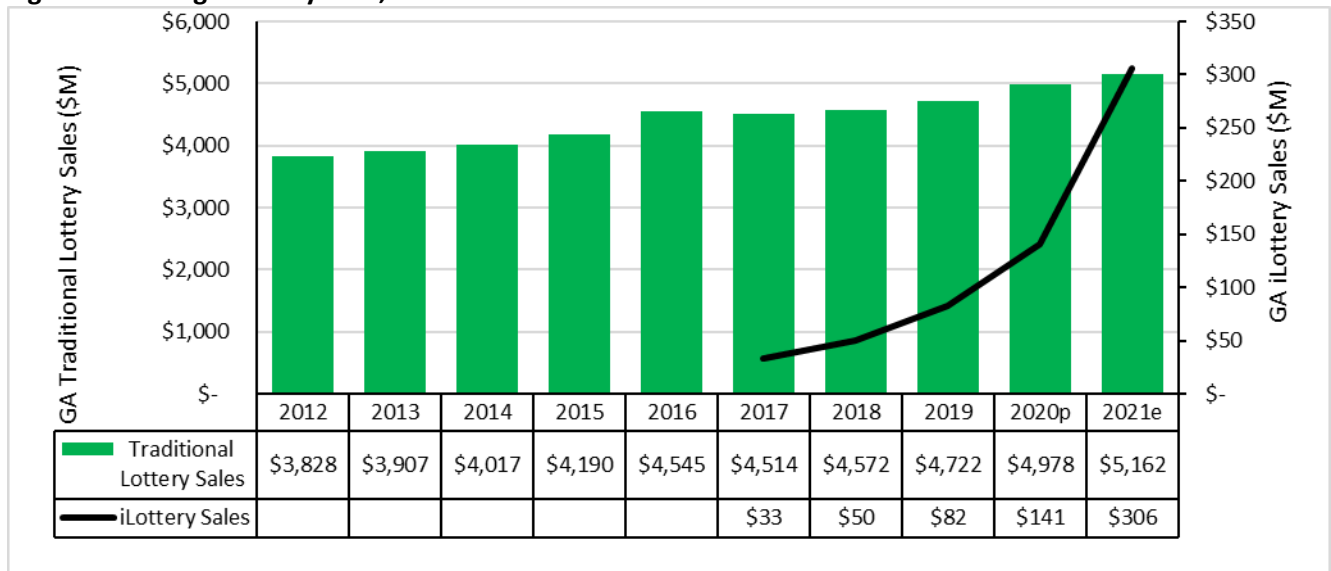
It is worth noting that we have used the net revenue number for the iLottery product as opposed to sales due the availability of the data. Net revenue refers to the income to the lottery *after* the payment of prizes. In analyses of iLottery, net revenue is often used as a benchmark. In traditional lottery, sales – the revenue *before* payment of prizes – is the reporting benchmark. Certain charts and graphs note and include both measures. The important message from the data is the trend in the numbers, irrespective of whether they be revenue or sales.

All data are presented in fiscal years, except where noted.

1. Georgia

The Georgia Lottery was an early adopter of iLottery. For 2021, traditional lottery sales were estimated to be at their highest level in history.

Figure 23: Georgia lottery data, FY 2012-FY 2021

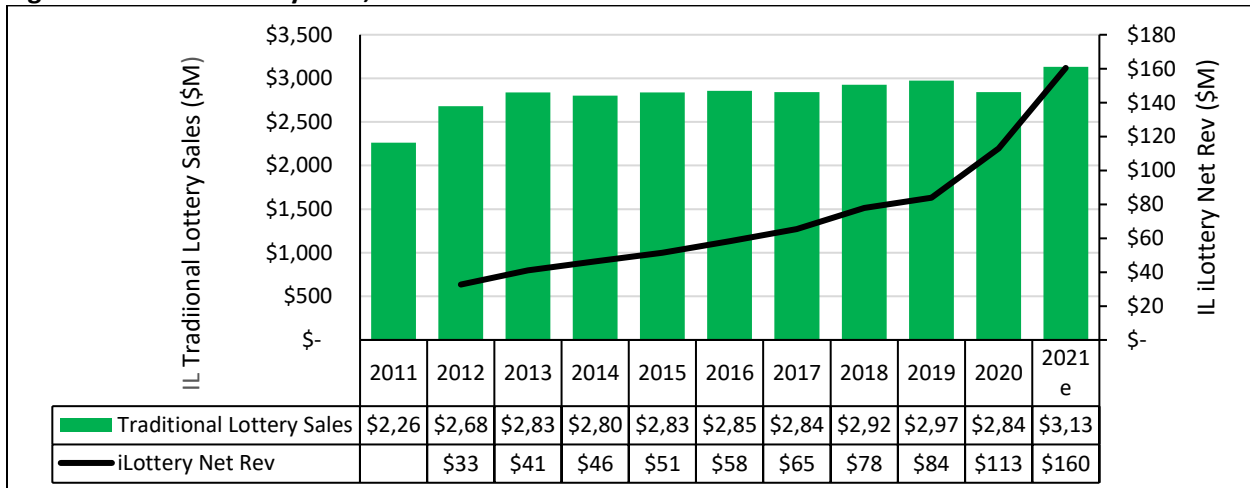


Source: Georgia Lottery

2. Illinois

Illinois, like Pennsylvania, offers many forms of gaming: casinos, traditional and iLottery, sports betting, and distributed video gaming terminals (“VGTs”). Illinois was an early adopter of iLottery draw games. For 2021, sales of iLottery are estimated to reach \$160 million.

Figure 24: Illinois lottery data, FY 2011-2021



Source: H2 Gambling Capital

Traditional lottery sales for 2021 are estimated to be 5 percent higher than in 2019. It does not appear that the introduction of iLottery in 2012 has had an impact on traditional lottery. It is possible that the proliferation of VGTs across the state is impacting growth of lottery sales. In 2012, the state began installation of VGTs at bars, restaurants and qualified gas stations, a network that overlaps traditional lottery retailers.

Figure 25 below shows the extensive spread of VGTs across the state and the growth in VGT win despite the closures for the pandemic in 2020 and 2021.

Figure 25: Illinois VGT locations, units, win, and win per unit, CY 2013-CY 2021

Calendar Year	Locations	VGTs	Win (\$M)	WPU
2013	1,983	8,230	\$301	\$100.07
2014	4,235	17,247	\$660	\$104.76
2015	4,934	20,625	\$914	\$121.36
2016	5,518	23,679	\$1,108	\$128.21
2017	6,097	26,812	\$1,303	\$133.12
2018	6,560	29,503	\$1,500	\$139.29
2019	7,009	32,162	\$1,677	\$142.83
2020 ^{1,2}	4,839	36,219	\$1,134	\$85.81
2021 ²	7,610	40,026	\$2,475	\$169.40

Source: Illinois Gaming Board

¹ VGTs closed March 16-June 30, 2020, ² VGTs closed November 20, 2020-January 16, 2021

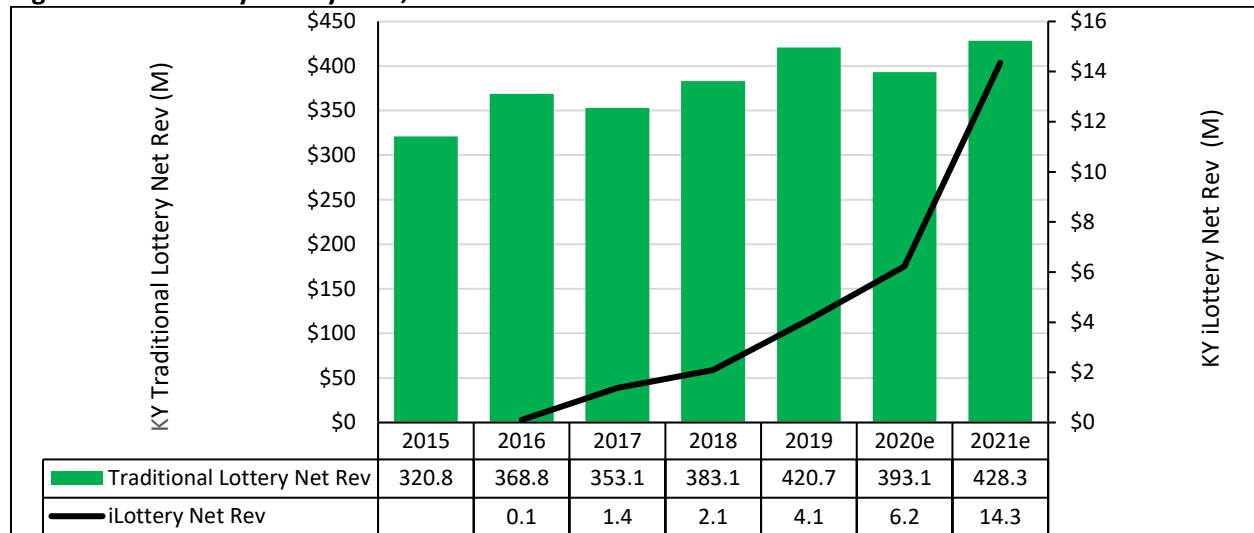
Casino operators blame the convenience of the VGTs for much of the erosion in casino win over the past several years. It may also be the case that as VGTs can be installed at traditional lottery retail outlets, players are diverting play to the VGTs from the traditional lottery, restricting growth in lottery sales.

