GAMING MARKET STUDY: STATE OF NEW YORK

Appendices

Prepared for the New York State Gaming Commission
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Figures

This appendix package was prepared as a separate document for ease of reader use. It is an integral part of the New York Gaming Study main report.

Appendix A: Individuals Interviewed for this Project

Spectrum interviewed the following individuals for this study, either in person, by telephone, or by email. Many of the individuals were interviewed more than once and by multiple project team members. Many individuals may have additional titles and affiliations. We endeavored to contact a wide range of stakeholders, whether they worked in the gaming realm or not.

Figure 1: People interviewed for this study

Last	First	Affiliation	Formal Title
Addabbo	Joseph	New York Senate	Chairman of Committee on Racing, Gaming and Wagering
Alempijevic	William	New York Racing Association and NY Thoroughbred Horsemen's Association	Director – Racing Analytics / Executive Director
Allen	Bradley	Office of General Services	General Counsel
Andrewes	Ed	Resorts Digital	CEO
Ansorge	James	Cozen O'Connor	Government Affairs Advisor
Applebaum	Joseph	New York Thoroughbred Horsemen's Association	President
Avella	Michael	Dickinson & Avella, PLLC	Partner
Barrow	Clyde	Pyramid Associates	General Manager
Belfiore	Andy	New York Thoroughbred Horsemen's Association	Executive Director
Bluhm	Neil	Rush Street Gaming	Chairman
Buchan	Thomas	Park Strategies	Vice President
Burge	Douglas	California Thoroughbred Breeders Association	President
Cannizzo	Jeffrey	New York Thoroughbred Breeders	Executive Director
Carlin	Greg	Rush Street Gaming (Rivers Schenectady)	CEO
Carlson	Skip	Saratoga Harness Racing	Vice President of External Affairs
Carmen	Peter	Oneida Nation Enterprises	COO
Casey	Raymond	NY OTB	Former president & CEO
Chabrier	Gene	Player Management Group LLC / Expressbet LLC	Vice President - Regulatory Affairs and Business Development
Chandler	Todd	Tioga Downs	VP of Marketing
Chunko	Ann	United States Trotting Association	Pedigrees & Research
Cochran	Kevin	DraftKings	Government Affairs Manager
Constable	Richard	The Madison Square Garden	EVP, Global Head of Government Relations and Public Affairs
Cotti	Chad	University of Wisconsin Oshkosh	Chair, Department of Economics, and Oshkosh Corporate Endowed Professor
Dadoyan	Alex	Yonkers Raceway	Director of Racing
Davis	Mike	International Brotherhood of Electrical Workers, Local 840	Business Manager

Last	First	Affiliation	Formal Title
Dean	Gweneth	Division of Lottery	Director
Denny	Joyce	United Neighbor Civic Association	President
DeSalvio	Robert	Genting Americas, Inc.	President of Genting New York State
Dhanoa	Sital	Retired	former executive with NYC OTB and NYRA
Diorio	Todd	Hudson Valley Building Trades Council; Laborers Local 17	President; Business Manager
Domingo	Edward	Empire City Casino at Yonkers Raceway	Senior VP
Drehkoff	Tim	Rush Street Gaming	CFO
Eller	Ryan	Resorts World Catskills	President and CEO
Faraldo	Joseph	Standardbred Owners of New York	President
Featherstonhaugh	James	Saratoga Casino Hotel	General Counsel
Feldman	Alan	University of Nevada Las Vegas	Distinguished Fellow
Flynn	Maureen	Monticello Raceway	Director of Simulcasting
Foley	Keith	Moody's Investors Service	Senior Vice President
Foreman	Alan	Thoroughbred Horsemen's Association	Chairman, CEO
Forney	Mary	Thoroughbred Owners of California	Executive Director
Gegorek	Craig	Gegorek & Company, P.A.	Co-founding Partner
Gellineau	Anthony	South Ozone Park Civic Association	President
Gerrity	Daniel	Saratoga Casino Hotel	President
Gomes	Aaron	Peninsula Pacific Entertainment	COO
Goodall	Cricket	Maryland Horse Breeders Association	Executive Director
Grech	Thomas	Queens Chamber of Commerce	President and Chief Executive Officer
Green	Will	Bet365	Head of U.S. Development
Groth	Donald	Catskill Regional Off-Track Betting Corporation	President
Gural	Jeffrey	Tioga Downs Casino & Resort	Chairman
Haas	James	Western Regional Off-Track Betting Corporation	Communications Manager/Mutuel Manager
Hall	Kevin	Lien Games Racing	President
Hannon	Paul	PointsBet	Vice President of Strategy & Retail
Hansberry	Brian	Delaware North	President, Gaming
Heaps	Evan	Las Vegas Sands	Senior Analyst, Strategy & Operations
Hemsworth	Robert	Capital District Regional Off-Track Betting Corporation	Vice President of Legal Affairs & General Counsel
Holt	Betty	Harness Horse Breeders of New York State	Executive Director
Hopkins	Michael	Maryland Racing Commission	Executive Director
Ifrah	Jeff	Ifrah Law (IDEA Trade Group)	Founding Partner
Johnson	David	Turf Paradise	Vice President/Assistant General Manager
Jones	Kevin	Resorts World	Senior Vice President
Kane	Michael	New York Gaming Association	President

Last	First	Affiliation	Formal Title
Kang	Paul	MGM Resorts International	Director of Financial Planning and Analysis
Keeney	Emily	American Racing and Entertainment	Regional Director Of Planning & Analysis
Kent	Robert	OASAS	Robert A. Kent, General Counsel for the New York State Office of Alcoholism and Substance Abuse Services (OASAS)
Kilroy	Chuck	Jake's 58 Hotel & Casino	General Manager
Knauf	William	Monmouth Park Racetrack and Sportsbook	Vice President of Business Operations
LaBoissiere	Jill	New York Thoroughbred Breeding & Development Fund	Comptroller
Lalevee	Greg	International Union of Operating Engineers, Local 825	Business Manager
Lauzon	Emily	Akwesasne Mohawk Casino Resort	Assistant General Manager
Leach	Jacquelyne	Western Regional Off-Track Betting Corporation	Chief Financial Officer
Leicht	Holly	Empire State Development	Executive Vice President of Real Estate Development & Planning
Levoff	Michael	Las Vegas Sands	SVP of Public Affairs & Strategy
LoGuidice	Robert	Sportradar	Licensing Manager
Longo	Joseph	New York Racing Association	Director, Simulcasting
Lucanera	Valerie	Catskill Regional Off-Track Betting Corporation	Executive Assistant
Luzius	Timothy	The Maryland Jockey Club	Vice President & Assistant General Manager
Lycka	Martin	GVC Holdings	Director of Regulatory Affairs
Madamba	Patrick	MGM Resorts International	Senior Vice President and Legal Counsel
Maney	James	New York Council on Problem Gambling	Executive Director
Mango	James	Buffalo Raceway	COO
Mansfield	Colin	Fitch Ratings	Director
Maraminsky	Mark	New York Racing Association	Manager - Financial Planning and Analysis
Martinez	Eloy	Aristocrat Technologies	Vice President of Government Relations
Matarazzo	John	Saratoga Harness Racing	Director of Racing Operations
Mawicke	Kathy	Lien Games Racing	Marketing
McCardle	Jonathan	Featherstonhaugh, Wiley & Clyne, LLP	Partner
McCarthy	Patrick	Mercury Public Affairs	Managing Director
McClaren	Adam	Moody's Investors Service	Vice President and Senior Analyst
McErlean	Christopher	Penn ADW	Vice President
McKenna	Patrick	New York Racing Association	Communications Director
McNeil	Jack	Delaware North	SVP, Government and External Affairs
Molina	Scott	Resorts World New York City	President
Moncreif	Bob	Bet365	Legal & Regulatory Counsel
Moore	Justin	Rivers Casino & Resort Schenectady	General Manager
Morris	Philip	Fair Game for the Theater Arts	Founder
Munroe	Ryan	MGM	Director of Slots

Last	First	Affiliation	Formal Title
Murphy	Jeffrey	United Tote	General Manager, Northeast Region
Noce	TJ	Western Regional Off-Track Betting Corporation	Revenue Accounting Staff Accountant
Norris	Melvin	Business Council of New York State	Senior Director of Government Affairs
Noteboom	Brian	United Brotherhood of Carpenters, Local 277	Council Representative
Oh	Jon	Las Vegas Sands	Strategy & Operations
O'Rourke	David	New York Racing Association	President and CEO
Otto	Charles	Vernon Downs Casino & Hotel	President & GM
Pancella	Anthony	Suffolk Regional Off-Track Betting Corporation	Vice President and Chief Operating Officer
Panza	Martin	New York Racing Association	Senior Vice President, Racing Operations
Papineau	Todd	Akwesasne Mohawk Casino Resort	General Manager
Pappas	John	Corridor Consulting (IDEA Trade Group)	Founder & CEO
Pretlow	J. Gary	New York Assembly	Chair, Committee on Racing and Wagering
Previte	David	Seneca Nation	Outside counsel
Puhalski	Robert	Hamburg Gaming at Buffalo Raceway	General Manager
Rak	Jake	Western Regional Off-Track Betting Corporation	Controller - WROTBC Operations
Ray	Margaret	University of Mary Washington	Chair and Professor of Economics, and Director of the UMW Center for Economic Education
Reed	Austin	Finger Lakes Horsemen's Benevolent and Protective Association	Executive Director
Richards	Phil	KAMBI	U.S. General Manager & Group Financial Controller
Riegle	Christian	Finger Lakes Gaming and Racetrack	General Manager
Rosenberg	Adam	Fortress Investment Group	Managing Director & Global Head of Gaming & Leisure
Sandoval	Lauralyn	Aristocrat Technologies	Vice President of New Markets
Sanjanwala	Raj	Sportech	Chief Technology Officer
Sattar	Omer	Sightline Payments	Executive Vice President
Scheidt	Richard	self-employed	former California and Oregon racing executive
Schiano	Sean	Western Regional Off-Track Betting Corporation	Director of Branch Operations
Schoepflin	Christopher	Pegula Sports and Entertainment	Vice President of External Affairs & Strategic Development.
Schuster	Christine	Buffalo Raceway	Controller
Settlemoir	Jason	Vernon Downs and Tioga Downs	Regional Vice President / COO/General Manager
Shannon	Brian	Vernon Downs and Tioga Downs	Director of Analytics
Sheridan	David	Seneca Gaming Corporation	CFO
Shorenstein	Stuart	Cozen O'Connor	Member
Signor	John	Capital District Regional Off-Track Betting Corporation	President
Simkins	Joel	Truist	Managing Director, Head of Gaming & Leisure Investment Banking

Last	First	Affiliation	Formal Title
Simon	Nate	United Tote	President
Stephens	Brent	Peninsula Pacific	CEO
Stevens	Brent	Peninsula Pacific Entertainment	Chairman & Managing Partner
Swain	Jonathan	Peninsula Pacific Entertainment	President
Tanner	Michael	United States Trotting Association	Executive Vice President and General Counsel
Thurman	Mark	Chrims	Founder
Tucker	Alex	Saratoga Casino Hotel	General Manager/Treasurer
Tufarelli	John	Nassau Off-Track Betting Corporation	Executive Director
Vickery III	Charles	self-employed	Consultant
Walsh	Arthur	Nassau Off-Track Betting Corporation	General Counsel & Corporate Secretary
Ward	Peter	New York Hotel & Motel Trades Council	President
White	William	Western Regional Off-Track Betting Corporation	VP Administration
Whyte	Keith	National Council on Problem Gambling	Executive Director
Wiles	Shawn	Monticello Raceway	Executive Director of Racing & Facilities
Wilson	Joseph	Parx Casino and Racing	COO
Winter	Thomas	Landry's Inc. (Golden Nugget Interactive)	SVP and GM, Online Gaming
Wittstruck	Chris	Standardbred Owners of New York	Board Member
Wojtaszek	Henry	Batavia Downs Gaming & Batavia Downs & Western Regional OTB	President & CEO
Wood	Arthur	Vernon Downs Casino - Hotel	Assistant General manager
Young	Erin	Workers United: Rochester Regional Joint Board	Business Agent
Young	Lance	del Lago Resort & Casino	Executive Vice President and General Manager
Young	Seth	PointsBet	Chief Innovation Officer
Young	Kelly	Agriculture and NYS Horse Breeding Development Fund	Executive Director
Young	Lance	Del Lago Resort & Casino	Exec VP & General Manager
Zahariev	Vieden	Finger Lakes Racing & Gaming	Assistant General manager
Zarpentine	Lee	United Public Service Employees Union	Labor Relations Representative
Zimny	Erich	Hollywood Casino at Charles Town	Vice President of Racing Operations
Zlogar	Patrick	The Roffe Group, PC (NYRA representative)	Director of Government Relations

Source: Spectrum Gaming Group

Appendix B: Regional Economic Models Inc. PI+ Model

To forecast the economic impacts of gaming in New York, Spectrum worked with the UMass Donahue Institute, which employed the PI+ model from Regional Economic Models Inc. ("REMI"). PI+ is a structural economic forecasting and policy analysis model. It integrates input-output, computable general equilibrium, econometric and economic geography methodologies. The model is dynamic, with forecasts and simulations generated on an annual basis and behavioral responses to compensation, price, and other economic factors.

The model has 23 industry sectors, which correspond to the two-digit level of the North American Industry Classification System codes.[1] REMI's models lead the market in sophistication and are used throughout the nation at the local, state, and federal level. In New York, Empire State Development, the Department of Labor, and NYC Economic Development Corporation use REMI models.

When evaluating the impacts of any existing economic activity, it is customary to take a single snapshot in time. We used forecasted gaming activity for 2020 to create that snapshot.[2] Our task included not just an estimate of existing gaming but also an estimate of the impacts of the 2013 Upstate Gaming Expansion Act. As a result, we have estimated 2020 gaming with all existing gaming and with just the expanded properties. Furthermore, to provide context for the observed growth, we calculated impacts for 2015, which was the final year before any of the relevant Upstate expansion came online.

The key inputs to the analysis of existing gaming were casino employment, revenues (both gaming and nongaming), and taxes, revenue sharing, and similar fees on GGR. The analysis used data for both 2015 and 2020. We used public data where available and we used our expertise to estimate data where none was publicly available.

Beyond the above data, we also estimated other aspects of the direct impact that are critical to the analysis. The first is reallocation of other economic activity. Reallocation accounts for the fact that not every dollar spent at a casino is new to the economy. Some dollars are reallocated away from other consumption and toward gaming, which means the net increase in consumption is less than the casino's revenues. It is important to understand that reallocation is not unique to gaming but rather is an aspect of all new consumption options. For example, a new restaurant will draw some business away from existing restaurants. Reallocation can also occur across industry sectors: a stadium could draw spending away from sports bars, or online streaming could draw spending away from theaters. To estimate reallocation, we first estimated the share of casino revenues coming from in-state patrons, then we spread this revenue across the model regions using each region's share of statewide casino revenues.

[1] The NAICS is a unified system of codification that is used to categorize economic data in Canada, Mexico, and the United States. The NAICS is maintained domestically by the Office of Management and Budget.

[2] As is noted throughout this report, our estimates for 2020 preceded any of the disruptions caused by the COVID-19 pandemic. In general, when forecasting trends for long-term policymaking, it is prudent to overlook short-term deviations from the norm.

Finally, we assumed that 50 percent of this spending would be reallocated from other existing consumption. This assumption is consistent with our assumptions and findings in other states.

The next aspect of the direct impact we evaluated was the effects on State and local government revenues from sources other than gaming revenues, namely accommodations and sales taxes. Casinos create positive impacts on accommodations taxes through charging both sales tax and bed tax on their room-nights. We applied the appropriate rates for State and local sales taxes to hotel revenues in each region. Furthermore, we applied the State bed tax rate for each room-night for all hotel sales and the New York City bed tax for sales in the city. We also applied the sales tax to the remainder of nongaming revenues to approximate tax revenues on the food, beverage, and retail sales at the casinos.