3. Kentucky

The greatest change to the gaming environment in Kentucky was not the advent of iLottery, but the implementation of historic horse racing (“HHR”) devices. Historical Horse Racing Machines, which resemble slot machines, have been installed at many tracks around the state. Kentucky, like many other jurisdictions, saw estimated traditional lottery sales increase even with the introduction of new gaming types. The introduction of iLottery does not appear to have negatively impacted traditional lottery sales.

There can be issues of data integrity when reviewing state lottery sale, revenue, and related information. Some states issue detailed reports on sales by type of game, and how the game is played (iLottery or traditional). There can be differences in how the data are related and interpreted. For consistency we have used data from H2 Gambling Capital rather than individual state lotteries.

Figure 26: Kentucky lottery data, FY 2015-2021

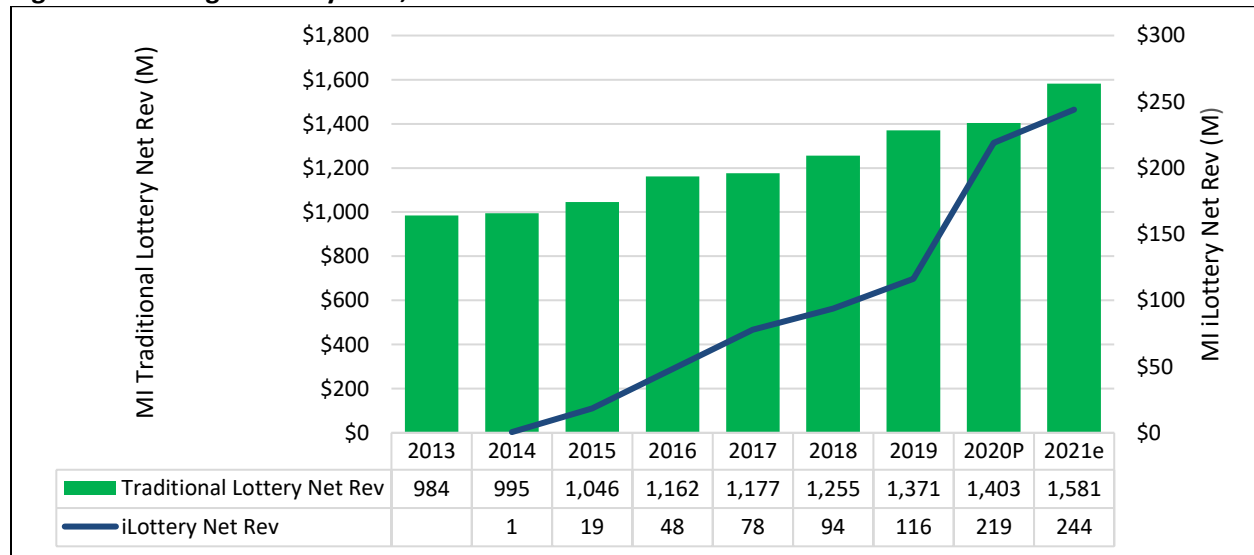


Source: H2 Gambling Capital

4. Michigan

Michigan recently implemented several new forms of gaming, including sports wagering and online casino gaming. The state began offering an iLottery product in 2014, which has been seen as a great success, with sales growing to an estimated \$2.0 billion in 2021. As shown below, traditional lottery win grew even as these competing forms of gaming were introduced.

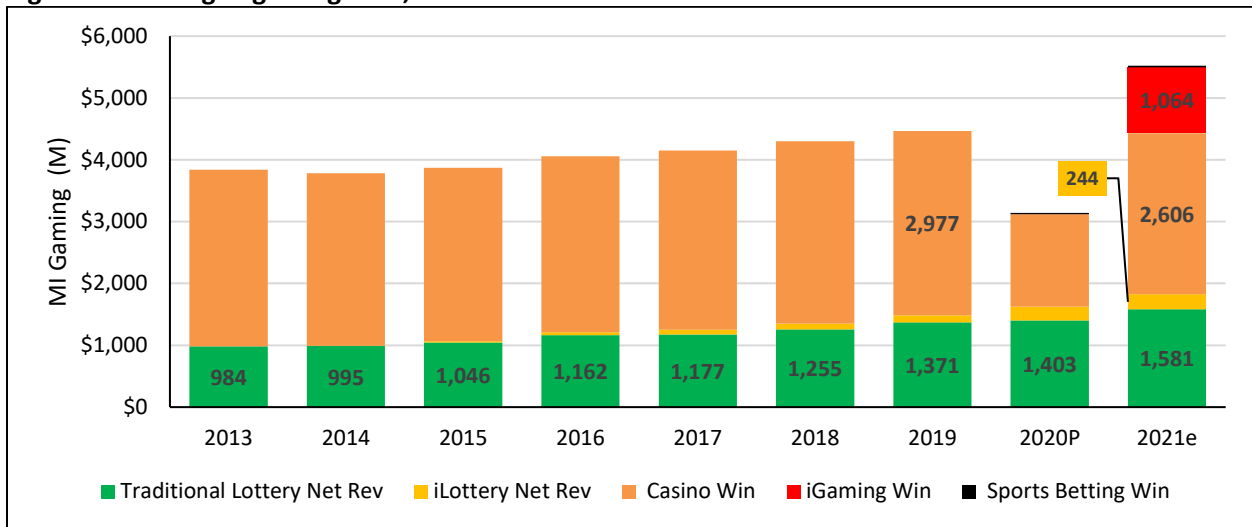
Figure 27: Michigan lottery data, FY 2013-2021



Source: H2 Gambling Capital

Given the range of gaming options now available in Michigan, it is important to review whether these options have cannibalized older forms of gaming. The chart below presents data on the Michigan gaming industry. Interestingly, traditional lottery games grew throughout the period. Casinos saw a decline due to the pandemic, but on-line gaming has made up for that drop. The data below measures net revenue (revenue after the award of prizes) rather than sales.

Figure 28: Michigan gaming data, FY 2013-FY 2021

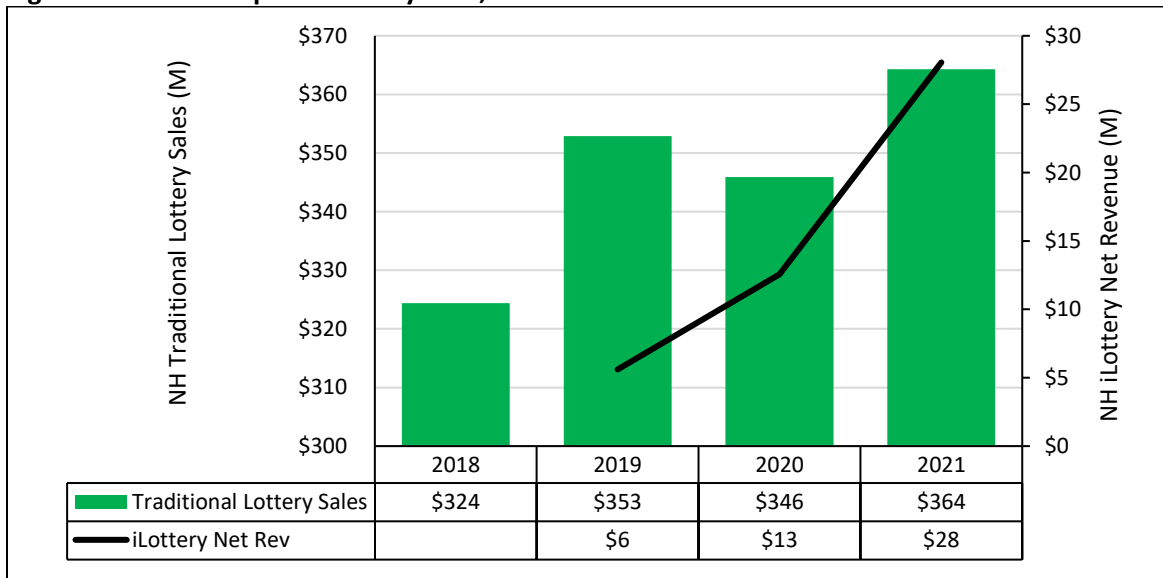


Source: H2 Gambling Capital

5. New Hampshire

Unlike Michigan, New Hampshire does not have a commercial casino industry.

Figure 29: New Hampshire lottery data, FY 2018-FY 2021



Source: H2 Gambling Capital, NeoPollard Interactive

The data presented above show that New Hampshire traditional lottery sales continue to grow. New Hampshire’s estimated traditional lottery sales in 2021 would be a record. The availability of iLottery does not seem to have impacted sales of traditional lottery games. Net revenue from the iLottery games has grown, as seen in the graph above.

6. New York

The New York Lottery allows a person to purchase on-line subscriptions for three of its draw games: Mega Millions, Lotto, and Cash 4 Life. The length of the subscription can be as short as two weeks and as long as one full year. While the purchaser need not be a New York resident, the purchaser must be placing the subscription order from a computer, laptop or phone located within the State of New York at the time of purchase. The form of payment may be by either credit card or bank account. Once the order is made and accepted by the Lottery, the purchaser receives a confirmation email. All winnings are deposited into a prize account in the subscriber's name and can be applied by the player toward future subscription purchases. At any time, the player can elect to cash out their prize account by notifying the Lottery, and the Lottery will mail the player a check.⁸²

The New York Lottery subscription is more like any other commodity purchase online as opposed to iLottery programs. In fact, the Lottery does not separate the subscription purchases for the three games from the retail sales for purposes of its annual report. In 2019, Legal Online Lottery listed all the state lotteries that allowed a person to purchase a lottery subscription online, including Maine, New Hampshire, Massachusetts, New York and Virginia.⁸³ Since then, of course, New Hampshire and Virginia have launched full iLottery programs. In another *Legal Online Lottery* report from the same year, it listed the lottery options for each US lottery. In that report, New York and the other states offering online purchase of subscriptions were listed as having “No Online Lottery.”⁸⁴

7. North Carolina

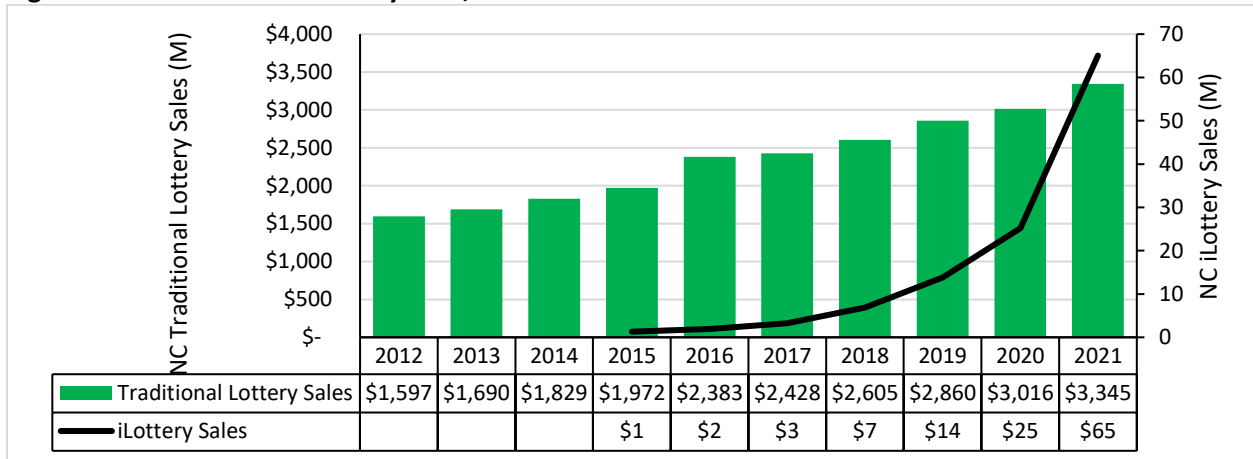
The North Carolina gaming industry includes two tribally owned casinos in the western portion of the state, charitable gaming, and the state lottery. As previously noted, North Carolina was early to the iLottery business. Growth has been steady over the years, as has the growth of traditional lottery win. For 2021, traditional lottery net revenue is estimated at \$884 million, while iLottery sales are estimated by NeoPollard Interactive to come in at \$65 million.

⁸² New York Lottery Subscription Center. <https://www.mynylottery.org/portal/home.do?timeout=true> (accessed January 14, 2022)

⁸³ Legal Online Lottery, 2019. <https://www.legalonlinelottery.com> (accessed January 14, 2022)

⁸⁴ Ibid.

Figure 30: North Carolina lottery data, FY 2012-FY 2021



Source: H2 Gambling Capital, NeoPollard Interactive

Given that traditional lottery has grown while the iLottery was offered, it seems there has been no impact from iLottery win to the traditional lottery.

8. North Dakota

North Dakota voters in 2004 passed a constitutional referendum to establish the North Dakota Lottery. Two years earlier, voters had approved another referendum authorizing multistate draw games. The Lottery has never been allowed to sell instant games.⁸⁵ In July of 2017, the Lottery began to offer subscriptions of all its draw games online, which are referred to as “Pick & Click” games. Unlike traditional subscriptions, however, instead of a lottery subscription for an extended period of time up to a year of game play, the Pick & Click subscriptions could be purchased in one-game increments. Consequently, unlike other traditional online subscription offerings like the New York Lottery that offer online subscriptions for anywhere from two weeks up to a full year of drawings, the Pick & Click Games are identical to the iLottery draw games offered in each of the other iLottery states.⁸⁶

At the time of the North Dakota iLottery launch in 2017, the Pick & Click Games included all of the six draw games offered at retail. These games included Mega Millions, Powerball and four in-state draw games. In January 2018, the Lottery ended one of the in-state games, reducing the number of available draw games to five. Since then, all five remaining draw games have been available at retail and online. Figure 31 below shows the sales for both retail and iLottery of all the draw games available.⁸⁷

Figure 31: North Dakota iLottery subscription sales, 2017-2021

Year	iLottery Sales	Retail Sales	percent of Retail Sales
2017 (7/1-12/31)	\$498,644	\$15,792,389	3.1 percent
2018	\$1,281,978	\$33,492,791	3.7 percent
2019	\$1,558,827	\$26,076,681	5.6 percent
2020	\$1,946,468	\$23,017,592	7.8 percent

⁸⁵ “North Dakota Lottery, USLottery.Com, 2022. <https://www.uslottery.com/nd/>

⁸⁶ North Dakota Lottery, 2022, <https://www.lottery.nd.gov/pick-click>

⁸⁷ Ibid.

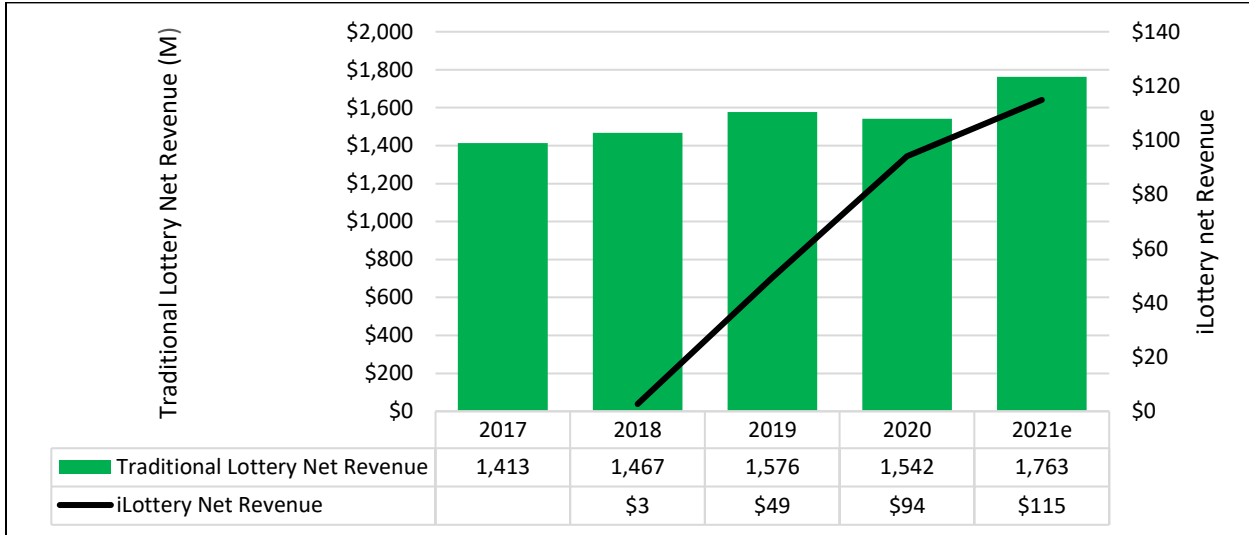
2021 (1/1-9/30)	\$2,100,657	\$23,424,140	8.2 percent
Total	\$7,386,574	\$121,803,593	5.7 percent

Source: North Dakota Lottery

9. Pennsylvania

Pennsylvania has the most forms of gaming of any state in the subject set. In addition to the traditional lottery, Pennsylvania offers casinos, horse racing, sports betting, online casino gaming, and iLottery.