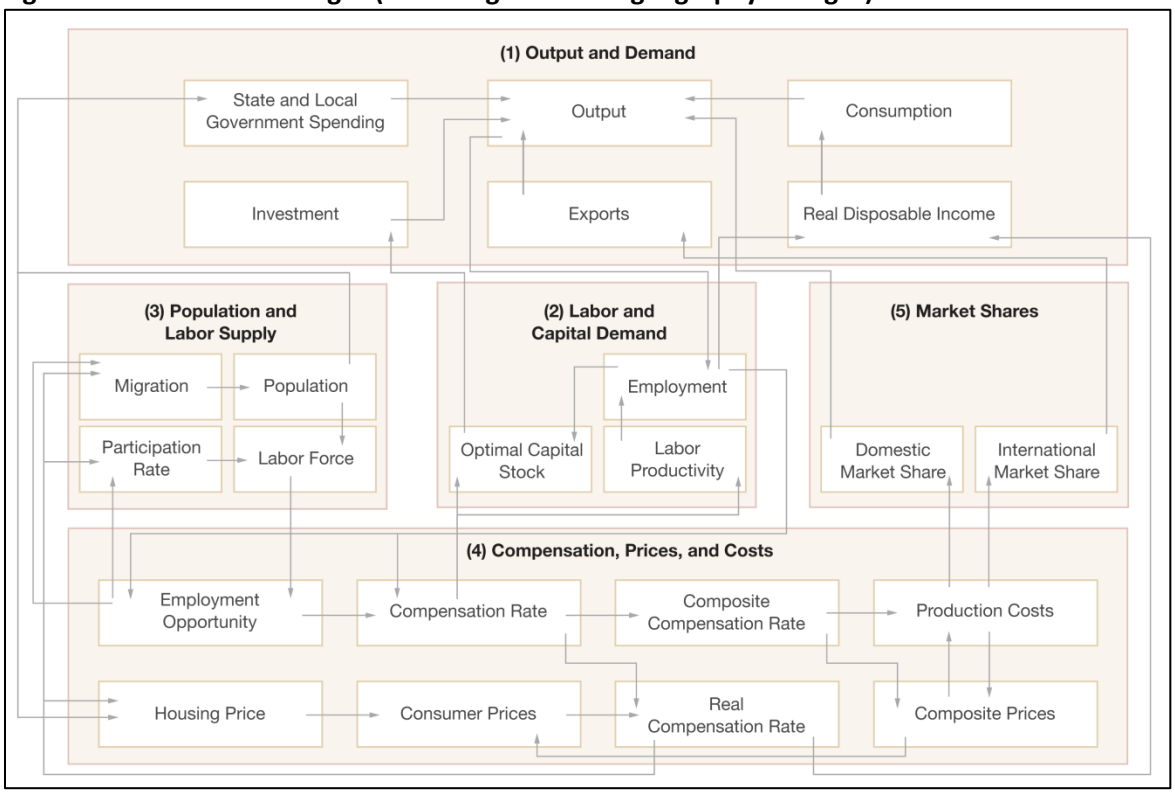
To further account for the effects of reallocated consumer spending, we estimated the sales taxes lost from the shift in consumption patterns. Using 2018 data from the Federation of Tax Administrators ("FTA"),[3] we obtained total State tax revenues and the share of total revenues comprised of sales taxes. Using the baseline estimate of consumption expenditures from the REMI model, we calculated the effective sales tax rate on all consumption in New York. We then applied this rate to the reallocated spending to estimate a reduction in State sales tax revenues. For local sales taxes, we used the State's ratio of the effective rate to the statutory rate to convert the local statutory rates to effective rates. We also applied this rate to reallocated spending to estimate a reduction in local sales tax revenues.

Lastly, we used the tax burden data from FTA to estimate the changes in State tax revenues occurring because of economic changes. The FTA provides state-level ratios of tax revenues to personal income, enabling us to apply this rate to the estimates of personal income obtained from the economic model to estimate State revenues for indirect and induced impacts.

The PI+ model consists of thousands of simultaneous equations with a structure that is relatively straightforward. The exact number of equations used varies depending on the extent of industry, demographic, demand, and other detail in the specific model being used. The overall structure of the model can be summarized in five major blocks: (1) Output and Demand, (2) Labor and Capital Demand, (3) Population and Labor Supply, (4) Compensation, Prices, and Costs, and (5) Market Shares. The blocks and their key interactions are shown in Figure 2 and Figure 3.

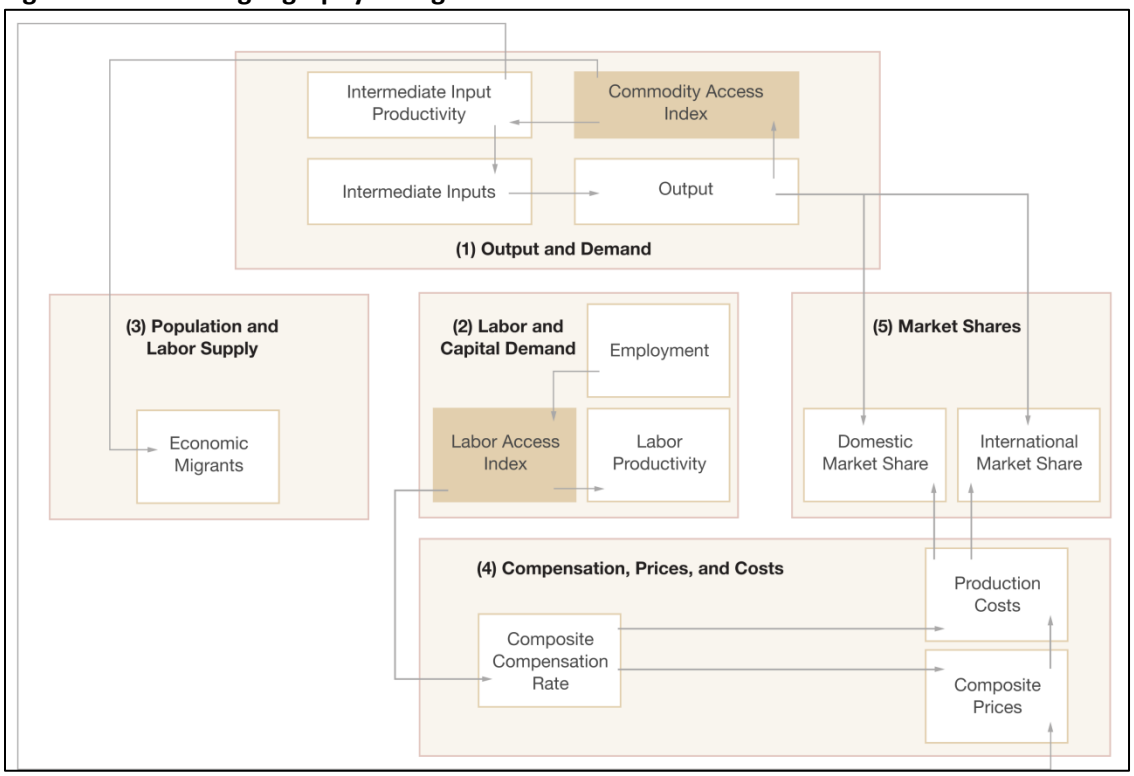
[3] Federation of Tax Administrators, "Revenues/Burdens." https://www.taxadmin.org/revenues-burdens (accessed September 19, 2019)

Figure 2: REMI model linkages (excluding economic geography linkages)



Source: Regional Economic Models Inc.

Figure 3: Economic geography linkages



Source: Regional Economic Models Inc.

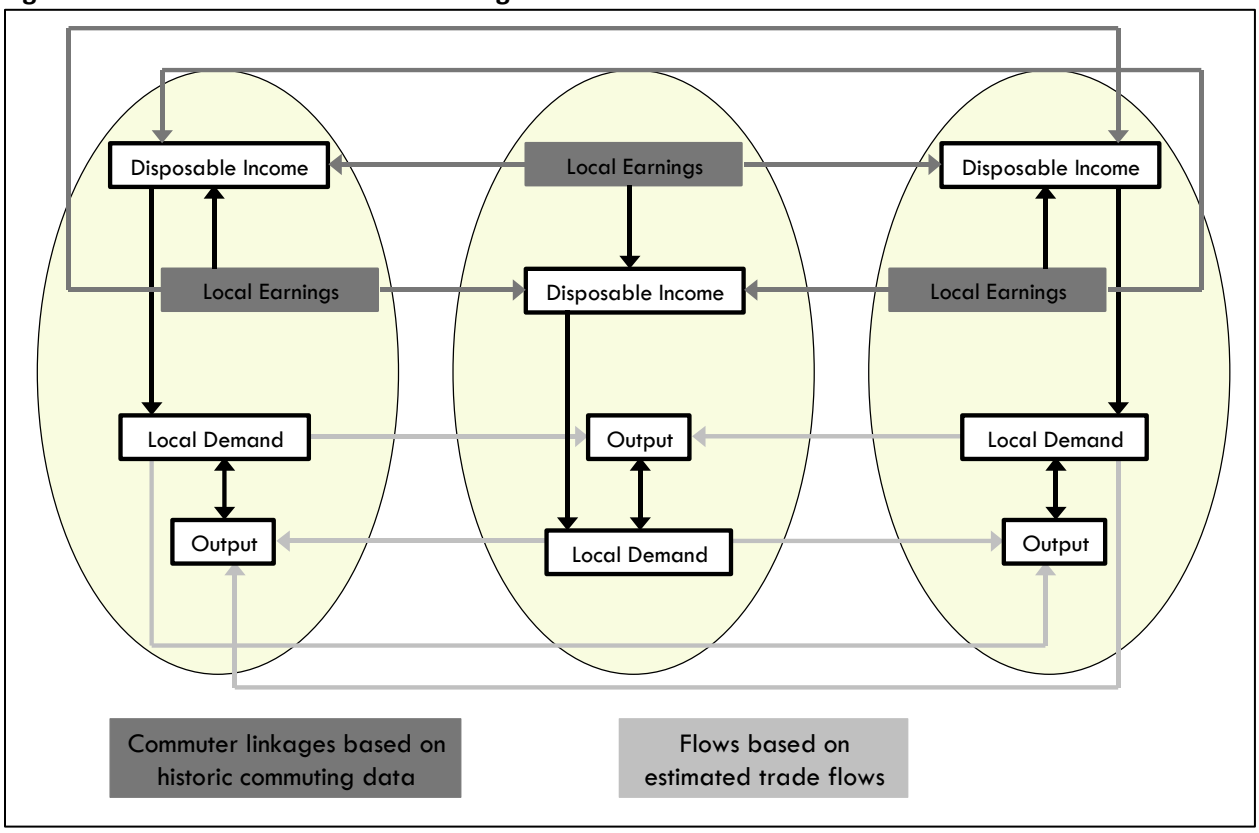
The Output and Demand block consists of output, demand, consumption, investment, government spending, exports, and imports, as well as feedback from output change due to the change in the productivity of intermediate inputs. The Labor and Capital Demand block includes labor intensity and productivity as well as demand for labor and capital. Labor force participation rate and migration equations are in the Population and Labor Supply block. The Compensation, Prices, and Costs block includes composite prices, determinants of production costs, the consumption price deflator, housing prices, and the compensation equations. The proportion of local, inter-regional, and export markets captured by each region is included in the Market Shares block.

Models can be built as single region, multi-region, or multi-region national models. A region is defined broadly as a sub-national area, and could consist of a state, province, county, or city, or any combination of sub-national areas.

Single-region models consist of an individual region, called the home region. The rest of the nation is also represented in the model. However, since the home region is only a small part of the total nation, changes in the home region do not have an endogenous effect on the variables in the rest of the nation.

Multi-regional models have interactions among regions, such as trade and commuting flows. These interactions include trade flows from each region to each of the other regions. These flows are illustrated for a three-region model in Figure 4.

Figure 4: Trade and commuter flow linkages



Source: Regional Economic Models Inc.

Multiregional national models also include a central bank monetary response that constrains labor markets. Models that only encompass a relatively small portion of a nation are not endogenously constrained by changes in exchange rates or monetary responses.

Block 1: Output and Demand

This block includes output, demand, consumption, investment, government spending, import, commodity access, and export concepts. Output for each industry in the home region is determined by industry demand in all regions in the nation, the home region's share of each market, and international exports from the region.

For each industry, demand is determined by the amount of output, consumption, investment, and capital demand on that industry. Consumption depends on real disposable income per capita, relative prices, differential income elasticities, and population. Input productivity depends on access to inputs because a larger choice set of inputs means it is more likely that the input with the specific characteristics required for the job will be found. In the capital stock adjustment process, investment occurs to fill the difference between optimal and actual capital stock for residential, non-residential, and equipment investment. Government spending changes are determined by changes in the population.

Block 2: Labor and Capital Demand

The Labor and Capital Demand block includes the determination of labor productivity, labor intensity, and the optimal capital stocks. Industry-specific labor productivity depends on the availability of workers with differentiated skills for the occupations used in each industry. The occupational labor supply and commuting costs determine firms' access to a specialized labor force.

Labor intensity is determined by the cost of labor relative to the other factor inputs, capital and fuel. Demand for capital is driven by the optimal capital stock equation for both non-residential capital and equipment. Optimal capital stock for each industry depends on the relative cost of labor and capital, and the employment weighted by capital use for each industry. Employment in private industries is determined by the value added and employment per unit of value added in each industry.

Block 3: Population and Labor Supply

The Population and Labor Supply block includes detailed demographic information about the region. Population data is given for age, gender, and race, with birth and survival rates for each group. The size and labor force participation rate of each group determines the labor supply. These participation rates respond to changes in employment relative to the potential labor force and to changes in the real after-tax compensation rate. Migration includes retirement, military, international, and economic migration. Economic migration is determined by the relative real after-tax compensation rate, relative employment opportunity, and consumer access to variety.

Block 4: Compensation, Prices and Costs

This block includes delivered prices, production costs, equipment cost, the consumption deflator, consumer prices, the price of housing, and the compensation equation. Economic geography concepts account for the productivity and price effects of access to specialized labor, goods, and services.

These prices measure the price of the industry output, taking into account the access to production locations. This access is important due to the specialization of production that takes place within each industry, and because transportation and transaction costs of distance are significant. Composite prices for each industry are then calculated based on the production costs of supplying regions, the effective distance to these regions, and the index of access to the variety of outputs in the industry relative to the access by other uses of the product.

The cost of production for each industry is determined by the cost of labor, capital, fuel, and intermediate inputs. Labor costs reflect a productivity adjustment to account for access to specialized labor, as well as underlying compensation rates. Capital costs include costs of non-residential structures and equipment, while fuel costs incorporate electricity, natural gas, and residual fuels.

The consumption deflator converts industry prices to prices for consumption commodities. For potential migrants, the consumer price is additionally calculated to include housing prices. Housing prices change from their initial level depending on changes in income and population density.

Compensation changes are due to changes in labor demand and supply conditions and changes in the national compensation rate. Changes in employment opportunities relative to the labor force and occupational demand change determine compensation rates by industry.

Block 5. Market Shares

The market shares equations measure the proportion of local and export markets that are captured by each industry. These depend on relative production costs, the estimated price elasticity of demand, and the effective distance between the home region and each of the other regions. The change in share of a specific area in any region depends on changes in its delivered price and the quantity it produces compared with the same factors for competitors in that market. The share of local and external markets then drives the exports from and imports to the home economy.

Appendix C: Demographic Portrait of New York State

The present and future landscapes for gaming in New York will, in no small measure, be shaped by the state's demography. A vast state of 47,126 square miles,[4] New York holds much diversity and many stark contrasts. From Wall Street to Niagara Falls and from wealthy suburbs to struggling agricultural communities, New York boasts the most populous city in America (with 28,209 people per square mile),[5] amid a state with immense rural swaths, including farming towns with only two people per square mile.

Although each region and city may have a separate story to tell, there are two main trends that emerge from New York's demographic statistics:

- Population decline
- Division in a state segmented by geography

With few exceptions, there is little difference in the trajectory of population across the state: the number of residents is shrinking. However, there is a marked difference in the characteristics of residents across the state. Neighboring counties share more than borders. They share values, workforce opportunities, educational resources, and industries. They share their sameness or their diversity. In New York, this sharing of characteristics among neighbors results in an Upstate and Downstate bifurcation.

While *Upstate* and *Downstate* may be an intangible state of mind to many New Yorkers, it is also a very real geographic designation. Upstate is considered all of New York except New York City, Long Island, Westchester, Rockland, Orange, Putnam, and Dutchess Counties. Geographically, most of New York is Upstate. Population-wise, most of its inhabitants are Downstate. Through the lens of demographics and the regional market clusters defined by the New York State Department of Labor (**Sub-Appendix C1**) – counties, Labor Market Regions ("LMRs"), and Metropolitan Statistical Areas ("MSAs") – this distinction becomes clearer.

1. General Population

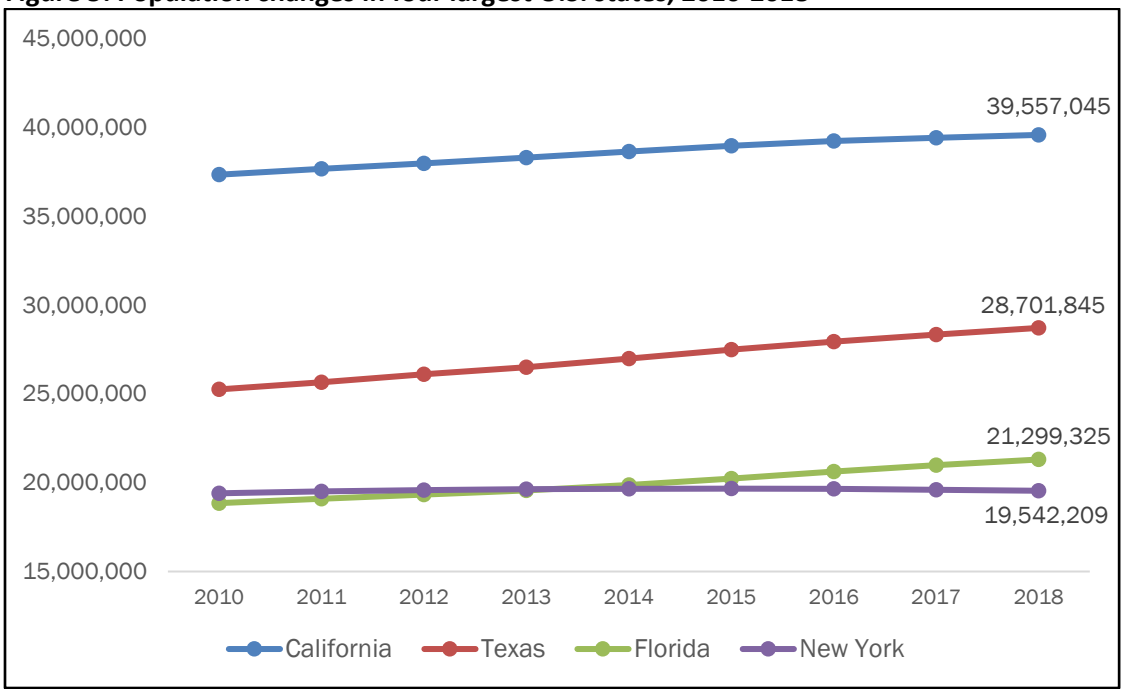
In 2010, New York was the third most populous state in the United States and growing. But, as Americans flocked to the Sun Belt, New York's population was surpassed by Florida, and the state fell to its current fourth-place position in 2014. In 2015, New York's population peaked at 19,661,411 and has been declining at an average annual rate of just over a quarter of 1 percent ever since.[6]

[4] New York State Department of Health, Vital Statistics of New York State 2016, "Table 2: Population, Land Area, and Population Density by County, New York State – 2016."
https://www.health.ny.gov/statistics/vital_statistics/2016/table02.htm

[5] Ibid.

[6] U.S. Census, Annual Estimates of the Residential Population: April 1, 2010 to July 1, 2018.

Figure 5: Population changes in four largest U.S. states, 2010-2018



Source: U.S. Census Bureau, ACS July 1 Estimates 2010-2018

The latest population estimate from the U.S. Census Bureau for 2019 puts the number of residents of New York at 19,453,561, a loss of 88,648 individuals compared to the year before.[7] These diminishing numbers may be a temporary adjustment or a flattening out caused by a more mature population moving to Florida, California, and the Southwest. (See **Sub-Appendix C2.**) It may also be that the state has not totally made the transition from receding industries to the emergent tech and health sectors, especially in older, Upstate cities and towns.

Another potential culprit for out-migration could be found in the 2017 federal income tax reforms, which included capping state and local tax (SALT) deductions. While the precise motivations that are fueling migration trends are debatable, it is clear that the caps on SALT deductions make out-migration from the state more attractive, particularly to high-income New Yorkers. To put that in perspective, the top 20 percent of New York taxpayers account for 87 percent of state income taxes, making the state extremely vulnerable to declines in the number of high-income New Yorkers.[8]

Still, some forecasts predict that the population could grow over the next decade and beyond.[9] The optimism is perhaps fueled by a steady flow of young immigrants, who at an average age 28 are 10 years younger than the median age of New Yorkers in 2018.

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[7] U.S. Census Bureau, QuickFacts: New York; United States. https://www.census.gov/quickfacts/fact/table/NY,US/PST045219 (accessed March 14, 2020)

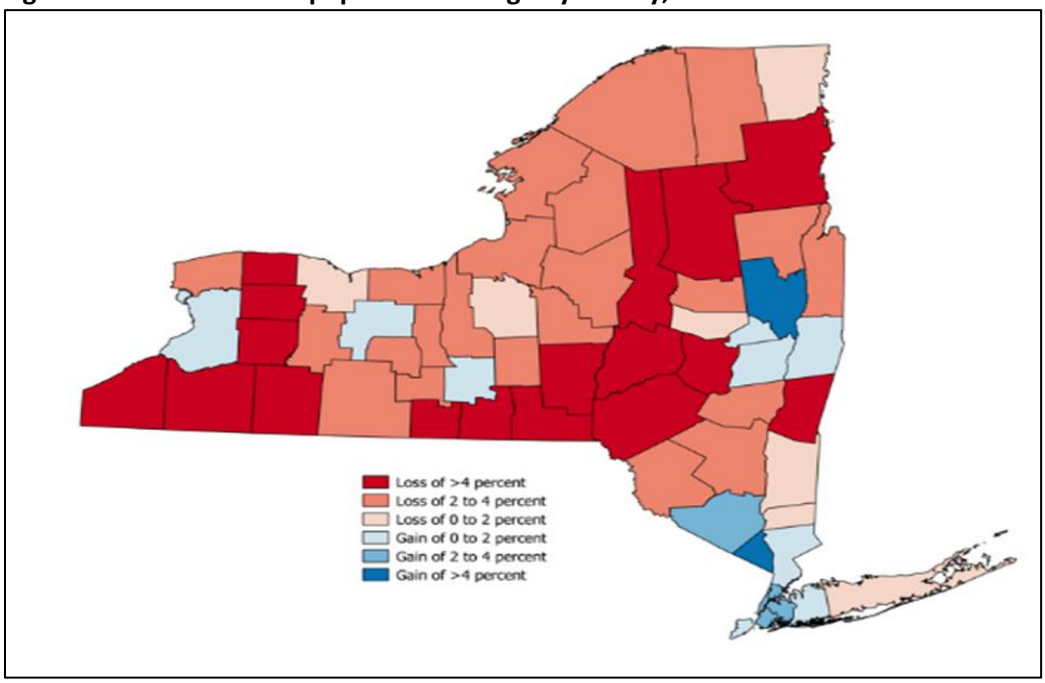
[8] Zak Failla, "More People Are Leaving NYC Than Any Other US City, New Report Says," *Yonkers Daily Voice*, September 7, 2019. https://dailyvoice.com/new-york/yonkers/politics/more-people-are-leaving-nyc-than-any-other-us-city-new-report-says/774731/

[9] The impact of COVID-19 has not been estimated or applied to any of the population projections in this report.

2. New York County Population

Since New York State's peak population year of 2015, 54 of New York State's 62 counties have experienced population declines, with the highest percentages being posted in smaller, sparsely populated Upstate counties such as Hamilton. In Hamilton, the loss of a few hundred residents in a county of under 5,000 has a noticeable impact. In fact, these small counties and most of the rest of Upstate led the overall population decline in 2016. Most of the Downstate counties followed in 2017. For sheer numbers, the greatest losses stemmed from New York City: four of its five counties, or boroughs, accrued a total loss of more than 79,000 residents between 2016 and 2018.[10]

Figure 6: New York State population change by county, 2010-2018



Source: Empire Center, based on U.S. Census Bureau, American Community Surveys, July 1 Population Estimates, 2010-2018

On the other hand, 14 counties defied the trend and saw net upticks between 2016 and 2018. Nassau, Orange, Richmond, Rockland, Saratoga, and Sullivan counties registered steady incremental gains between 2015 and 2018. These are not increases of high magnitude but rather small inclines, ranging from 0.2 percent to 1.8 percent. It may be interesting to note that Nassau County, part of Long Island, also has the largest household size; i.e., most children, which may account for some of this growth. Also notable is that only one county that reported an uptick, Saratoga, is located Upstate.

Much of the upswing has taken place in areas surrounding and in New York City: Nassau and Richmond (Staten Island) counties.

[10] U.S. Census, Annual Estimates of the Residential Population: April 1, 2010, to July 1, 2018.

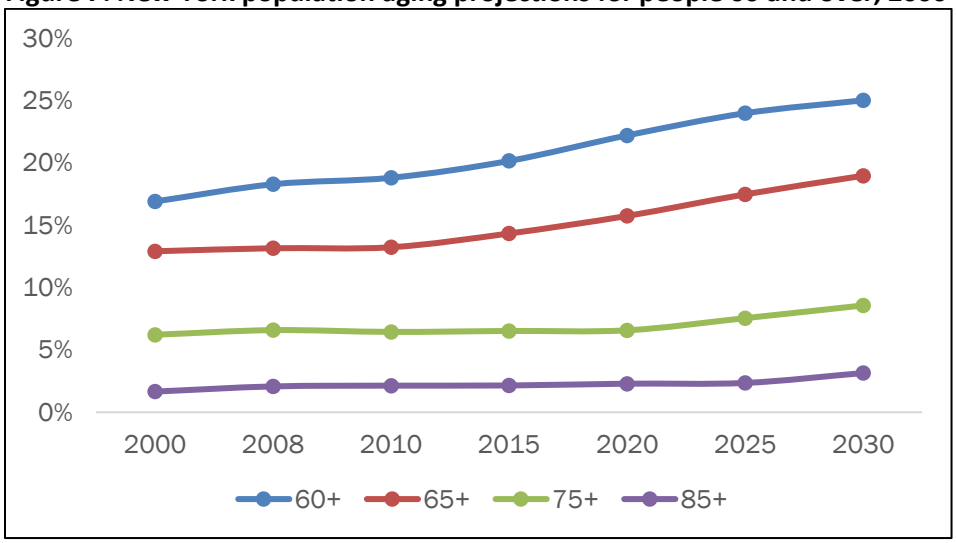
Three growing counties – Nassau, Saratoga, and Ontario – also have some of the lowest poverty rates in the state and are well below the average rate for New York State (13.7 percent) and the United States (13.1 percent or 11.8 percent, depending on Census sources).[11] (**See Sub-Appendix C2.**)

3. General State Demographic Profile

As different as New Yorkers may be from one another, together they form a general profile that contrasts with the rest of the nation.[12]

In some ways, New York mirrors the demographic characteristics of the rest of the country. Both New York and the United States as a whole have an aging population, with the percentage of people over 65 years of age hovering in the 16.4 percent range, up from 13 percent in 2010. The median ages for New York state (39 years) and the U.S. (38.2 years) are climbing toward 40. Other basic attributes such as the percentage of men to women, household size, high school graduation rates, and the percentage of adults in the labor force are all similar.[13]

Figure 7: New York population aging projections for people 60 and over, 2000-2030



Source: New York State Department of Health, Description of Population Demographics & General Health Status, New York State, 2018.

There are, however, notable differences between New York and the rest of the United States. New York is far more diverse in race and ethnicity, continuing its legacy as an international melting pot. Foreign-born residents account for 22.8 percent of all New Yorkers, more than 9 percentage points higher than the nation overall. New York has a larger percentage of African Americans, Asians, and Hispanics

[11] U.S. Census Bureau, "Small Area Income and Poverty Estimates (SAIPE) 2018, New York State and Counties," https://www.census.gov/data-tools/demo/saipe/. Note that this differs from the 2019 Current Population Survey, Annual Social Economic Supplement, which shows the United States with an 11.8% poverty rate.

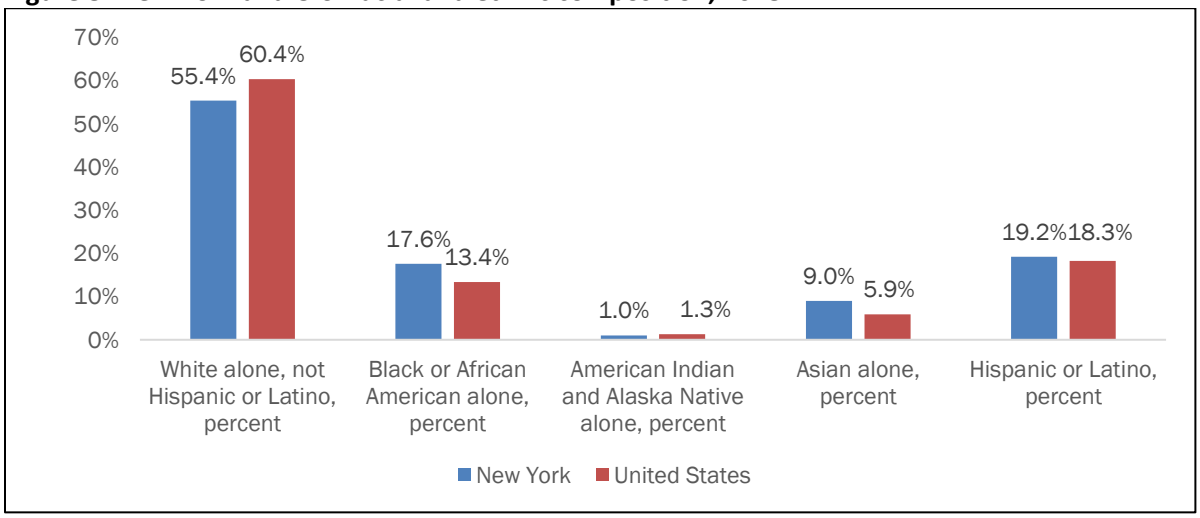
[12] New York State Department of Health, "Table 2: Population, Land Area, and Population Density by County, New York State – 2016." https://www.health.ny.gov/statistics/vital_statistics/2016/table02.htm

[13] U.S. Census Bureau, "Quick Facts: New York and U.S. Population Estimates," *ACS, CPH, CPS*, 2018. https://www.census.gov/quickfacts/fact/table/NY,US/PST045218

than the United States generally, and, consequently, a smaller percentage of whites (55.4 percent in New York vs. 60.4 percent in the United States). In fact, this diversity is the result of a continuing shift of racial and ethnic composition. Since 2010, New York State has recorded a 16.4 percent increase in Asian population and an 8.5 percent increase in Hispanic and Latino residents.

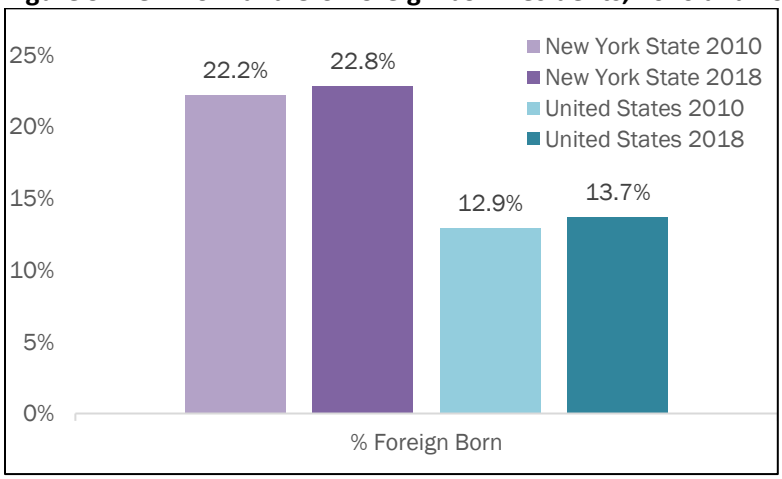
New York can also claim a higher percentage of college graduates (37.2 percent) than the nation as a whole (32.6 percent). Finally, in a state whose headcount of billionaires is second only to California, the median household income in 2018 was $67,844, 9.5 percent greater than the United States as a whole.[14]

Figure 8: New York and U.S. racial and ethnic composition, 2018



Source: U.S. Census Bureau, Quick Facts, New York Table 2018

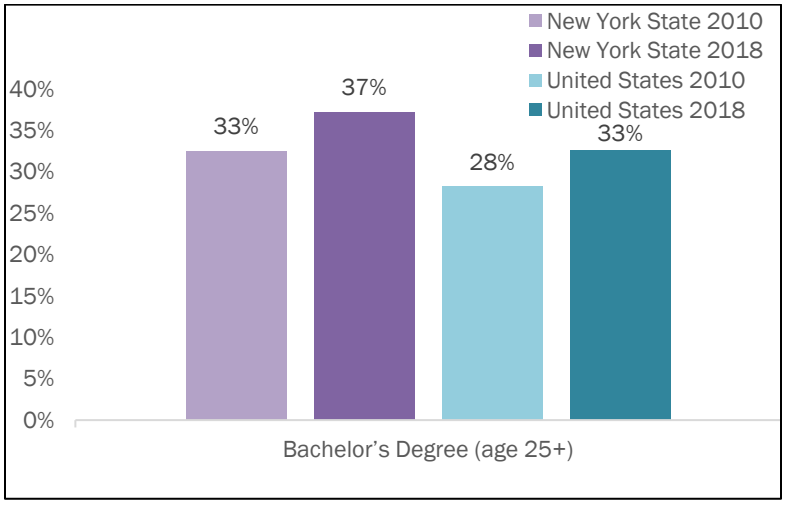
Figure 9: New York and U.S. foreign-born residents, 2010 and 2018