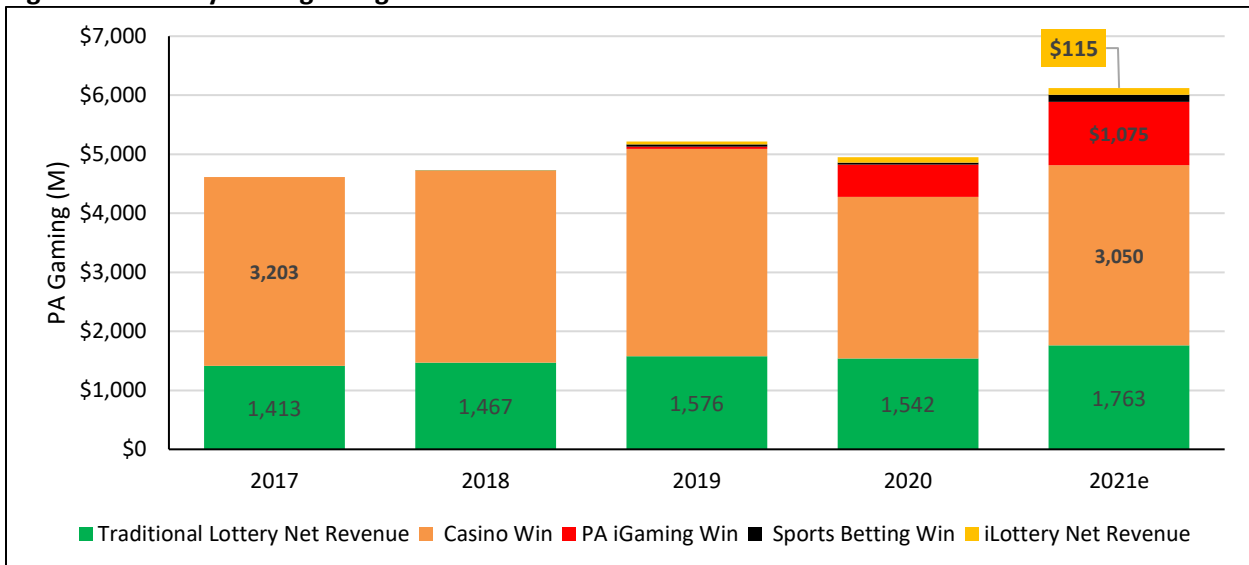
Figure 32: Pennsylvania lottery data, FY 2017-FY 2021



Source: H2 Gambling Capital

With the wide variety of gaming options in Pennsylvania, it is interesting that the traditional lottery revenues have increased even as more gaming choices are permitted, as shown below.

Figure 33: Pennsylvania gaming market FY 2016-FY 2021

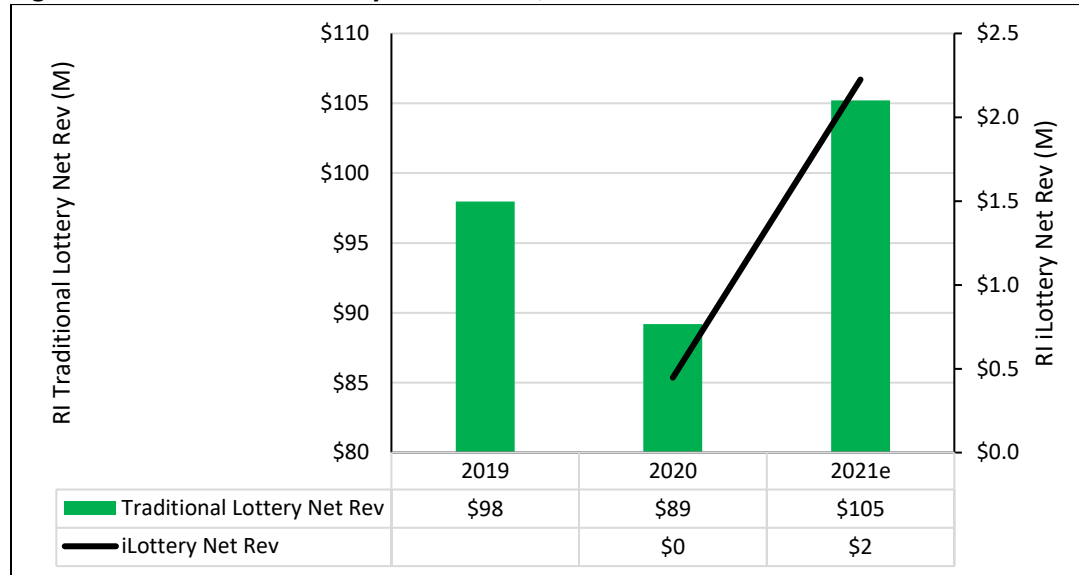


Source: H2 Gambling Capital

10. Rhode Island

The state of Rhode Island hosts casinos at racetracks. As in other states, the pandemic operating restrictions have eroded win at the casinos relative to 2019. Rhode Island introduced iLottery in 2020. Traditional lottery sales have grown from 2019. The state also introduced sports wagering. Despite these new forms of gambling, traditional lottery sales increased, as shown below.

Figure 34: Rhode Island lottery net revenue, FY 2019-FY 2021

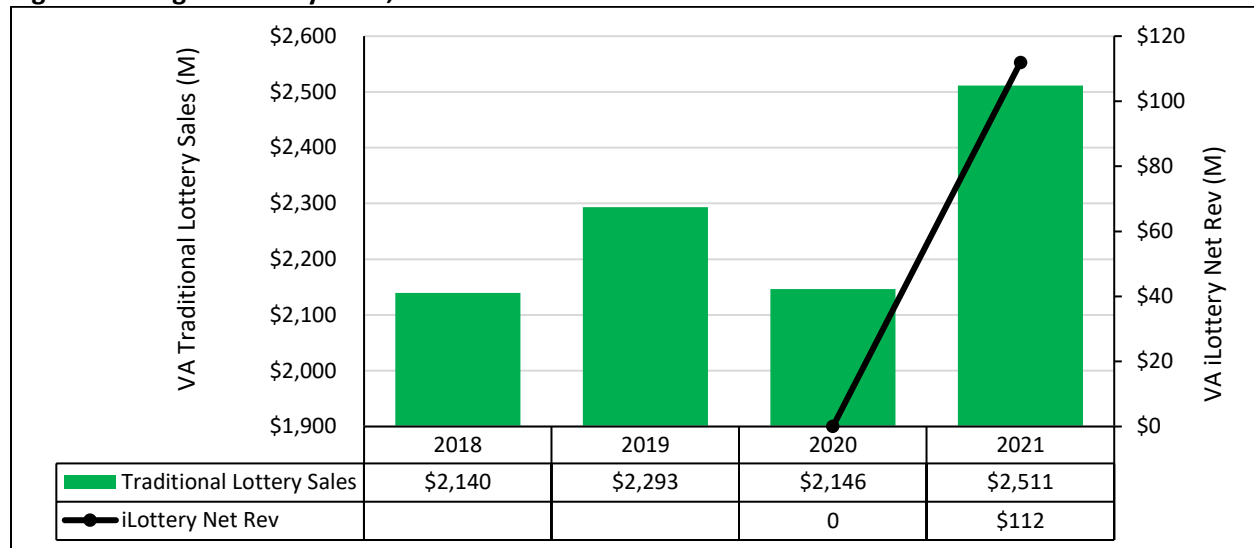


Source: H2 Gambling Capital

11. Virginia

While Virginia began offering an iLottery product in July 2020, the greater change to the gaming environment in Virginia was the authorization of Historical Horse Racing machines at Colonial Downs and several satellite locations. Despite the addition of this new form of gaming and the addition of iLottery, traditional lottery sales are estimated to be over 9 percent higher in 2021 than in the base year of 2019.