Source: U.S. Census Bureau, 2010/2018 ACS 1-Year Estimates Data Profiles

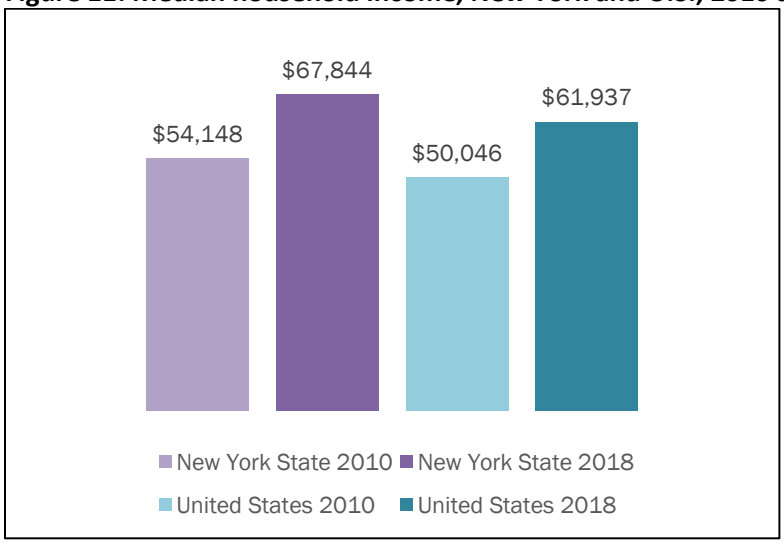
[14] U.S. Census Bureau, "Quick Facts: New York." https://www.census.gov/quickfacts/fact/table/NY,US/PST045219 and U.S. Census Bureau: 2018 ACS 1-Year Estimates Data Profiles. https://www.census.gov/acs/www/data/data-tables-and-tools/american-factfinder/

Figure 10: Percentage of residents age 25+ with a bachelor's degree, New York and U.S., 2010 and 2018



Source: U.S. Census Bureau, 2010/2018 ACS 1-Year Estimates Data Profiles

Figure 11: Median household income, New York and U.S., 2010 and 2018



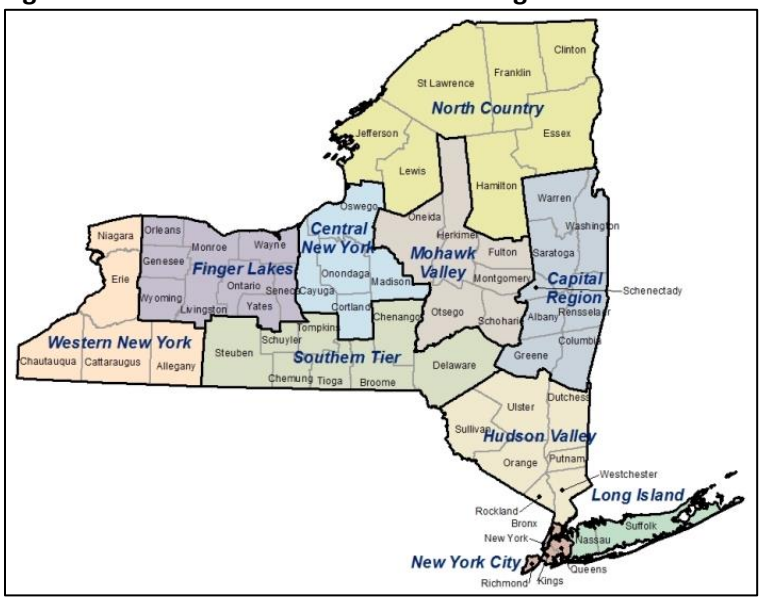
Source: U.S. Census Bureau, 2010/2018 ACS 1-Year Estimates Data Profiles

4. Regional Demographic Profiles

The New York State Department of Labor divides the state's 62 counties into ten geographic, or Labor Market Regions. These are the Capital Region, Central New York, Finger Lakes, Hudson Valley, Long Island, Mohawk Valley, New York City, North Country, Southern Tier, and Western New York.

But one of these LMRs is home to 43 percent of all New Yorkers. That region is, of course, New York City. When the two regions contiguous to New York City – Long Island and the Hudson Valley – are added to that number, then two out of every three New York residents are accounted for.

Figure 12: New York State labor market regions



Source: New York Department of Labor

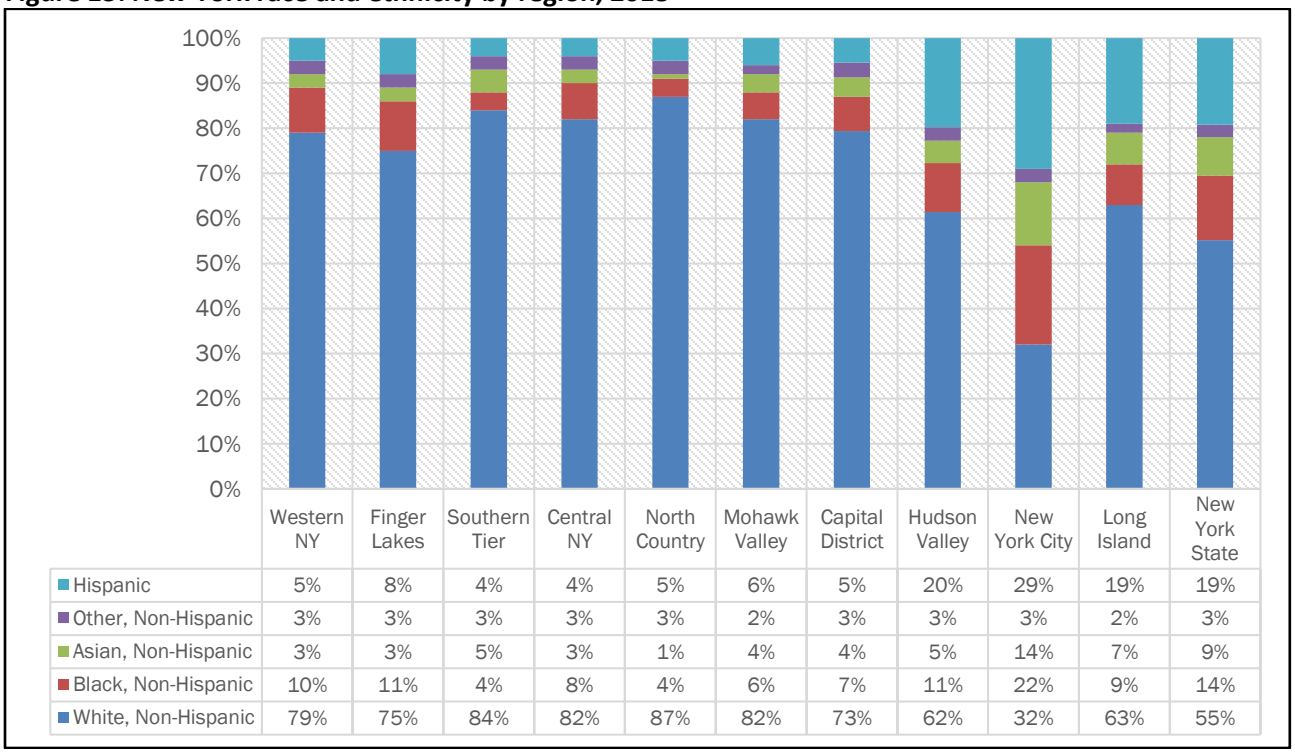
Apart from population density, the 10 LMRs also differ in median age, racial characteristics, income, and other variables, often shaped by different ways of life the nearer or farther one is from the urban core. For instance, New York City has the youngest median age of all regions at 37.3 years. Not surprisingly, this is close to the state statistic due to the heft of the city's 8.4 million people. On the other hand, as soon as one departs New York City, the median age shifts to 40 and above. The region with the highest percentage of residents aged 65 or older is Mohawk Valley (19.6 percent, compared to New York City's 14.8 percent).[15]

Age does not vary as much across the regions as does racial composition. New York City exhibits the greatest diversity of all regions, with the most even distribution of all major racial groups. While whites still outnumber any other group, their representation is only 32 percent, far less than half the percentage of seven other regions, where numbers tally in the 73 percent to 87 percent range. New York City's neighbors, Long Island and the Hudson Valley, share its racial and ethnic makeup, albeit in smaller numbers.[16]

[15] U.S. Census Bureau, "2018 ACS 1-Year Estimates Data Profiles." https://www.census.gov/acs/www/data/data-tables-and-tools/american-factfinder/

[16] Ibid.

Figure 13: New York race and ethnicity by region, 2018



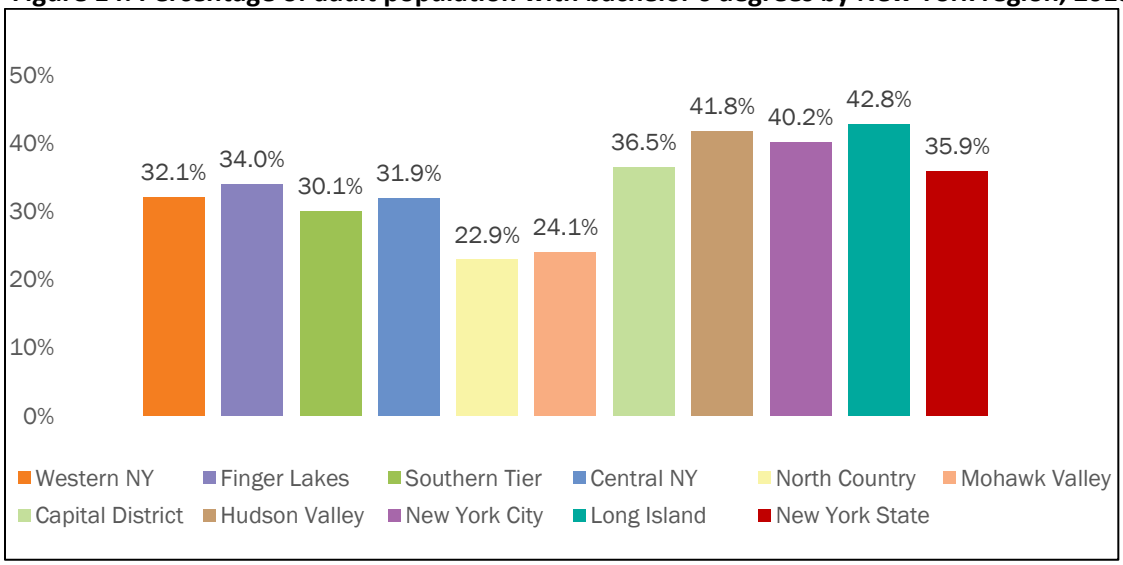
	Western NY	Finger Lakes	Southern Tier	Central NY	North Country	Mohawk Valley	Capital District	Hudson Valley	New York City	Long Island	New York State
Hispanic	5%	8%	4%	4%	5%	6%	5%	20%	29%	19%	19%
Other, Non-Hispanic	3%	3%	3%	3%	3%	2%	3%	3%	3%	2%	3%
Asian, Non-Hispanic	3%	3%	5%	3%	1%	4%	4%	5%	14%	7%	9%
Black, Non-Hispanic	10%	11%	4%	8%	4%	6%	7%	11%	22%	9%	14%
White, Non-Hispanic	79%	75%	84%	82%	87%	82%	73%	62%	32%	63%	55%

Source: U.S. Census Bureau, 2018 ACS 1-Year Estimates Data Profiles

The Upstate-Downstate pattern is repeated in household income and education. Long Island, where the per capita income is $78,769, and the nearby regions of Hudson Valley and New York City top the list of wage earners. This threesome also earns the top marks for the most residents with bachelor's degrees. The Capital District, which includes Albany, the seat of New York government, and wealthier communities such as Saratoga, comes next in both per capita income and education. At the other end of the spectrum are the North Country and Mohawk Valley, with the lowest income and fewest college graduates.[17]

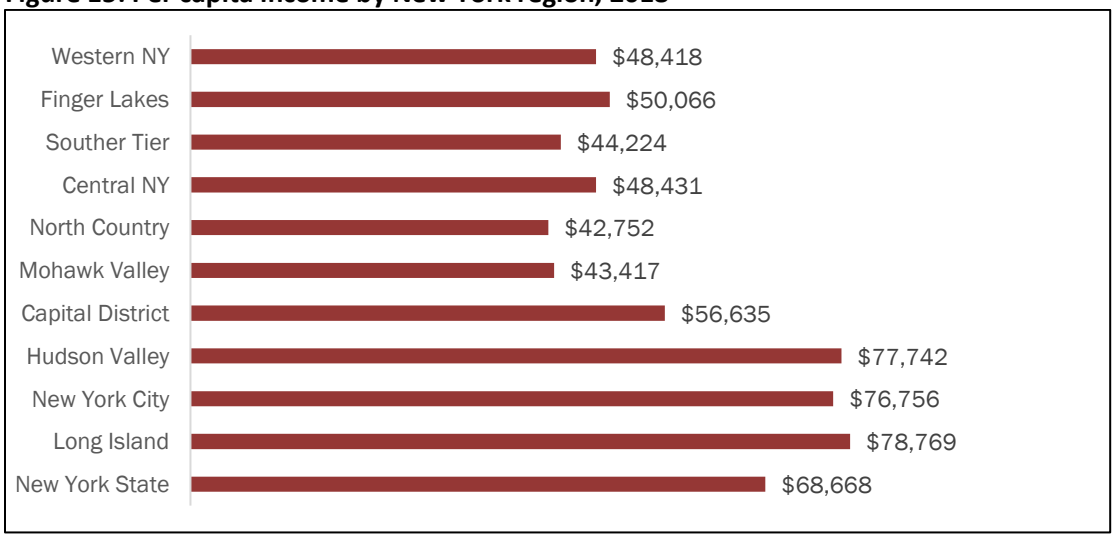
[17] Indiana Business Research Center & U.S. Commerce Department's Economic Development Administration, "StatsAmerica: Innovation in American Regions." http://www.statsamerica.org/innovation/anydata/custom.asp (accessed March 13, 2020)

Figure 14: Percentage of adult population with bachelor's degrees by New York region, 2018



Source: U.S. Census Bureau, 2018 ACS 1-Year Estimates Data Profiles

Figure 15: Per capita income by New York region, 2018



Source: U.S. Census Bureau, 2018 ACS 1-Year Estimates Data Profiles

5. Population Growth in Two Metro Areas

New York State is comprised of 15 metropolitan statistical areas, or MSAs. (See **Sub-Appendix C3**.) Each of these is anchored by at least one urban area of 50,000 people. Two of the 15 MSAs recognized by the New York State Department of Labor are the same as the market regions above: *New York City*, which includes the five boroughs, and *Long Island*, which includes Nassau and Suffolk counties.

These two MSAs, as well as Westchester County, are swallowed up by the massive New York-Newark-Jersey City MSA tracked by the U.S. Census. By population, this mega-sized MSA is the largest metropolitan area in the country. Approximately one out of 16 Americans lives in this metropolitan area of about 20 million.

No matter how the New York City metro area is measured, the end result is that it represents more than 40 percent of the state population. The next two largest MSAs, Nassau-Suffolk (Long Island) and Orange-Rockland-Westchester, underscore Downstate's dominance. Buffalo, the state's second-largest city and the flagship of the fourth most populous MSA, Buffalo-Cheektowaga-Niagara Falls, leads the Upstate lineup. The Rochester MSA, spearheaded by New York's third-largest city, rounds out the top five in population.

While the populations of most New York MSAs have been sloping slowly downward in recent years, two have not. Orange-Rockland-Westchester and Albany-Schenectady-Troy have seen their populations steadily climb. Orange and Rockland counties are driving the growth in the Orange-Rockland-Westchester MSA. Their proximity to New York City and to wealthier enclaves enhances their desirability. Albany-Schenectady-Troy, which is not receiving a boost from the capital city, shows Schenectady and Saratoga counties on the rise. The upward trend of each may be tied to increased job growth and healthier economies.

Looking at the whole of New York State will not provide more than a sweeping view. The state's wide-ranging diversity can get lost in an aggregation of averages and other statistics.

Figure 16: New York metropolitan statistical area population trends

	Metropolitan Statistical Area	2010	2015	2018	Trend
	New York-Newark-Jersey City*	19,594,977	20,182,305	19,979,477	
1	New York City counties	8,190,355	8,468,181	8,398,748	
2	Nassau, Suffolk counties	2,836,072	2,847,597	2,839,436	
3	Orange, Rockland, Westchester counties	1,636,586	1,668,450	1,675,258	
4	Buffalo-Cheektowaga-Niagara Falls*	1,079,966	1,135,230	1,130,152	
5	Rochester Metro*	1,054,445	1,081,954	1,071,082	
6	Albany-Schenectady-Troy*	871,080	881,830	883,169	
7	Syracuse Metro*	663,108	660,458	650,502	
8	Dutchess, Putnam counties	397,392	393,327	392,610	
9	Utica-Rome Metro*	299,224	295,600	291,410	
10	Binghamton Metro*	251,489	246,020	240,219	
11	Kingston Metro*	182,435	180,143	178,599	
12	Glens Falls Metro*	128,985	126,918	125,462	
13	Watertown-Fort Drum*	116,582	117,635	111,755	
14	Ithaca Metro	101,620	104,926	102,793	
15	Elmira Metro*	88,824	87,071	84,254	

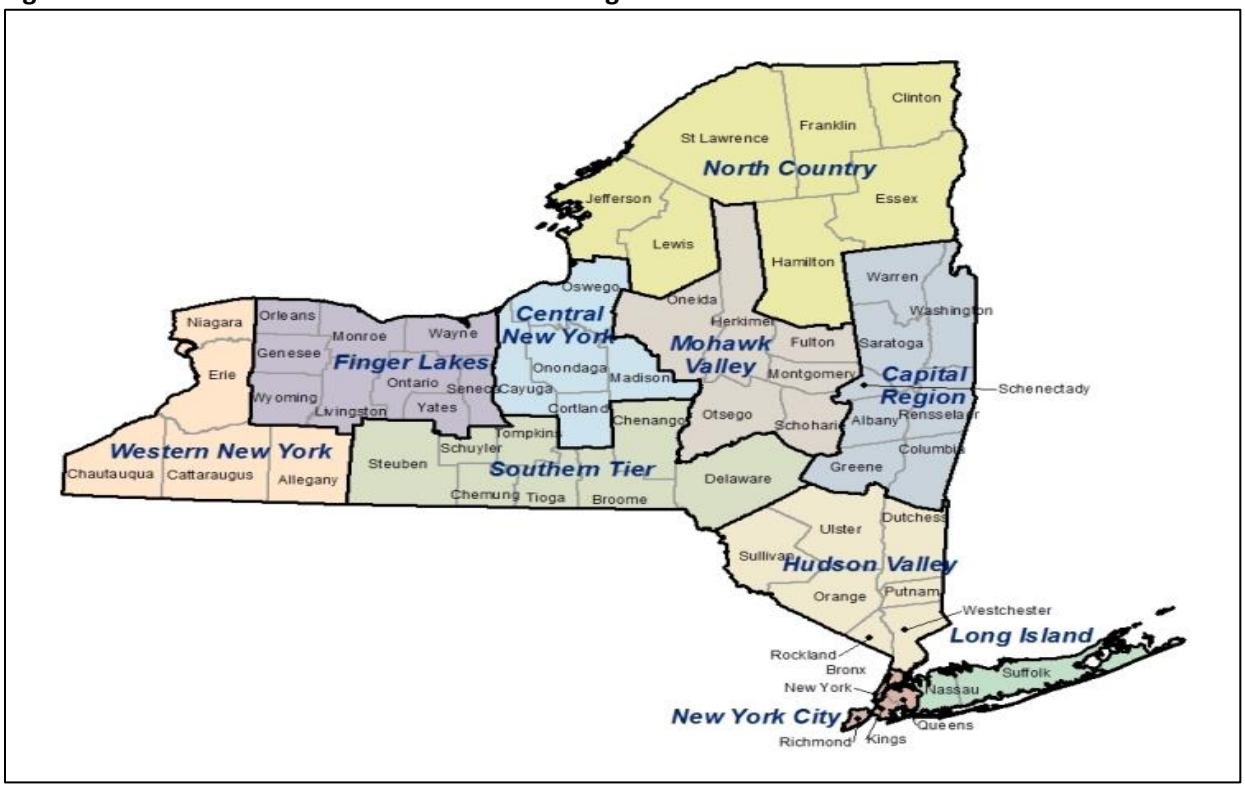
Source: U.S. Census Bureau, ACS Population Estimates 2010-2018 and 1-Year Estimates Detailed Tables B01003, 2010, 2015.
*MSA defined by U.S. Census Bureau Decennial Census

The nation's largest city wields influence and power that can overshadow the majority of New Yorkers, who live outside the city's borders. Downstate's innovation and corporate investment and Upstate's lack of both are difficult to reconcile. Yet both are experiencing negative growth – probably for different reasons. The high cost of living in New York City, the chasm between wealthy and poor, and migration to other states may be part of the reason for New York City's slide. The lack of new business investment and an unprepared workforce may be part of the reason for Upstate's decline. So, while

geography may seem at the heart of the problem, it could be a common deficiency in investment in people and business.

Sub-Appendix C1: New York Counties and Market Regions

Figure 17: New York counties and labor market regions



Source: New York State Department of Labor

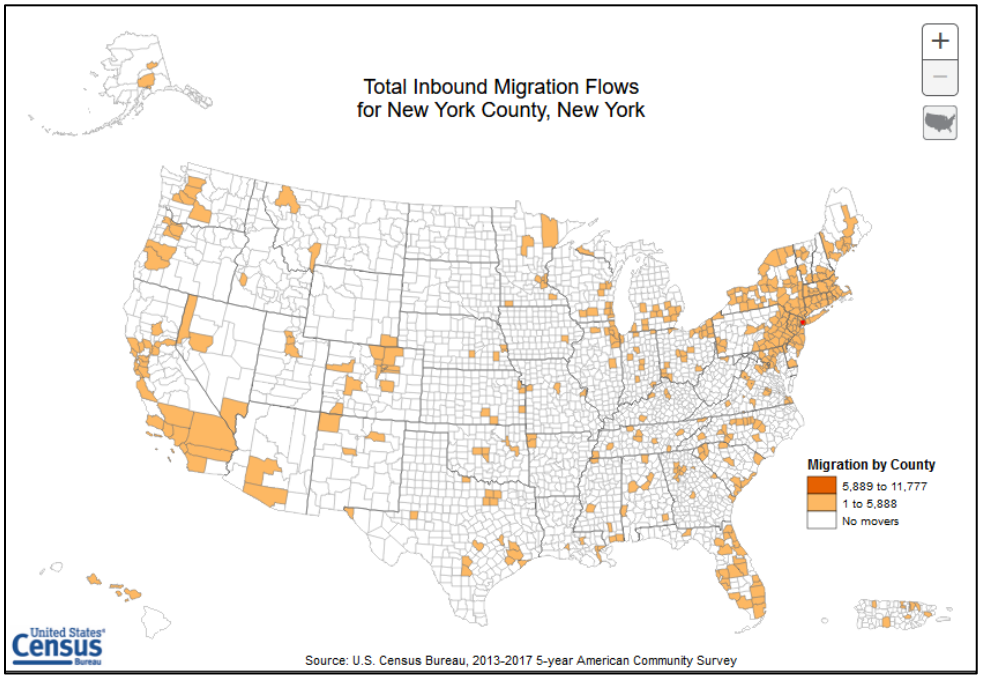
Figure 18: New York labor market regions

Region	Counties	Region	Counties
Capital	Albany, Columbia, Greene, Rensselaer, Saratoga, Schenectady, Warren, and Washington	Mohawk Valley	Fulton, Herkimer, Montgomery, Oneida, Otsego, and Schoharie
Central New York	Cayuga, Cortland, Madison, Onondaga, and Oswego	New York City	Bronx, Kings, New York, Queens, and Richmond
Finger Lakes	Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates	North Country	Clinton, Essex, Franklin, Hamilton, Jefferson, Lewis, and St. Lawrence
Hudson Valley	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester	Southern Tier	Broome, Chemung, Chenango, Delaware, Schuyler, Steuben, Tioga, and Tompkins
Long Island	Nassau and Suffolk	Western New York	Allegany, Cattaraugus, Chautauqua, Erie, and Niagara

Source: New York Department of Labor (accessed March 20, 2020)

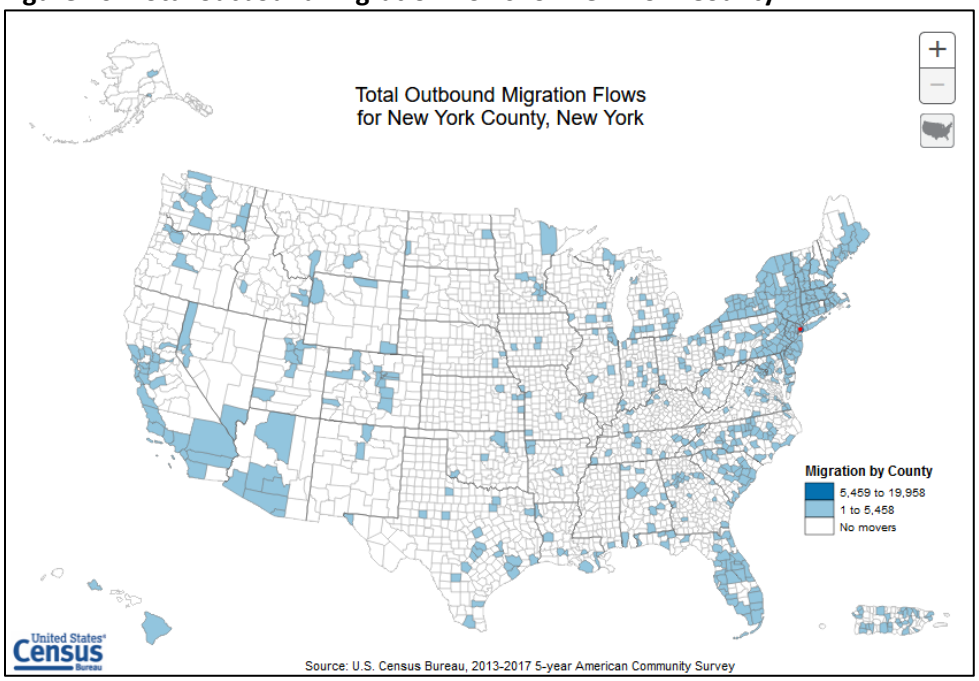
Sub-Appendix C2: Inbound and Outbound New York Migration Flows

Figure 19: Total inbound migration flows for New York County



Source: U.S. Census Bureau, 2013-2017 5-Year American Community Survey

Figure 20: Total outbound migration flows for New York County



Source: U.S. Census Bureau, 2013-2017 5-Year American Community Survey

Sub-Appendix C3: New York's Metropolitan Statistical Areas

Metropolitan Statistical Areas

- Albany-Schenectady-Troy: Albany, Rensselaer, Saratoga, Schenectady, and Schoharie counties
- Binghamton: Broome and Tioga counties
- Buffalo-Niagara Falls: Erie and Niagara counties
- Dutchess-Putnam Metropolitan Division: Dutchess and Putnam counties
- Elmira: Chemung County
- Glens Falls: Warren and Washington counties
- Ithaca: Tompkins County
- Kingston: Ulster County
- Nassau-Suffolk Metropolitan Division: Nassau and Suffolk counties
- New York City labor market area: Bronx, Kings, New York, Queens, and Richmond counties
- Orange-Rockland-Westchester labor market area: Orange, Rockland, and Westchester counties
- Rochester: Livingston, Monroe, Ontario, Orleans, Wayne, and Yates counties
- Syracuse: Madison, Onondaga, and Oswego counties
- Utica-Rome: Herkimer and Oneida counties
- Watertown-Fort Drum: Jefferson County

Minor Counties (outside of Metropolitan Statistical Areas)

- Allegany County
- Cattaraugus County (also Olean Micropolitan Area)
- Cayuga County (also Auburn Micropolitan Area)
- Chautauqua County (also Jamestown-Dunkirk-Fredonia Micropolitan Area)
- Chenango County
- Clinton County (also Plattsburgh Micropolitan Area)
- Columbia County (also Hudson Micropolitan Area)
- Cortland County (also Cortland Micropolitan Area)
- Delaware County
- Essex County
- Franklin County (also Malone Micropolitan Area)
- Fulton County (also Gloversville Micropolitan Area)
- Genesee County (also Batavia Micropolitan Area)
- Greene County
- Hamilton County
- Lewis County
- Montgomery County (also Amsterdam Micropolitan Area)
- Otsego County (also Oneonta Micropolitan Area)
- St. Lawrence County (also Ogdensburg-Massena Micropolitan Area)
- Schuyler County
- Seneca County (also Seneca Falls Micropolitan Area)
- Steuben County (also Corning Micropolitan Area)
- Sullivan County
- Wyoming County

Source: New York State Department of Labor

Sub-Appendix C4: 2018 New York Population Density by County

Figure 21: New York population density by county

County	2018 Population	Square Miles	2018 Population per Square Mile
Albany County	307,117	522.8	587.5
Allegany County	46,430	1,029.3	45.1
Bronx County	1,432,132	42.1	34,017.4
Broome County	191,659	705.8	271.6
Cattaraugus County	76,840	1,308.4	58.7
Cayuga County	77,145	691.6	111.6
Chautauqua County	127,939	1,060.2	120.7
Chemung County	84,254	407.4	206.8
Chenango County	47,536	893.6	53.2
Clinton County	80,695	1,037.9	77.8
Columbia County	59,916	634.7	94.4
Cortland County	47,823	498.8	95.9
Delaware County	44,527	1,442.4	30.9
Dutchess County	293,718	795.6	369.2
Erie County	919,719	1,042.7	882.1
Essex County	37,300	1,794.2	20.8
Franklin County	50,293	1,629.1	30.9
Fulton County	53,591	495.5	108.2
Genesee County	57,511	492.9	116.7
Greene County	47,491	647.2	73.4
Hamilton County	4,434	1,717.4	2.6
Herkimer County	61,833	1,411.5	43.8
Jefferson County	111,755	1,268.6	88.1
Kings County	2,582,830	70.8	36,470.4
Lewis County	26,447	1,274.7	20.8
Livingston County	63,227	631.8	100.1
Madison County	70,795	654.8	108.1
Monroe County	742,474	657.2	1,129.7
Montgomery County	49,455	403.0	122.7
Nassau County	1,358,343	284.7	4,770.8
New York County	1,628,701	22.8	71,434.3
Niagara County	210,433	522.4	402.9
Oneida County	229,577	1,212.4	189.4
Onondaga County	461,809	778.4	593.3
Ontario County	109,864	644.1	170.6

County	2018 Population	Square Miles	2018 Population per Square Mile
Orange County	381,951	811.7	470.6
Orleans County	40,612	391.3	103.8
Oswego County	117,898	951.7	123.9
Otsego County	59,749	1,001.7	59.7
Putnam County	98,892	230.3	429.4
Queens County	2,278,906	108.5	20,997.9
Rensselaer County	159,442	652.4	244.4
Richmond County	476,179	58.4	8,157.9
Rockland County	325,695	173.6	1,876.7
St. Lawrence County	108,047	2,680.4	40.3
Saratoga County	230,163	810.0	284.2
Schenectady County	155,350	204.5	759.6
Schoharie County	31,097	621.8	50.0
Schuyler County	17,912	328.3	54.6
Seneca County	34,300	323.7	106.0
Steuben County	95,796	1,390.6	68.9
Suffolk County	1,481,093	912.1	1,623.9
Sullivan County	75,498	968.1	78.0
Tioga County	48,560	518.6	93.6
Tompkins County	102,793	474.7	216.6
Ulster County	178,599	1,124.2	158.9
Warren County	64,265	867.0	74.1
Washington County	61,197	831.2	73.6
Wayne County	90,064	603.8	149.2
Westchester County	967,612	430.5	2,247.7
Wyoming County	40,085	592.8	67.6
Yates County	24,841	338.1	73.5

Source: New York State Department of Health, Table 2: Population, Land Area, and Population Density by County, New York State-2016; U.S. Census Bureau, 2018: ACS July 1 Population Estimates, U.S. Census Bureau.

Appendix D: Lessons Learned from Elsewhere

Spectrum's experience in chronicling and analyzing the evolution of gaming around the world makes clear that most lessons in gaming, as well as most solutions to vexing problems, are neither universal nor transferable.

For example, Midwestern states that offer riverboat casinos have options that are not available elsewhere, such as eliminating admissions fees, cruising requirements or, in extreme cases, allowing riverboats to relocate or to move onto land. At the same time, states in the Midwest and elsewhere have learned that the expansion of gaming – if not calculated and addressed carefully, as New York intends to do – can have permanent, negative ramifications. For example, the proliferation of distributed gaming – slot machines, skill-based games or variations thereof in restaurants, bars, convenience stores and other locations – can negatively affect the value of casino licenses, making it more difficult for casino operators to secure affordable financing for expansions or improvements.