Figure 35: Virginia lottery sales, FY 2010-FY 2021



Source: H2 Gambling Capital, NeoPollard Interactive

B. Canada

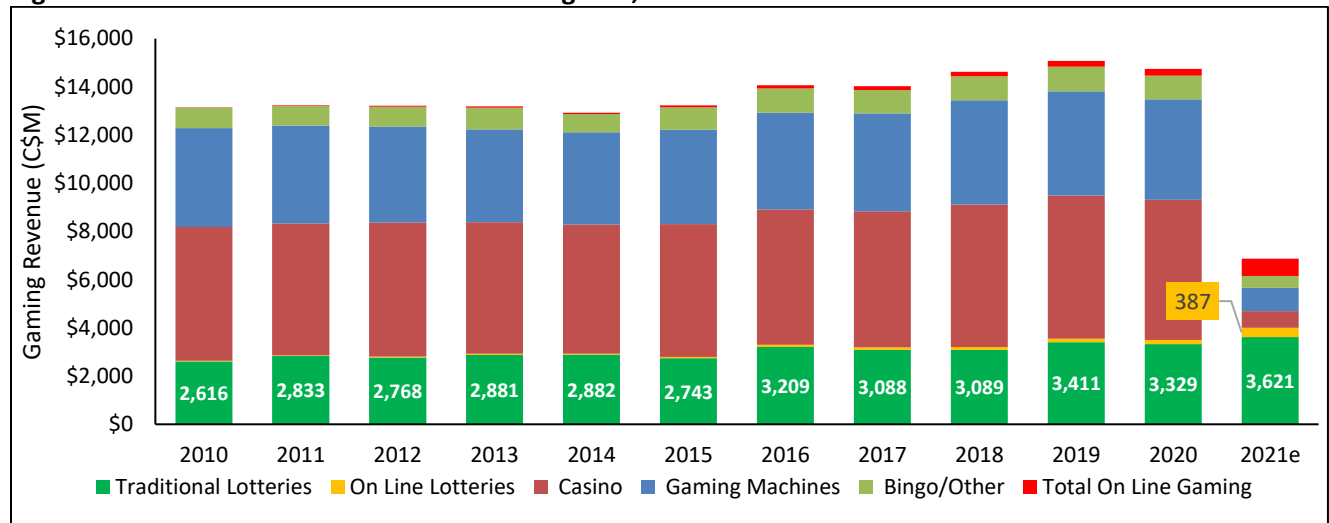
The Canadian iLottery market has grown from small beginnings. The online offerings currently generate approximately 10 percent of the win generated by traditional lotteries. Canadian lottery agencies also serve as the overseers of the casino industry. Some in the casino industry see this as an inherent conflict where a lottery corporation is also a competitor. As seen in Figure 36 below, there was a severe drop in win from other forms of gaming due to the pandemic shutdowns. The lotteries in the provinces that we examined increased sales during the shutdowns.

Some in the casino industry are concerned about the move of the lotteries into online gaming and a deeper move into iLottery offerings. Paul Burns, CEO of the Canadian Gaming Association said, “Many provincial lotteries launched iLottery sales of instant scratchers over a decade ago. Slowly the iLotteries moved to slots and table games, and even live table games. Because of the dual role of lotteries as overseers of casinos, this has become an issue during the pandemic.” Burns went on to say that “Canada has historically had a large gray market in online gaming, meaning there may have been online competition for the casinos already.”⁸⁸

The following series of charts shows that, while iLottery represents future growth, this segment is not yet a material segment of overall gaming revenue.

⁸⁸ Interview with Paul Burns, January 7, 2022

Figure 36: Studied Canadian Provinces Gaming Win, 2010-2021

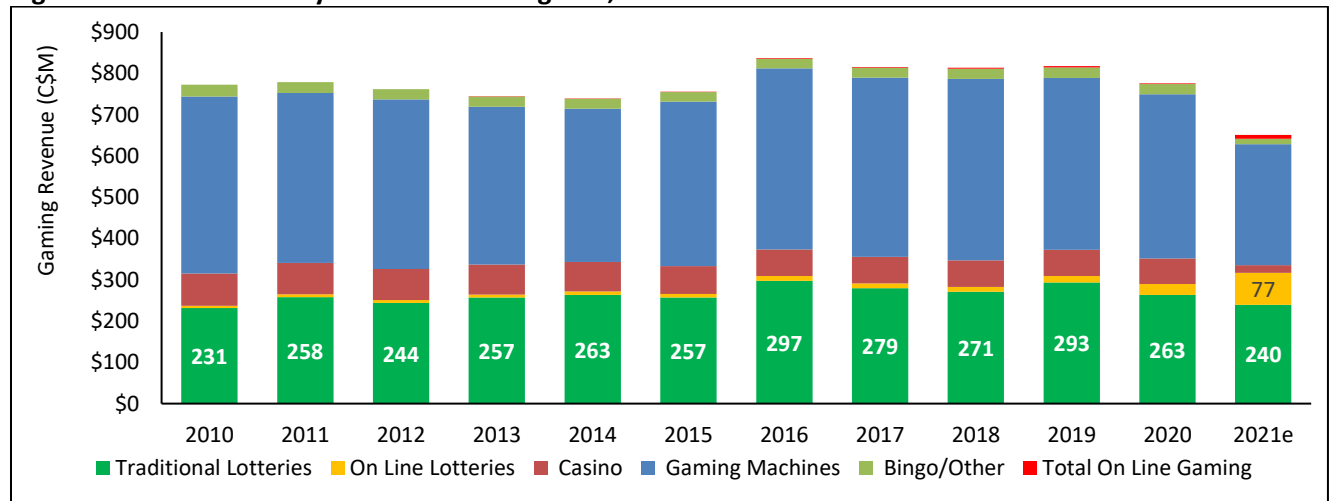


Source: H2Gambling Capital

1. Atlantic Lottery

The Atlantic Lottery is the umbrella operation for New Brunswick, Nova Scotia, Newfoundland and Prince Edward Island. The compilation of gaming win from these provinces is shown below. As can be seen in these provinces, iLottery win was quite small until the pandemic’s impact in 2021. In that year, casino and gaming machine win fell due to operating restrictions. It is likely some of the gaming win from these sectors flowed to iLotteries, and traditional lottery sales fell as well. Perhaps there was some migration from traditional lottery to the online product.

Figure 37: Atlantic Lottery Provinces Gaming Win, 2010-2021



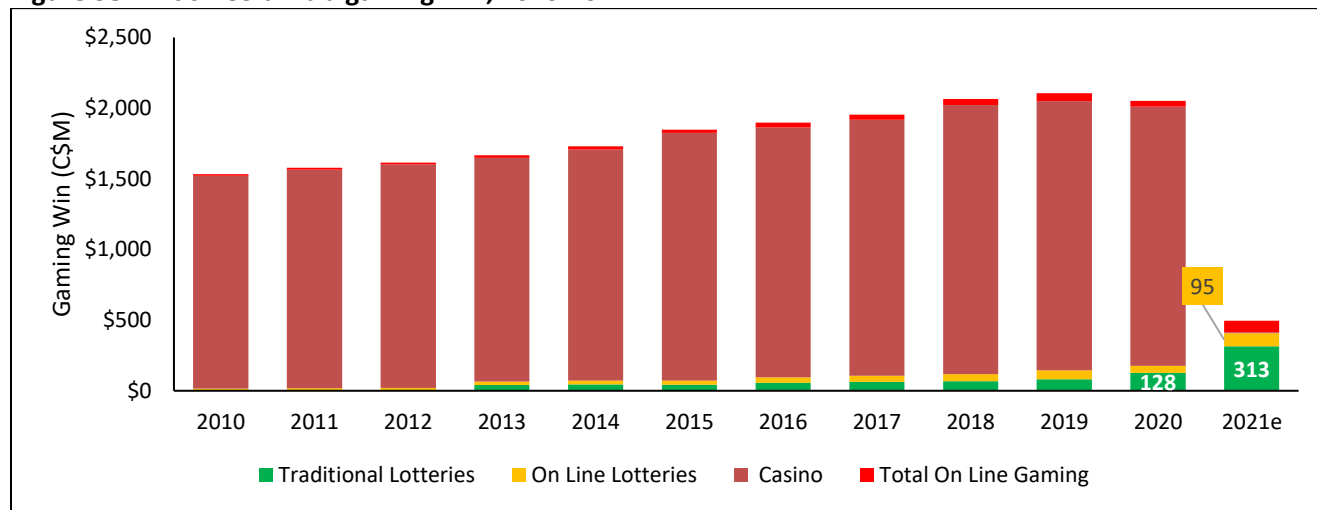
Source: H2 Gambling Capital

2. British Columbia

As can be seen below, the casino revenue in British Columbia was wiped out by restrictions and closures during the pandemic year of 2021. Lottery and iLottery sales grew during this period. It appears

the advent of iLottery and gaming coincided with the pandemic disruptions to other gaming operations, rather than being a causal event in the decline of revenue in those sectors.

Figure 38: British Columbia gaming win, 2010-2021

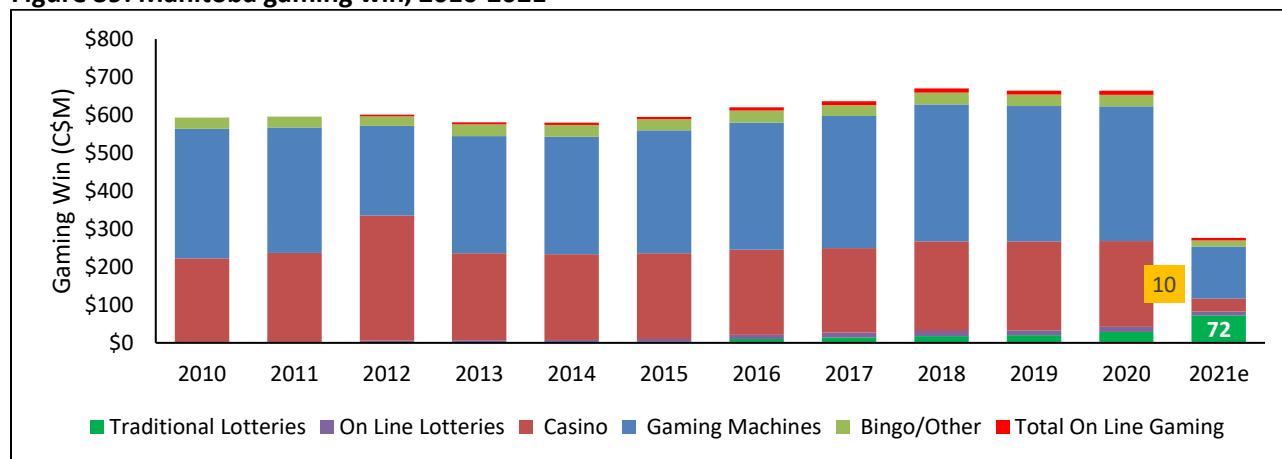


Source: H2 Gambling Capital

3. Manitoba

As in other provinces, gaming revenue from online and traditional lottery increased in Manitoba during the pandemic, while revenue from other forms of gaming fell. Here, too, it seems that the introduction of iLottery may have been shown, to a small extent, to serve as an alternative to land-based gaming, but it did not cause any cannibalization or disruption in either traditional lottery sales or other forms of gaming, as seen here.