Other universal concerns are the related issues of substitution and saturation. The Rockefeller Institute noted in a 2016 study on gaming: "In general, saturation refers to the peak or flattening of all types of gambling activities while substitution refers to the shift in spending on one type of activity to another type. The substitution effect is also often referred as cannibalization."[18]

Spectrum's 2013 report for the Florida Legislature noted:

> The introduction or expansion of legalized gambling, in particular casino gambling, raises a variety of concerns. Although casinos are often introduced in order to raise tax revenues, create jobs, and spur economic development, many observers have a concern for the potential "substitution effect" of casinos. That is, they are concerned that the expenditures at the new casino(s) will be redirected from other local or regional businesses, with the end result that the casinos have no real net benefit on the local economy. As an example, a quick review of "Stop Predatory Gambling" shows a variety of concerns about the casino industry's impacts on other industries.
>
> Fundamentally, the substitution effect is not unique to the casino industry. Indeed, any time any new business opens, there is the potential that an addition to the local economy will be harmful to incumbent firms and industries. This is because the substitution effect is essentially synonymous with market competition. As such, from an economic perspective, the substitution effect is not necessarily a cause for concern. Casinos compete for a share of discretionary incomes within their respective markets, as would be expected from any segment of the entertainment or leisure industries. When adults elect to visit a casino, rather than the theater or a museum, the casino wins and the alternative loses. Quite often, however, the reverse is true – and the number of precise alternatives competing for a share of discretionary spending is so vast, even in smaller markets, that it would defy any efforts to track precise winners and losers.

[18] Lucy Dadayan, "State Revenues from Gambling: Short-Term Relief, Long-Term Disappointment," Rockefeller Institute of Government, April 2016. https://rockinst.org/wp-content/uploads/2017/11/2016-04-12-Blinken_Report_Three-min.pdf

> Such efforts are further complicated because, not only are there many options for discretionary dollars, we point out that overall discretionary spending also competes against savings. A dollar saved is a dollar not spent, and vice versa.[19]

That complicated understanding of substitution, in our experience, does not lend itself to easy answers and defies simplification. Michael E. Porter of Harvard, whom Spectrum regards as the leading expert on consumer substitution, has written:

> Substitutes are always present, but they are easy to overlook because they may appear to be very different from the industry's product: To someone searching for a Father's Day gift, neckties and power tools may be substitutes. It is a substitute to do without, to purchase a used product rather than a new one, or to do it yourself (bring the service or product in-house).[20]

With those caveats in mind, clearly no one can accurately predict what level of substitution in discretionary spending can occur between gambling and other forms of spending. Based on experience, however, Spectrum believes that saturation is a legitimate topic for analysis. Gaming properties that operate similar business models in overlapping markets will cannibalize each other by targeting the same consumers in the same way. The lesson to be learned is that, if properties are free to pursue variations in their business model, they can potentially broaden their geographic and demographic appeal and reduce cannibalization. As noted in detail in this report, properties in sub-optimal locations that are subject to high tax rates do not have the luxury of modifying their models.

Other lessons, however, offer insights into what can be accomplished early, before policy misjudgments become permanent. Connecticut offers one example. A 2009 report by Spectrum for the Connecticut Division of Special Revenue produced a host of relevant findings, including that the state did not adequately prepare its unemployed and underemployed population to secure the jobs that would be offered by Connecticut's two integrated resorts ("IRs").

The report noted that the lack of in-state training, coupled with insufficient transportation to transport workers to the casinos, resulted in workers moving in from other areas, which in turn led to other issues, such as significant violations of zoning laws to convert single-family homes into something more akin to apartments: "Sharing of beds in shifts known as "hotbedding" is a common practice among casino workers who earn low wages. One shift of workers returns to a home, only to be replaced by another. The term "hotbedding" denotes that the bed, occupied on a constant basis, is always warm."[21]

That offers a lesson that New York policymakers should heed well in advance of authorizing commercial gaming in the New York City area. If the jobs are focused on those most in need of training and employment, such issues can be avoided or, at least, minimized.

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[19] Spectrum Gaming Group, "Gambling Impact Study," July 1, 2013, p. 266.
http://www.leg.state.fl.us/GamingStudy/docs/FGIS_Spectrum_28Oct2013.pdf

[20] Michael E. Porter, "The Five Competitive Forces that Shape Strategy," *Harvard Business Review*, January 2008, p. 84.

[21] Spectrum Gaming Group, "Gambling in Connecticut: Analyzing the Economic and Social Impacts," June 24, 2009, p. 204.
http://www.ct.gov/dosr/lib/dosr/june_24_2009_spectrum_final_final_report_to_the_state_of_connecticut.pdf

The 2009 Spectrum report on Connecticut was summarized in various media reports at the time, including the following:

> According to the report, the direct dollar amount from Indian gaming flowing into the state's general fund increased from $24 million in fiscal year 1994 to $340 million in 2007. By comparison, the amount allocated for distribution to municipalities has stayed relatively constant during the same period. In fiscal year 2007, the state's 169 municipalities split $86.3 million, $2 million less than they received in 1994.
>
> Looking at it another way, the General Assembly allocated 78 percent of the state's gaming revenue to municipalities in the 1994 fiscal year, the first full year of Indian gaming. In 2007, the figure fell to just 21 percent.[22]

Some policy mistakes can be attributed as a downside of pioneering. States that have no model to emulate may be more likely to make mistakes. At the same time, political considerations are omnipresent and unavoidable.

Indeed, political considerations cannot be ignored, whether in New York or other states. For example, a 2004 referendum in Florida allowed certain pari-mutuel facilities in South Florida to offer slot machines as long as they continued to offer pari-mutuel wagering. Over time, it became clear that a number of facilities were losing money on unpopular pari-mutuel offerings, but those operators and their supporters could not change the law in a way that would allow operators to make such an economic decision, largely because such a change would be viewed as unfair to other facilities or to the racing industry. Thus, an issue that could not be justified in economic terms remained governed by political terms.

Spectrum's research in New York, which included interviews with numerous stakeholders, highlighted potential concerns that may arise in the future, such as efforts to identify a normalized tax rate that would encourage significant capital investment in the New York City area, as well as potentially in other areas.

This is exemplified by the view that such a large, profitable market should be accompanied by a relatively high rate because operators can generate profits based on volume. Indeed, there is economic evidence to support that, as facilities in Queens and Yonkers have demonstrated. The countervailing argument, however, is that a lower tax rate would be required to invest greater amounts of capital that would allow for world-class facilities that would employ more people, attract more visits and ultimately generate greater fiscal benefits for the State.

That counterargument would be further supported by the suggestion that Upstate facilities could enjoy similarly low tax rates in the interest of promoting fairness and parity.

That scenario, however, would be neither pain-free nor politically palatable. A pillar of gaming policy in New York is to provide funding to support education and local property tax relief. In the experience of many of the people interviewed for this study, any suggestion that could raise fears of reducing funding for education via reductions in tax rates would, by definition, be political anathema.

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[22] William Sokolic, "Report lays bare gambling's impact on Connecticut," *Norwich Bulletin*, June 27, 2009. https://www.norwichbulletin.com/article/20090627/NEWS/306279996

Spectrum is decidedly agnostic and neutral on the validity of any political considerations. We simply acknowledge their existence and recognize the challenges they present to policymakers who are charged with balancing the costs and benefits of both the economics and politics of gaming.

While constitutional referenda do not work well in addressing issues that demand quick decisions, they still have their place in the lawmaking toolkit. The extensive amendment process in New York was summarized well by the Adirondack Council, a group focused on environmental issues in New York:

> Passing a constitutional amendment is a serious undertaking. First, the amendment must be introduced by sponsors in both the New York State Senate and Assembly. Like the introduction of a regular bill, the amendment is assigned a bill number and it is sent to the appropriate committees in each house.
>
> In addition to committee review, an amendment is also referred to the state Attorney General, who within 20 days, must provide an opinion in writing to the Assembly and the Senate on how the amendment will affect the state Constitution. This opinion is advisory and one or both houses may take up the amendment for a vote prior to receiving the opinion.
>
> Once released from committees, the amendment moves to the floor of each house for a vote. Identical versions of the amendment must be passed in each house. Unlike a regular piece of legislation, after the amendment is passed, it does not go to the Governor for his signature. Instead, it is referred to the next regular two-year legislative session which follows each of the general election of the members of the Legislature.
>
> Following second passage of the amendment by the newly elected Legislature, it is placed on the ballot for a statewide voter referendum. Once the amendment is approved by the majority of voters in the state, it is incorporated into the NYS Constitution. Often the amendment will then be sent back to the Legislature so that they can pass implementing legislation to outline how the amendment will be carried out. [23]

In one sense, issues that need to be addressed by such a drawn-out process are those that are most impactful and permanent, a process akin to what George Washington once referred to as the "senatorial saucer." According to a legend that is likely apocryphal, Thomas Jefferson once explained that he poured tea into a saucer to reduce its temperature, and Washington compared that goal to the deliberative process of governing.

Compared to amending the Constitution, governing via legislation in New York – as in any state – is a more streamlined process that still demands deliberation by lawmakers representing every corner of the state. So, while the legislative process also requires thoughtful deliberations for decisions that are similarly permanent, that process is still not well suited for actions that must be taken in real time in response to rapidly changing circumstances.

The process that allows for the most responsive actions by the public sector allows regulators to make calls in a timely, independent and thorough manner. Spectrum notes testimony put forth in Illinois in 2018 that is applicable here. In that testimony, we urged legislators to:

> Abide by an existing law that no government has the authority to amend, overturn or veto. That is the law of unintended consequences. We simply do not know how technology, player preferences, business pressures or other forces will precisely interact in coming years, and it would be a foolish exercise to build a policy that is frozen in the present, without the ability to adapt to the future. A corollary to this

[23] Adirondack Council, "Constitutional Amendment Process." https://www.adirondackcouncil.org/page/new-york-state-constitutional-amendment-process-153.html (accessed February 16, 2020)

> recommendation is rather simple: Empower your regulators as much as possible to make decisions in response to changing circumstances. If you trust your regulators … then empower them to act appropriately, within the broad guidelines of the policies that elected officials establish.[24]

That precise point is exceedingly pertinent to New York at the present time. As we note throughout this report, addressing the rapidly changing nature of gaming requires making informed judgments that must be rendered quickly and appropriately. New York boasts a regulatory team with deep experience and a national reputation for excellence. This report recommends leveraging that experience to advance public policy, and to make the regulators as responsive and adaptable as the entities they regulate.

When it comes to the future of gaming, policymakers need to determine which process is most appropriate for any particular issue. Clearly, the authorization of additional commercial casino licenses has traditionally been assigned to the state Constitution, and that is as it should be. Similarly, the policy goals that govern gaming are the province of elected officials. Yet there are certain decisions that can be entrusted to experienced regulators. By way of example, this report notes that regulators would be best positioned to establish the criteria to determine whether applicants for additional commercial casino licenses have fully met the state's capital investment requirements.

[24] Testimony of Michael Pollock, Managing Director, before Illinois Joint House Revenue and Finance Sales and Other Taxes Subcommittee and House Executive Gaming Subcommittee Testimony, October 17, 2018.

Appendix E: Overview of New York Gaming Facilities

This appendix provides an overview of New York's gaming facilities, grouped by type – VLT, commercial casino, and Indian casino.

1. VLT Facilities

As in other states, such facilities are often referred to as "racinos," a commonly used portmanteau that combines "racing" and "casinos," although in New York they are formally classified as VLT facilities. New York law, however, makes clear distinctions between VLT facilities and commercial casinos, which were authorized 12 years later. The VLT operators operate the VLT facilities as agents for the New York Lottery. Quite similar to racinos in other states such as Delaware and Rhode Island, the VLT operators are agents of the Lottery, taking commissions on sales in ways that are similar to a convenience store selling lottery tickets. Just as the cash from selling the lottery ticket belongs to the Lottery, the revenue won by the VLT operation in the machines is the Lottery's money.

New York's VLT facilities collectively generated more than $2 billion in GGR in 2019, making them a substantial industry. As such, they create economic impacts that extend beyond their facilities. The New York Gaming Association, which represents the VLT industry in Albany, said its member VLT facilities employ 4,000 New Yorkers with compensation nearly $190 million. The workforce is predominately union and earns an average of $44,000 annually. Their total economic impact is 23,000 jobs (including spinoff) and $2.5 billion in economic output.[25]

Following is an overview of each VLT facility.

a. Batavia Downs Gaming & Hotel

Batavia Downs Gaming and Hotel is located in Batavia, between Buffalo and Rochester. Batavia Downs originally opened in 1940 and is owned by Western Regional Off-Track Betting ("WROTB"). Batavia Downs operates in a highly competitive environment, with 12 competitors located within 100 miles of its facility. Because Batavia is located within the Seneca Compact territory, it is referring to itself as a casino. Batavia has 869 VLTs and 475 employees.

b. Empire City Casino

Located in Yonkers in the New York City metropolitan area, Empire City Casino was established in 2006 at Yonkers Raceway, a harness racetrack that has been in existence since 1899. Empire City, which was acquired by MGM Resorts International in 2019, has more than 1,200 employees, 5,000 VLTs and one of the largest gaming floors in the United States.

[25] New York Gaming Association, "Investing in New York/Jobs." http://newyorkgaming.org/investing-distribution/investing-jobs/ (accessed April 9, 2020)

c. Finger Lakes Gaming & Racetrack

Finger Lakes Gaming and Racetrack is based in Farmington. The facility, which opened in 2004, is owned by Delaware North Companies and was the second VLT facility to open in New York. Since opening, Finger Lakes has always operated in a competitive marketplace within the territory defined in the Seneca compact and most recently with del Lago Resort and Casino. Finger Lakes has 1,195 VLTs and 479 employees.

d. Hamburg Gaming/Buffalo Raceway at the Fairgrounds

Hamburg Gaming Buffalo Racetrack opened in 2004 at the Erie County Fairgrounds in Hamburg. Hamburg Gaming is managed by Delaware North and, similar to Finger Lakes, is situated in the Seneca Compact territory. Hamburg has 898 VLTs and 500 employees.

e. Jake's 58 Casino Hotel

Centrally located off the Long Island Expressway (Exit 58), Jake's provides easy access to 1,000 VLTs for residents of the densely populated Nassau and Suffolk counties. The casino occupies the bottom two floors in what used to be the lobby of a full-service Marriott hotel. The property was purchased by Delaware North, which now manages the casino as well as the 200-room hotel, for the Suffolk County OTB. The bottom floor also has a full-service restaurant with both casual and upscale menus. Jake's 58 is the second-most successful VLT facility in New York based on win per unit. Jake's has 1,400 employees.

f. Resorts World Casino New York City and Nassau OTB

Located in the New York City borough of Queens at Aqueduct Racetrack, Resorts World Casino New York City opened in 2012. Owned by the Genting Group, a Malaysian-based conglomerate that owns destination resorts throughout the world, RWNYC has one of the largest gaming floors in the United States with more than 5,500 gaming positions, and it operates an additional co-located 1,000 electronic table games (ETGs) under the Nassau OTB license. The VLTs operated at a win per unit per day of $322 per day for the fiscal year ended March 31, 2020. The Nassau OTB machines (which have to be ETGs) generated a win per unit per day of $781 during the fiscal year ended March 31, 2020. The combined RWNYC gaming facility has 1,500 employees.

RWNYC has few non-gaming amenities relative to its size, but at this point they are not needed due to the sheer volume of business. The property has only one full-service restaurant, as well as a counter-service noodles outlet and a large food court. The gaming floor has an unusually high number of ETGs, many of which appeal to players of Asian descent, such as baccarat and sic bo. In general, Spectrum believes the casino reflects the market it serves – mid-market players who visit often, including a large number of Asian descent. The property this year intends to open an integrated 400-room hotel, four dining outlets, and retail stores.

g. Saratoga Casino Hotel

Attached to a half-mile harness track that opened in 1941, Saratoga is a VLT facility that is integrated with the grandstand. The property is owned by Saratoga Harness Racing. The property in 2016

added a 117-room luxury hotel that commands premium room rates, as well as an elegant porte cochere and lobby, a Morton's Steakhouse, meeting space, an indoor pool, and other amenities. Saratoga has 1,706 VLTs and 500 employees.

h. Vernon Downs Casino Hotel

Vernon Downs Casino Hotel is located in Vernon, about 40 miles east of Syracuse. The Vernon Downs harness racetrack opened in 1951 and is owned by American Gaming and Entertainment LLC. Vernon Downs operates in a very competitive gaming market with Turning Stone Resort and Casino, which is less than 15 minutes away, as well as the two satellite Oneida properties of Yellow Brick Road Casino and Point Place Casino, and the Oneida's SavOn slot parlors.

The saturated gaming landscape that permeates Upstate has taken its toll on Vernon Downs. The owners of Vernon Downs also own Tioga Downs Casino Resort. Vernon has 649 VLTs and 350 employees.

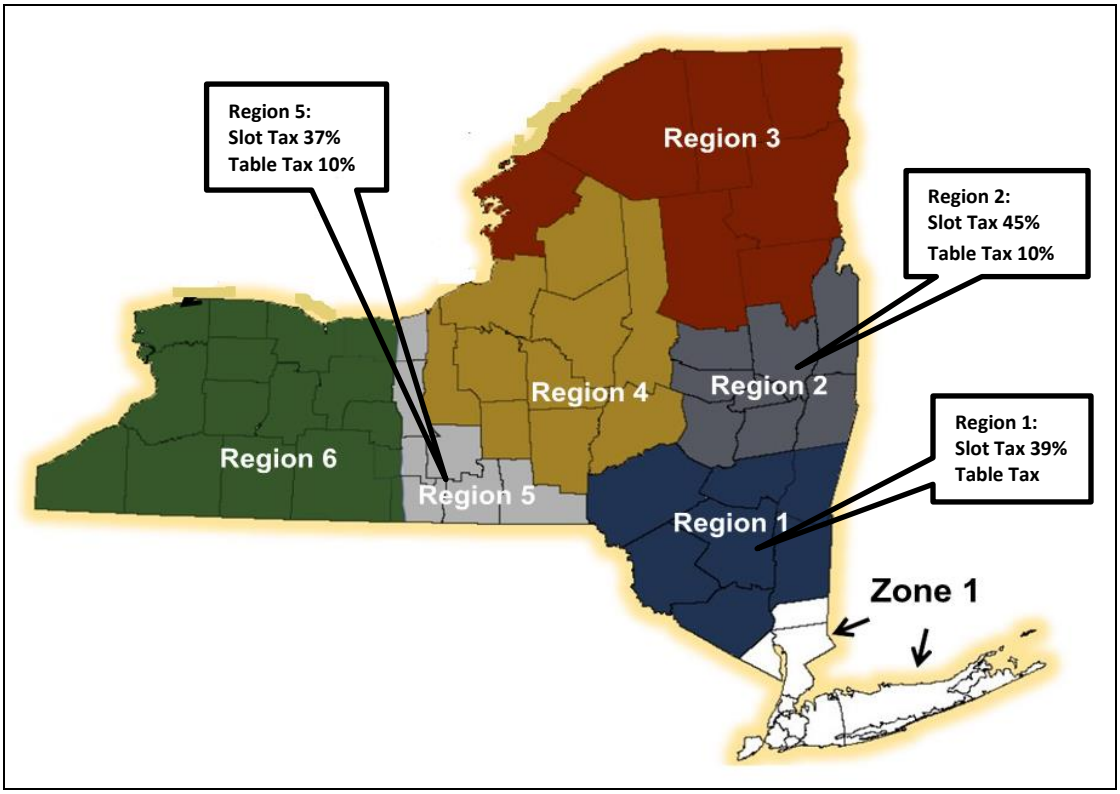
i. Closed: Monticello Casino & Raceway

Monticello Casino and Raceway was located in the Catskills, 90 miles north of New York City near Resorts World Catskills, both owned by the Genting Group. This property, which originally operated as a VLT facility, ceased operations in April 2019. Subsequently, Genting received State approval to open a similar gaming facility in Orange County. The company is in the process of site selection for its new property.

2. Commercial Casinos

The Upstate New York Gaming Economic Development Act of 2013 ("the Act") established two gaming zones. Zone 1 includes the area around New York City and Long Island, while Zone 2 – divided into six regions – encompasses the rest of New York.

Figure 22: New York regions for casino development, 2013



Source: New York State Association of Counties

The Act did not approve awarding any casino licenses in Zone 1. The law authorized four Upstate destination gaming resorts to enhance tourism development, all in Zone 2.

Of the regions in Zone 2, regions 3, 4 and 6 are regions in which the New York has gaming compacts with Indian nations, providing exclusive gaming rights to the Saint Regis Mohawk, the Oneida, and the Seneca, respectively. With four licenses and three regions, the Act left open the possibility of awarding two licenses to one of the regions.

Regions 1, 2 and 5 were eligible for commercial casino development. Region 1 has been referred to as "The Catskills." Region 2 has been termed the "Capital Region." Region 5 has been called the "Southern Tier," although the region stretches from the Pennsylvania border through the Finger Lakes and to Lake Ontario.

The Act established slot machine tax rates that vary by development region, and were based on the lowest education rate tier of the VLT in the same region at the time.

New York's commercial casinos collectively generated more than $600 million in GGR in 2019.

Following is an overview of the state's four commercial casinos.

a. Del Lago Resort & Casino

Del Lago is located off the New York Thruway in Waterloo. In keeping with its positioning as a resort, del Lago features a big, open floor plan and a modern, attractive design that focuses on an Italian

lake theme. The property includes a 208-room hotel, event center, and a large, new DraftKings sports bar to optimize revenue from sports wagering. The property has a small smoking patio, complete with heated floors and heat lamps, to optimize revenue from the segment of its customer base that smokes.

The parking garage leads directly to the casino floor, allowing patrons to enter and exit without having to confront unfavorable weather conditions. Visibility and access from the Thruway are excellent. However, while the property is located at an exit from the Thruway, in order to access the property guests must travel on the Thruway. Del Lago has 1,959 slots, 81 table games, and 1,200 employees.

b. Resorts World Catskills

Resorts World Catskills is located in Monticello, approximately a two-hour drive from Midtown Manhattan and a 40-minute drive after exiting the Thruway. The approximate $1 billion LEED-certified Resorts World Catskills property is a polished and sophisticated resort with two hotels, including an all-suite hotel tower and The Alder hotel with more traditional room configurations, a spa, and indoor pool and fitness center. The casino floor approximates 100,000 square feet. The property targets Asian gaming clientele with a significant numbers of Chinese table games (Sic-Bo, Pai Gow Poker, Pai Gow Tiles), a high-end Asian restaurant, a dedicated Chinese section of their website, and staff fluent in multiple Asian languages. The property has 2,155 slots, and 133 table games, and 1,400 employees.

c. Rivers Casino & Resort Schenectady

Rivers Schenectady is a well-appointed and attractive resort property that boasts numerous "green" building components, which earned it a LEED Silver award in 2017. Located an approximate 30-minute drive from Albany, the property is adequately accessed from Interstate 890. The property offers a hotel, branded as The Landing, with approximately 185 rooms, as well as a food court, noodle bar, steak house (Duke's Chop House), a wine bar, and an event center with regular shows and concerts which appear to be rather popular with Albany residents. While the casino floor is relatively small, the design is refined and attractive, and its size is sufficient to meet customer demand levels. Rivers has 1,150 slots, 67 table games, and 1,100 employees

d. Tioga Downs Casino Resort

Located in Nichols, near the Pennsylvania border, Tioga Downs converted from a VLT facility in December 2016. The conversion included adding a hotel and new dining options, including PJ Clarke's. Tioga Downs added a hotel to attract market segments that were not previously visiting the property in meaningful numbers, as well as the coinciding addition of two new restaurants. The addition of table games did not provide an immediate material boost, which was perhaps a function of Tioga's location. The opening of the hotel, had a greater impact on revenue according to management. Tioga Downs has 943 slots, 32 table games, and 600 employees.

e. VLT vs. Commercial Casino Operational Differences

Under the standard lottery model, a convenience store or other lottery retailer is paid a commission for selling the ticket. At the VLT operations, the operator is paid a commission for hosting and

managing the operation of the machines. This is fundamentally different from a tax. Commercial casinos, by contrast, are independent businesses that pay tax on GGR, which is universally defined as the money wagered by players minus the amount paid out to winners.

The VLT operators do not own the gambling machines in their facilities. The VLTs themselves are the property of New York. By contrast, the commercial casinos own or lease the games on their floors. This difference does not have a significant impact on operations, but it has a major impact on the financial performance of the operation due to the capital required to purchase slot machines. As such, the capital needs of the commercial casinos are greater. A new slot machine can cost $22,000. This means that equipping a casino with 1,000 slots requires a capital investment of $22 million. In some cases, slot machines can be leased on a daily fee or participation basis. While leasing decreases the capital needs, lease payments diminish revenues. To buy or lease is a decision made by operators based on availability of game titles and capital.

VLTs are similar in appearance to, and in many cases have the same titles as traditional slot machines. Indeed, from the perspective of a typical player, the two forms of devices would be largely indistinguishable. However, the math behind the game is different. A slot machine is controlled by a random number generator, in which each spin of the reels is an independent game. In a VLT game, the player spins the wheel and is essentially purchasing an electronic lottery ticket. The terminal plays the lottery game and displays the player's results in a graphic format on the screen. All the VLT terminals are controlled by the Lottery's central-determination system that replenishes the prize pool continuously. This is the defining, differentiating element between VLTs (with a predetermined number of winning combinations as in video lottery, bingo, or pull tabs) and a traditional slot machine, in which a random number generator determines the outcome.

New York's VLT operators offer varying degrees of concern with regards to competitive issues including tax rates, local competition, out of state competition and levels of promotional play offered at Indian casinos. One common thread is that all operators seek a level playing field and want to be treated fairly with other parts of the gaming landscape. One clear, universal goal amongst all the operators is the ability to exert greater control of their gaming floors as well as a greater ability to obtain popular gaming machines.

The New York State Gaming Commission ("Commission" or "NYSGC") chooses the gaming equipment manufacturers that may do business with the VLT facilities. Presently, the operators are only able to choose gaming products from two approved vendors: Scientific Games and IGT. The most recent RFP issued to the gaming vendor equipment industry was in 2012. Four vendors were approved at the time. Because of merger and acquisition activity in the industry, only two remain after consolidation.

While the VLT operators are able to choose the games they want, the Commission acquires the games through an allocation of 10 percent of GGR. Vernon Downs retains 75 percent of the fee in exchange for maintaining specific employment levels. If the machines cost less than that allocated amount, the State keeps the difference. By contrast, commercial casino operators can negotiate directly with multiple vendors.

3. Indian Casinos

Three federally recognized Indian nations have gaming compacts with the State of New York. As in many other states, the State of New York and the tribes negotiated the exclusivity zones as part of the compacts. Under a revenue-sharing agreement, the nation agrees to pay the State a fee – usually a percentage of gaming revenue – for the exclusive privilege of operating Class III gaming in a particular territory. In New York, the three Indian nations pay 25 percent of GGR from their slot machines to New York in exchange for exclusivity.

In total, the Oneida, Seneca and Saint Regis Mohawk operate eight Class III casinos, three Class II casinos, and several small convenience gaming locations. A fourth Indian nation, the Cayuga, is not compacted with New York; it operates a Class II bingo casino in Union.

Spectrum estimates that New York's Indian casinos in 2019 generated $1.1 billion in GGR.

Following is an overview of New York Indian gaming operations:

a. Cayuga

The Cayuga Nation operates a Class II electronic gaming property in Union Springs. The facility has only 86 machines. The operation is a site of controversy and is in litigation between the Nation and Union Springs.

b. Oneida

The Oneida Indian Nation gaming exclusivity zone includes 10 counties in central New York. The Nation has the ability to add an unlimited number of gaming operations across their territory. They currently operate four Class II casinos. The Oneida gaming properties are as follows:

The Lake House: In July 2020, the Oneida Nation opened a fourth Class III casino, The Lake House, at Sylvan Beach. Lake House was developed in a lakefront restaurant and banquet hall and offers 100 slots.

Point Place Casino: In 2018, the Nation opened their second satellite casino in Bridgeport, NY. Point Place is approximately 25 minutes northwest of Turning Stone on Highway 31. Unlike the Yellow Brick Road Casino, this property was designed as a casino. With over 500 slots, 20 tables and a Caesars sports book, the property has a big casino feel in a small package. There are two restaurants with a varied menu and well-priced options, but as a satellite casino there is no steakhouse or fine dining option.

SavOn Convenience Stores: The SavOn slot offerings are small slot parlors with between 15 and 30 gaming machines depending on the location. They are attached to convenience stores.

Turning Stone Resort Casino: Turning Stone was the first casino in New York, and it has expanded greatly since opening in 1993. The property offers a large casino with over 1,700 slots and 125 table games. Turning Stone offers 13 food options ranging from a food court to a steakhouse. There are now over 750 rooms in different hotels that are part of the complex. The new Caesar's sports book and lounge is at the main entrance. The Exit 33 entertainment space connected to the casino includes themed

restaurants and entertainment, including a country bar and venue, an art deco cocktail lounge with entertainment, and others.

Yellow Brick Road Casino: The Yellow Brick Road Casino, which opened in 2015, is in a converted retail space in a strip mall that also has a Tops Food Store. There is no hotel as this is a convenience casino. The property recently added a small bowling alley and Top Golf,

c. Saint Regis Mohawk

The Saint Regis Mohawk gaming exclusivity zone is seven counties in the far northeast portion of the state bordering Vermont and Canada. The Mohawks operate **Akwesasne Mohawk Casino Resort** in Hogansburg, less than two miles from the Canadian border. The property has steadily evolved since its 1999 opening to become a full-service gaming resort that seems appropriately sized for its market. It also has become perhaps the most prominent entertainment and resort facility in the sparsely populated upper North Country, offering slots, table games, sports wagering, restaurants from fine dining to grab-and-go, hotel with spa, meeting facilities, and a multipurpose room used for events including bingo and concerts. The casino features mostly Class III slot machines but also mixes in a number of Class II slot machines, for which the Saint Regis Mohawk Tribe does not share revenue with the State. Management stated that about 40 percent of its business is from residents of Canada, and to accommodate such visitors concerned about the currency-exchange rate about 10 percent of its slot machines accept only Canadian currency. The casino property is one of the largest employers, not only in the local community, but in Northern New York as a whole.

d. Seneca

The Seneca gaming exclusivity zone includes the entire state of New York west of State Route 14 from the state line with Pennsylvania on the south to Sodus Point on Lake Ontario. The Seneca gaming properties are as follows:

Seneca Niagara: A Class III casino offering slots and table games in downtown Niagara Falls, styled after the integrated resorts of Las Vegas. The property features more than 2,500 slots, 75 tables, 600 hotel rooms, a buffet, a 24-hour café, a Tim Horton's coffee shop, a steakhouse, an Italian restaurant, an Asian restaurant, three cocktail lounges, a sports book, and a full-service spa. The property is located three blocks from the falls just across the Rainbow Bridge from Ontario. Because it is located at the border and unlike Canadian casinos allows smoking and offers free alcoholic drinks on the floor, the casino attracts Canadians (who cross the bridge with a toll rebate program) among others.

Seneca Allegany: A Class III tribal casino offering slots and table games in Salamanca, NY, just off Interstate 86. The property features 1,700 slots and 30 table games, a sports book, over 400 hotel rooms, a 24-hour café restaurant, a buffet, a steakhouse, an Italian restaurant, and two cocktail lounges. There are no restaurants on the casino level.

Seneca Buffalo Creek: Located in downtown Buffalo, two blocks from the KeyBank Center hockey arena, the casino has 1,100 machines, 40 tables, and mid-level food and beverage outlets. Unlike with the other two Seneca casinos, alcoholic beverages are not complementary.

Seneca Gaming and Entertainment: In addition to their three large, Class III casinos, the Seneca Nation through another corporation, Seneca Gaming and Entertainment ("SGE"), operates three Class II gaming properties, as follows:

- *SGE Salamanca:* The property has about 350 EGDs, a bingo hall, a concession stand, and a poker room. The SGE is right off interstate, about half a mile from Seneca Allegany.
- *SGE Irving:* The attractive layout includes a large bingo room, 650 EGDs and a concession stand.
- *SGE Oil Spring:* Operating in a small tin shed, it has only 110 video gaming machines and a snack bar.

e. Shinnecock

After pursuing federal recognition since the 1970s, the Shinnecock Indian Nation won recognition from the Bureau of Indian Affairs in 2010. The Shinnecock currently have 800 acres of land in trust as a reservation in Southampton, NY. The Shinnecock in September 2020 announced it had entered into a casino development agreement with Seminole Hard Rock Entertainment.