Figure 39: Manitoba gaming win, 2010-2021



Source: H2 Gambling Capital

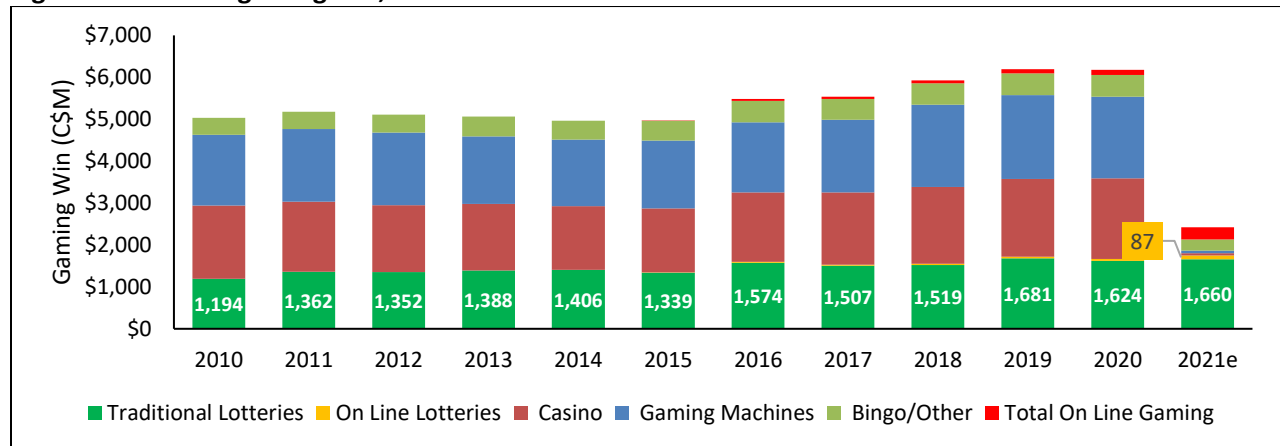
4. Ontario

Ontario is Canada’s most populated province, and it has a diverse gaming industry. The gaming industry includes casinos, horse racing, gaming machines, charitable gaming, online casino gaming, lottery and, recently, iLottery and sports wagering. In Ontario, the Alcohol and Gaming Commission of Ontario

(“AGCO”) is responsible for regulating horse racing; the Ontario Lottery and Gaming Corporation (“OLG”) regulates lotteries, casinos, charitable gaming, and online gaming.

While casino operations have been curtailed by the pandemic, it does not appear that there has been substitution of lottery gaming for casino gaming. It is estimated that 2021 lottery win will exceed the 2020 win and be the second highest in history. Total iLottery win is estimated to reach \$87 million in 2021, approximately 5 percent of the traditional lottery win. There does not appear to be erosion of traditional lottery sales from the presence of iLottery in Ontario.

Figure 40: Ontario gaming win, 2010-2021

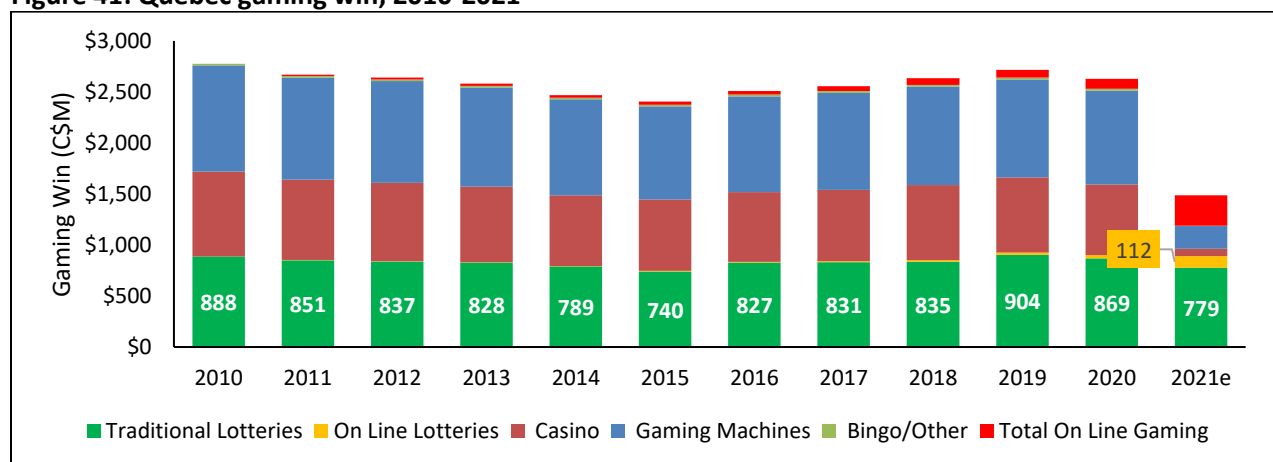


Source: H2 Gambling Capital

5. Quebec

Quebec has a large gaming industry that includes lottery, casinos, and other forms of gaming. The iLottery was introduced in 2011, but it did not really take off until the pandemic. Gaming win from traditional lottery, gaming machines, and casinos fell during the pandemic. The online offerings of casino gaming and iLottery grew during the pandemic. Prior to the shutdowns and pandemic operating restrictions, iLottery did not appear to have an impact on traditional lottery sales, as shown below.

Figure 41: Quebec gaming win, 2010-2021



Source: H2 Gambling Capital

C. iLottery and iGaming

The lottery industry is not alone in expanding its offerings in the digital realm. The casino industry is simultaneously expanding into digital gaming – known as iGaming – for many of the same reasons.

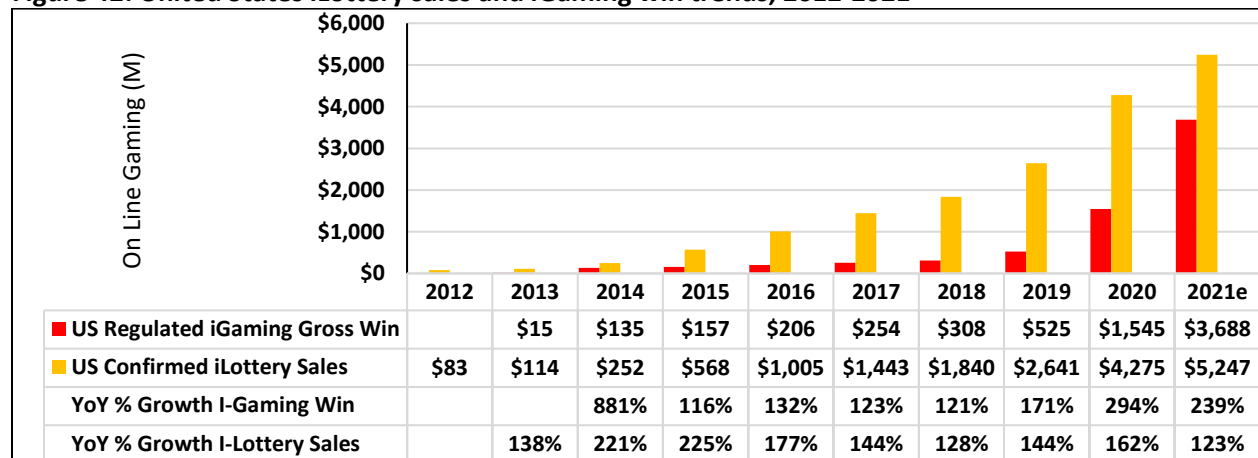
Rose Hudson, President and CEO of the Louisiana Lottery, noted in 2017:

Both casinos and lotteries are trying to overcome player stereotypes in the design of our product and the delivery channels, especially for millennials who see these games as part of the parental generation ... Casinos are trying to get folks into their bricks-and-mortar buildings. We're challenged to get those same young players to spend their entertainment dollar on our product. We're both trying to figure out a path forward.⁸⁹

In a sense, lotteries can be considered the older sibling of the casino industry. New Hampshire created the first US state lottery in 1964, while New Jersey was the first state to end the Nevada monopoly on casinos in 1976. Both faced criticism at the time that they were entering industries long dominated by illegal actors.⁹⁰ Both overcame such concerns, and both have evolved into national industries.

The data below present the iLottery sales data and the iGaming win for the periods since inception. While the chart presents data on win and data on sales, the important takeaway is the trend of each. In both cases, the rate of growth has been materially significant, in part due to more and more states legalizing one or both forms of gaming.

Figure 42: United States iLottery sales and iGaming win trends, 2012-2021



Source: H2 Gambling Capital 2021

The licensed and regulated casino industry in the United States faces multiple challenges, including the effect from distributed gaming, including regulated and unregulated slot machines at locations outside of licensed casinos. Unlike the impact of legalized distributed gaming on casino revenue, in no state has the introduction of iLottery caused a material reduction in traditional casino gross gaming

⁸⁹ Marjorie Preston, "Can Casinos Learn from the Lottery?" *GGB Magazine*, May 24, 2017. <https://ggbmagazine.com/article/can-casinos-learn-from-the-lottery/>

⁹⁰ Kevin Flynn, "How NH Defied the Feds, Mob and Church to Create the First State Lottery," *New Hampshire Magazine*, December 15, 2015. <https://www.nhmagazine.com/how-nh-defied-the-feds-mob-and-church-to-create-the-first-state-lottery/>

revenue, as seen in Figure 43 below, which examines four pre-pandemic years. Note that some states do not segregate iLottery revenue from the traditional lottery revenue. In such cases, we examined total lottery and casino GGR. We have used the terms from the respective state lotteries – not to confuse readers between iLottery and online games, but to present the information from the states as each state presents it.

Figure 43: Gaming revenue by source for states with both gaming and iLottery, 2016-2019

State	Revenue (M) by Source	2016	2017	2018	2019
IL	All Lottery Sales	\$2,856.0	\$2,844.0	\$2,926.0	\$2,977.0
	Casino GGR	\$1,413.5	\$1,408.0	\$1,373.5	\$1,354.2
	All VGT GGR	\$1,108.1	\$1,314.0	\$1,500.0	\$1,676.6
KY	iLottery Digital Instant Revenue	\$0.1	\$1.4	\$2.1	\$4.1
	Historical Horse Racing GGR	\$50.8	\$71.6	\$85.0	\$168.9
MI	iLottery Digital Instants GGR	\$48.0	\$77.9	\$93.7	\$116.3
	Commercial & Native Casino GGR	2,846.4	\$2,894.5	\$2,951.1	\$2,977.0
PA	iLottery Sales (started May 2018)			\$20.0	\$381.0
	Casino GGR	\$3,227.8	\$3,202.7	\$3,247.6	\$3,517.4
WV	Online Games	\$85.7	\$72.1	\$77.8	\$84.5
	All VLT and Casino GGR	\$944.3	\$913.0	\$914.1	\$941.8

Source: State gaming authorities and lotteries, H2 Gaming Capital

The emergence of both iLottery and iGaming has created some points of concern. As Eric Schippers, Penn National’s Senior Vice President of Public Affairs and Government Relations, noted: “If the lottery wants to sell traditional lottery products online – in other words, anything that doesn’t simulate a slot machine – we’re OK with that. ... We don’t think we should have to be in a position to compete against the state.”⁹¹

Howard Glaser, Global Head of Government Affairs and Legislative Counsel at Scientific Games, noted in 2020 that “when we talk about online gaming, we are talking about casino games online, provided generally by land-based casino operators. When we talk about iLottery, we are talking mostly about instant or scratch tickets. Though draw games can and are purchased online in some jurisdictions, the instant games are where 80 percent or more of the revenue is.”⁹²

Litigation in Pennsylvania has focused on whether lottery instant games unfairly simulate slot machines. The lawsuit was filed by a coalition of casino operators,⁹³ including Penn National, who alleged that the instant games simulated slot machines, in violation of the 2017 state law that authorized both forms of digital gaming. Notably, that law also prohibited the Pennsylvania Lottery from offering iLottery

⁹¹ Matthew Kredell, “Penn National Fighting Online Lottery Games in Pennsylvania and Ohio,” *PlayPennsylvania.com*, October 16, 2020. <https://www.playpennsylvania.com/penn-fighting-slot-like-lottery-games-pa-ohio/>

⁹² Statement by Howard Glaser, “Leveraging Online Channels as a Policy Goal and Potential Revenue Stream,” National Council of Legislators from Gaming States Webinar, June 24, 2020.

⁹³ Spectrum Gaming Group served as expert witnesses in that matter, on behalf of the casino operators.

products that “simulated” casino games, including slot machines.⁹⁴ That provision, which appears to be unique to Pennsylvania, served as the basis for the litigation.

At the trial court level, a judge ruled in favor of the Pennsylvania Lottery, and that litigation is pending appeal. For purposes of this report, we are not taking sides in this debate, but rather note that, as Rose Hudson points out, both industries are seeking digital solutions to their longstanding quest to reach a new demographic.

Potential conflicts between these two forms of digital gaming can best be addressed through dialogue between the operators, as well as by policymakers who can devise lanes for their respective gaming industries, but there are no national solutions that will address these issues in all jurisdictions. These have to be addressed through detailed dialogue leading to substantive policy goals established in each gaming jurisdiction.

⁹⁴ “Pennsylvania Casinos Lose in Court over Online Lottery Games,” Associated Press, May 28, 2021. <https://apnews.com/article/pennsylvania-lifestyle-business-government-and-politics-3d91e73b7610fc8697d476e41abfb31a>

6. Conclusion

The expansion of iLottery across North America is being pushed forward by two inexorable forces: technology and commerce. Advancements in technology will make iLottery more compelling and cost-effective, and they will allow for more creativity in areas ranging from new games to new marketing efforts.

Commercial opportunities will also expand as iLottery continues to reach a broader demographic base. Just as significant, the evolution of lotteries into a more dynamic multi-channel industry will likely encourage more companies – including entrepreneurial, start-up ventures – to enter the arena.

This growth, however, will not be cost-free. Not every retailer in North America will welcome this expansion, and not every retailer will succeed or achieve the same level of success as this expansion unfolds.

Lotteries remain agents of their respective states, territories and provinces. That means they will remain focused on larger policies established by those governments. The policies will vary, largely because gaming policies and practices differ widely. The future growth of iLottery in Pennsylvania, as one example, will not look the same as it will in, say, Georgia or North Carolina or a host of other states. The differences in expansion will be driven in part by the existing gaming landscape. States that are dotted by multiple retail casinos, such as Pennsylvania and New York, will consider the impact on those land-based properties. Jurisdictions that have few or no casinos will adopt a different approach, as will states such as Massachusetts or Georgia in which the proven success of their retailer networks will drive the evolution of iLottery.

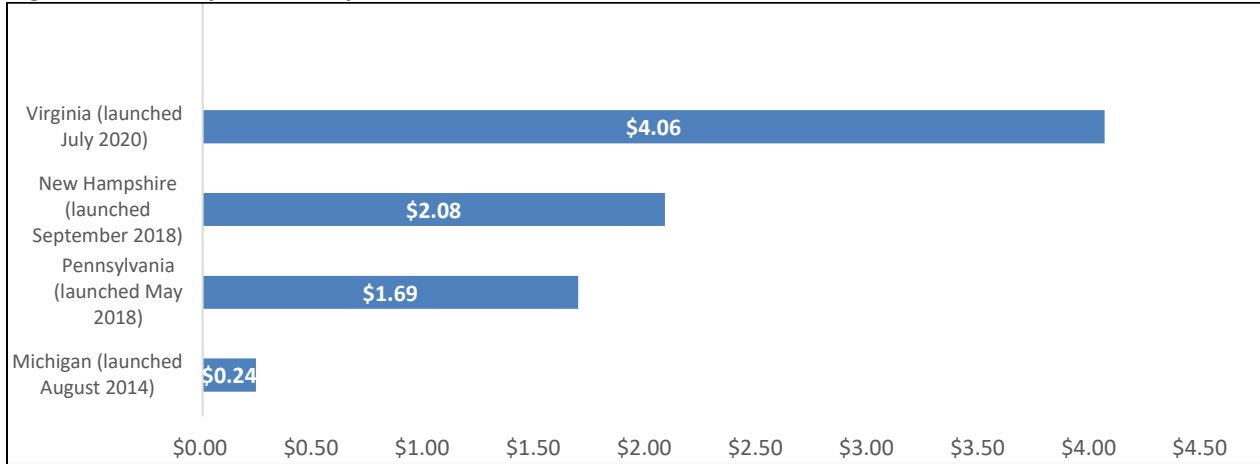
Still, the expansion of iLottery everywhere will – and arguably should – retain some common bonds, most notably in the areas of protecting retailer networks and protecting those vulnerable problem gamblers. As this report endeavors to demonstrate:

- Lotteries can use iLottery as an opportunity to strengthen their essential bonds with their respective retailer networks by working creatively in areas such as marketing, in which iLottery customers can gain awareness of their local retailers through loyalty programs, as well as by appropriate efforts to require cashing in winning tickets at retailers.
- As iLottery will inevitably generate a rich trove of data on customers' buying habits, a core goal must be to leverage that data to more effectively identify and address problem gambling, including efforts to educate players about resources, as well as through the use of self-exclusion, among other tools.

As consumers across the United States become more accepting of various forms of digital commerce, the acceptance of iLottery in emerging states can be expected to result in rollouts that are smooth and robust. By way of example, Figure 44 below depicts the first month of gross sales for Michigan, Pennsylvania, New Hampshire and Virginia on a per capita basis. Our analysis focuses on per-capita sales as this allows comparisons among states with differing populations, although we caution this is not a perfect comparison, as other factors, such as disposable income, can lead to differing results.

This comparison is significant because Michigan was the first iLottery state, having launched in 2014. Notably, Michigan started with a much more limited product selection compared to the three other states. However, the initial success of the three other states as shown in Figure 44 indicates a changing consumer acceptance of digital commerce and a growing acceptance and knowledge of iLottery products, specifically digital instant tickets.

Figure 44: Per capita iLottery sales in first month after launch, selected states



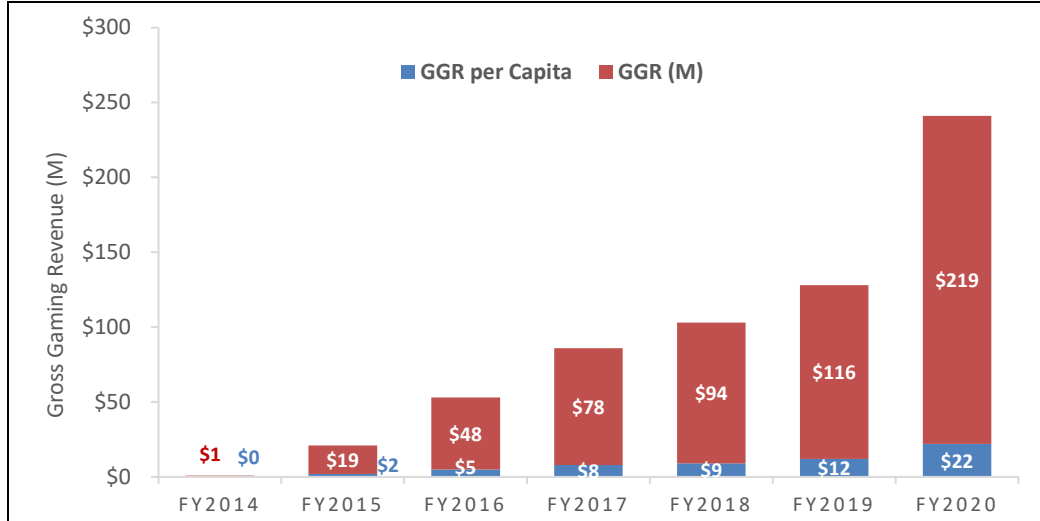
Source: NeoGames, S.A. Form F-1: Preliminary Prospectus, November 16, 2020

As a pioneering iLottery state, Michigan offers an experience that is both relevant and replicable. Because lottery markets are geographically defined and restricted, there are no first-mover advantages or second-mover disadvantages, yet there are lessons to be learned.

While Michigan started slowly with a limited iLottery offering, it managed to achieve a compound annual growth rate (“CAGR”) of 34 percent in its first three fiscal years, which were pre-pandemic (see Figure 45 below). In FY 2020, the growth was even more dramatic, nearly doubling – in part due to pandemic-related factors such as the combined effects of casinos being closed and residents staying home during the Covid-19 pandemic.⁹⁵

⁹⁵ “NeoGames, S.A. Form F-1: Preliminary Prospectus NeoGames S.A. November 16, 2020, at p. 89. https://www.sec.gov/Archives/edgar/data/1821349/000110465920125524/tm2029242-14_f1a.htm#tBUS.

Figure 45: Michigan Lottery digital instant GGR and per capita GGR, 2014-2020



Source: Michigan Lottery, Spectrum Gaming Group

So, while focusing on the pre-pandemic period to avoid such distortions, traditional retail lottery sales in Michigan increased at a CAGR of 7.8 percent from the introduction of iLottery through the last full pre-pandemic year of 2019, a rate that outpaced growth in traditional retail lottery in most states that have yet to implement iLottery.⁹⁶

While the data, which continue to grow, demonstrate that iLottery does not cannibalize retail lottery sales and will expand the demographic reach of lotteries, that should not be a prescription for complacency. Going forward, lotteries can use this ever-growing trove of data to continually adapt and to identify new opportunities to meet their stated policy goals.

⁹⁶ Ibid., p. 78

About This Report

This report was prepared by Spectrum Gaming Lottery Group, a division of Spectrum Gaming Group, a non-partisan consultancy founded in 1993 that specializes in the economics, regulation and policy of legalized gambling worldwide. Our principals have backgrounds in operations, economic analysis, law enforcement, regulation, research and journalism.

Spectrum holds no beneficial interest in any casino operating companies or gaming equipment manufacturers or suppliers. We employ only senior-level executives and associates who have earned reputations for honesty, integrity and the highest standards of professional conduct. Our work is never influenced by the interests of past or potential clients.

Each Spectrum project is customized to our client's specific requirements and developed from the ground up. Our findings, conclusions and recommendations are based solely on our research, analysis and experience. Our mandate is not to tell clients what they want to hear; we tell them what they need to know. We will not accept, and have never accepted, engagements that seek a preferred result.

Our clients in 42 US states and territories, and in 48 countries on six continents, have included government entities of all types and gaming companies (national and international) of all sizes, both public and private. In addition, our principals have testified or presented before the following governmental bodies:

- Brazil Chamber of Deputies
- British Columbia Lottery Corporation
- California Assembly Governmental Organization Committee
- Connecticut Public Safety and Security Committee
- Florida House Select Committee on Gaming
- Florida Senate Gaming Committee
- Georgia House Study Committee on the Preservation of the HOPE Scholarship Program
- Georgia Joint Committee on Economic Development and Tourism
- Illinois Gaming Board
- Illinois House Executive Committee
- Indiana Gaming Study Commission
- Indiana Horse Racing Commission
- International Tribunal, The Hague
- Iowa Racing and Gaming Commission
- Louisiana House and Senate Joint Criminal Justice Committee
- Massachusetts Gaming Commission
- Massachusetts Joint Committee on Bonding, Capital Expenditures, and State Assets
- Michigan Senate Regulatory Reform Committee
- National Gambling Impact Study Commission
- New Hampshire Gaming Study Commission
- New Jersey Assembly Regulatory Oversight and Gaming Committee
- New Jersey Assembly Tourism and Gaming Committee
- New Jersey Senate Legislative Oversight Committee
- New Jersey Senate Wagering, Tourism & Historic Preservation Committee

- New York Senate Racing, Gaming and Wagering Committee
- New York State Economic Development Council
- North Dakota Taxation Committee
- Ohio House Economic Development Committee
- Ohio Senate Oversight Committee
- Pennsylvania Gaming Control Board
- Pennsylvania House Gaming Oversight Committee
- Puerto Rico Racing Board
- US House Congressional Gaming Caucus
- US Senate Indian Affairs Committee
- US Senate Permanent Subcommittee on Investigations
- US Senate Select Committee on Indian Gaming
- US Senate Subcommittee on Organized Crime
- Washington State Gambling Commission
- West Virginia Joint Standing Committee on Finance
- World Bank, Washington, DC

Disclaimer

Spectrum has made every reasonable effort to ensure that the data and information contained in this study reflect the most accurate and timely information possible. The data are believed to be generally reliable. This study is based on estimates, assumptions, and other information developed by Spectrum from its independent research effort, general knowledge of the gaming industry, and consultations with the Client and its representatives. Spectrum shall not be responsible for any inaccuracies in reporting by the Client or its agents and representatives, or any other data source used in preparing or presenting this study. The data presented in this study were collected through the cover date of this report. Spectrum has not undertaken any effort to update this information since this time.

Some significant factors that are unquantifiable and unpredictable – including, but not limited to, economic, governmental, managerial and regulatory changes; and acts of nature – are qualitative by nature and cannot be readily used in any quantitative projections. No warranty or representation is made by Spectrum that any of the projected values or results contained in this study will actually be achieved. We shall not be responsible for any deviations in the project’s actual performance from any predictions, estimates, or conclusions contained in this study.

Possession of this study does not carry with it the right of publication thereof, or the right to use the name of Spectrum in any manner without first obtaining the prior written consent of Spectrum. This study may not be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the Client, without first obtaining the prior written consent of Spectrum. This study may not be used for any purpose other than that for which it is prepared or for which prior written consent has first been obtained from Spectrum. This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.