Appendix G: Methodology for U.S. Sports Wagering Estimates

1. Global Markets Offer Insight into Stabilized U.S. Market Size

While there are at most 20 months of (pre-COVID-19) data on broad-based U.S. sports wagering, it has been a regulated activity in many large European countries for more than a decade. We analyzed the largest mature markets for insight into the potential size of the U.S. market and, in turn, state-by-state potential. Additionally, because many of these markets established digital wagering when internet usage became more widespread a decade ago, we can further estimate the impacts of digital sports wagering.

For purposes of this analysis, we reviewed the top 10 sports wagering markets by GGR to gain insight. Figure 23 below illustrates metrics we will apply throughout this section to derive insight into the potential size of the U.S. market for both retail and digital sports wagering.

Our analysis relies on 2018 data because the data sources update at varying times during the year and 2019 is not a complete data set yet. Because Europe is a stabilized market, these countries are growing at a stabilized rate so 2019 will not drastically differ from 2018.

Figure 23: Top betting markets in Europe, 2018 (in $M, unless otherwise noted)

Jurisdiction	Sports Wagering GGR			Casino[1] GGR	GDP ($B)	Adult Pop. (M)	Casino GGR/ GDP (%)	Tax Rate	Per Adult			SB Adj. for GDP[2]
	Retail	Digital	Total					Ret./Dig.	GDP	LB GGR	Sports	
United States				$79,765	$18,227	255	**0.44%**	6.75% to 61.0%	71,351	311		
United Kingdom	$944	$2,302	**$3,246**	$9,317	$2,605	55	**0.36%**	15%	$47,492	$98	$59	$89
France	$459	$1,147	**$1,606**	$3,166	$2,566	54	**0.12%**	9.3%[4]	$47,727	$46	$30	$45
Italy	$1,194	$770	**$1,965**	$13,106	$1,916	52	**0.68%**	18%/22%	$36,942	$232	$38	$73
Germany	$83	$1,210	**$1,293**	$8,835	$3,648	73	**0.24%**	20%	$50,125	$111	$18	$25
Sweden[3]	$91	$655	**$747**	$645	$492	8	**0.13%**	NA (1)	$60,242	$29	$91	$108
Spain	$331	$504	**$835**	$4,268	$1,318	38	**0.32%**	25%	$34,290	$99	$22	$45
Greece[3]	$335	$211	**$546**	$697	$201	10	**0.35%**	35%	$21,144	$52	$57	$193
Denmark	$81	$313	**$394**	$688	$325	5	**0.21%**	20%	$70,084	$65	$85	$87
Belgium	$188	$180	**$368**	$928	$491	9	**0.19%**	11%	$53,660	$62	$40	$53
Ireland	$126	$184	**$310**	$771	$353	4	**0.22%**	15%	$81,644	$95	$72	$63
						Low	0.12%	11.0%	$34,290	$46	$18	$25
						Median	0.23%	17.5%	$48,926	$96	$39	$58
						High	0.68%	25.0%	$81,644	$232	$85	$89

Source: H2 Gambling Capital, Spectrum Gaming Group. **Notes:** [1] Includes retail plus interactive for European Union countries. [2] Adjusted for GDP/Capita using U.S. as the index. [3] Greece & Sweden excluded as "outliers." [4] Tax is on "stakes" (handle); adjusted to 55% of GGR in 2020.

The sports wagering landscape in Europe has similar characteristics to the existing and ongoing rollout across U.S. states. The top 10 European markets have tax rates ranging from 8.5 percent in France to 35 percent in Greece. Comparably, the 17 U.S. states that are active have tax rates ranging from 6.75 percent to 61 percent.

A review of the retail gaming industry in the United States compared to European markets suggests U.S. gamblers have a higher propensity to gamble as measured by retail GGR/GDP percentage. The median GGR/GDP percentage for Europe is 0.23 percent, and the U.S. ratio is 0.44 percent – almost

twice as high. Retail GGR for the United States was about $80 billion (both commercial and Indian gaming)[26] in 2018, or $311 per U.S. adult. Higher propensity to gamble in the United States can be attributed to the widespread availability of retail gaming at about 1,000 gaming facilities. By comparison, the largest retail casino market in Europe is the United Kingdom with about 150 retail casinos serving 54 million adults,[27] and these casinos are small by U.S. standards. We note that the United Kingdom has approximately 8,000 betting shops, but compared to the retail gaming facilities throughout the United States, these are much smaller and less attractive entertainment venues. When analyzing retail casino spending in the United States, one key conclusion is that if gambling and, in turn, sports wagering is made widely available, the GGR per adult is likely to be at the higher end of the range observed in European markets.

As adjusted for higher GDP per adult in the U.S., the top 10 sports wagering markets in Europe generate a wide range of GGR per adult – between $25 and $89 annually. That would translate to a wide range of $6.6 billion to $20.9 billion of GGR for all the United States (which has approximately 255 million adults). Given the higher propensity to gamble in the United States and assuming a reasonably low tax rate, we assume sports wagering GGR per adult will be between $50 and $70 per U.S. adult on average. When adjusting this estimate for higher household income across various states, GGR/adult will fall at the high end of the range observed in Europe.

We note that both Sweden and Greece are generating significantly higher sports wagering GGR per adult at $108 and $193, respectively; however, we classify these two countries as outliers because the retail gaming options there are limited. Greece has only nine retail casinos serving a population of 10 million; Sweden has only four casinos serving a population of 8 million. Sports wagering has become a popular alternative to casino gaming in these two countries.

The United Kingdom is the largest sports wagering market in Europe. The U.K. Gambling Commission has encouraged a free market to develop, leading to a highly competitive environment. Consumer wagering choice is wide, and competition has prompted innovations such as “in-play wagering” and “cash-out functionality.”[28] In the United Kingdom as well as other Europe markets there are options to place bets in stadiums.

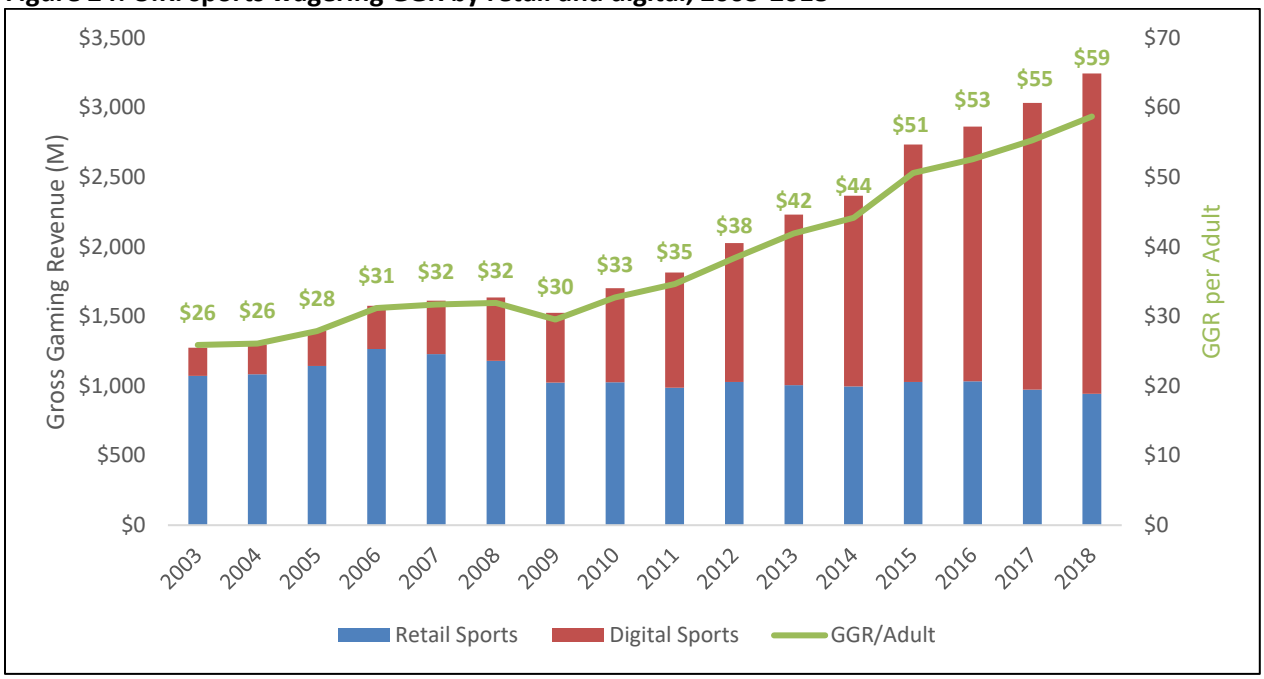
The U.K. Gambling Commission has strong power to use when licensees transgress rules and regulations, such that there is virtually no illegal wagering market. For the United Kingdom, there is more detailed and publicly available information from which we can gain insight. Many of the largest operators in the United Kingdom are either active in the United States or have plans to be, including William Hill, BetStars, GVC, Bet365, Kambi, SBTech and Flutter, among others.

[26] State regulatory agencies, National Indian Gaming Commission.

[27] H2 Gambling Capital.

[28] Cash-out functionality allows players to either lock in a profit or mitigate a loss on an in-play bet. Some of these innovative betting options now exist in U.S. markets as well.

Figure 24: U.K. sports wagering GGR by retail and digital, 2003-2018

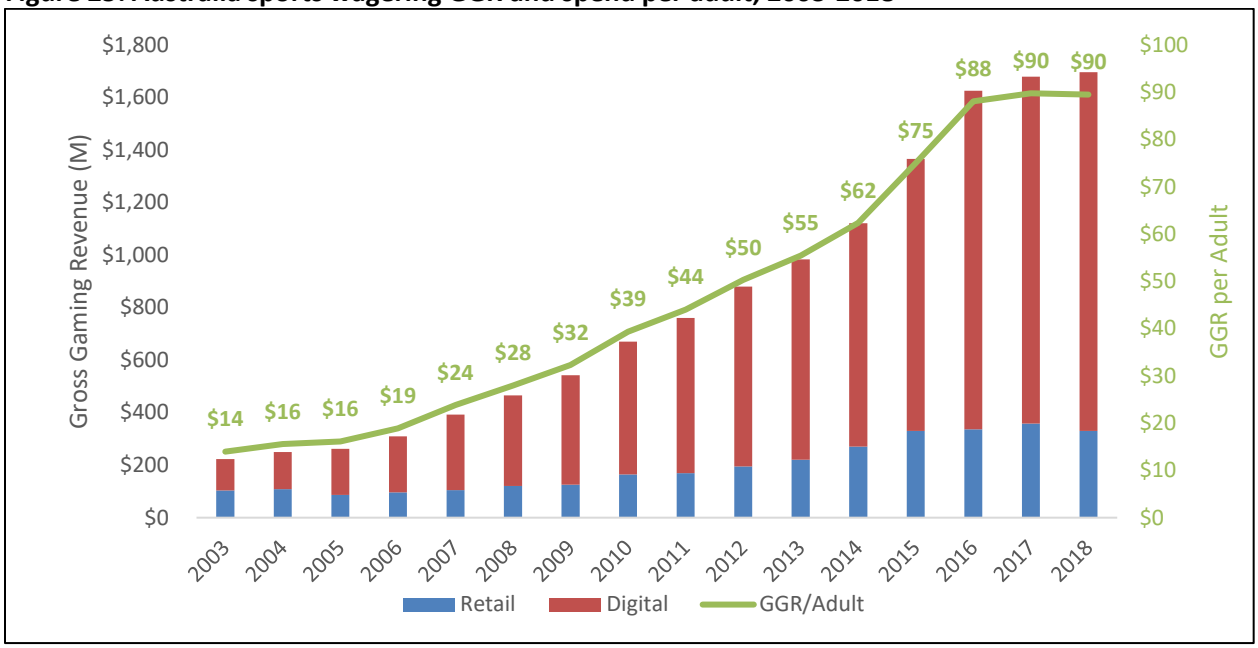


Source: H2 Gambling Capital

Figure 24 illustrates GGR from retail and digital as well as GGR per adult in the United Kingdom from 2003 to 2018. GGR per adult continues to grow, with peak spend at $59 in 2018. From 2003 to 2009, digital wagering accounted for just about 20 percent of total GGR. Since 2010, however, GGR from digital wagering has significantly grown such that it now accounts for two-thirds of total sports wagering GGR. The introduction and proliferation of the iPhone and other mobile devices enabled the digital sports wagering market to outpace the retail market. In U.S. states where digital wagering will be legalized, it is highly likely that digital will account for at least two-thirds of total GGR, and it could account for an even higher share.

In Australia, where sports wagering is available in both retail and digital formats, digital has grown to account for 80 percent of wagering. The digital market commenced in 2006 and has consistently grown at a 15 percent growth rate, driven by technological innovation and increasing smartphone penetration. We believe Australia is comparable to the U.S. market because it has large-scale casinos and integrated resorts. There is a robust market for U.S. sports because the time zone allows Australians to watch live U.S. sports during daylight hours (unlike Europe). Figure 25 illustrates the size and spend per adult of the Australian market, which, based on recent trends, appears to be flattening at $90 per adult.

Figure 25: Australia sports wagering GGR and spend per adult, 2003-2018



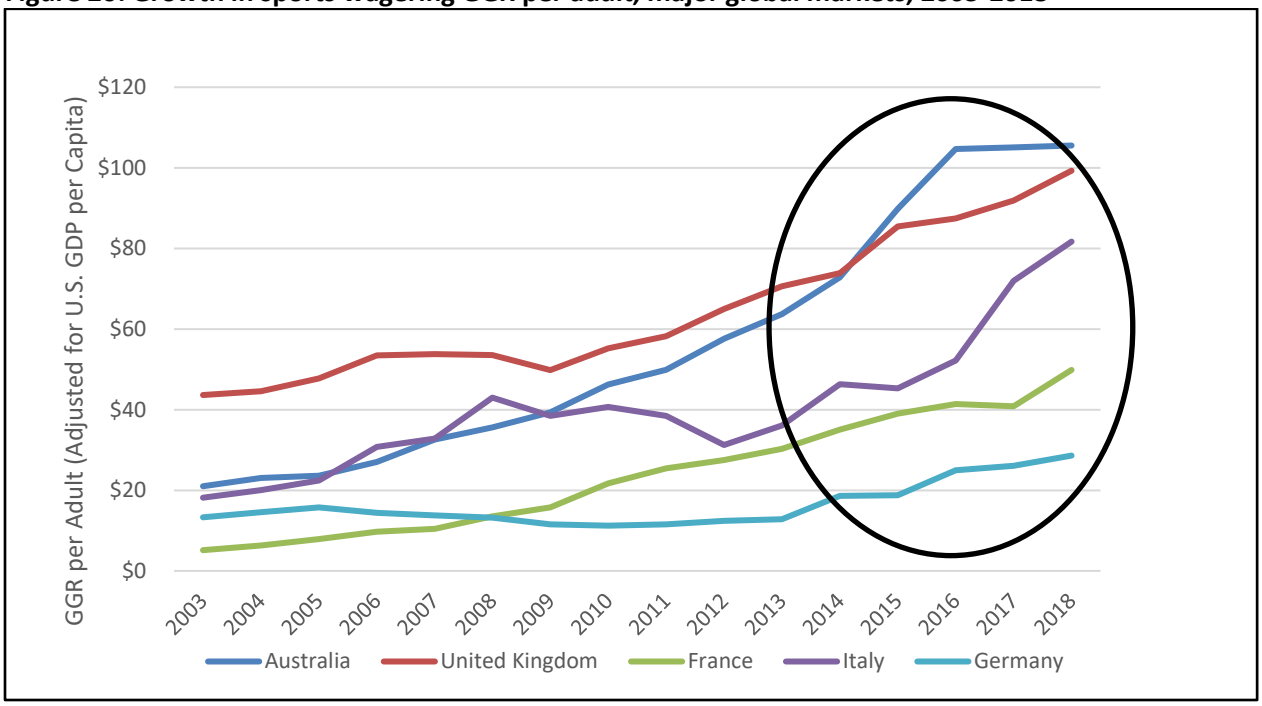
Source: H2 Gambling Capital

Australians are some of the most prolific gamblers in the world, spending about $700 per adult (retail gaming only) compared to about $300 in the United States and about $100 in Europe, respectively. Given Australia's high propensity to gamble, we believe $90 per adult to be the high end of the range of the U.S. market.

a. GGR Rises after Adoption of Digital Wagering

In the top European markets and Australia, there has been a substantial increase in GGR per adult since 2012. We attribute this growth to the increasing adoption of digital wagering via mobile devices and the overall expansion of the wagering offering via digital format. Figure 26 illustrates the upward trends in these markets starting from 2012 onward, coinciding with the start of increasing proliferation of digital transactions.

Figure 26: Growth in sports wagering GGR per adult, major global markets, 2003-2018



Source: H2 Gambling Capital, Spectrum Gaming Group. Oval highlights upward trend as digital wagering proliferated.

Figure 27 below illustrates how the composition between retail and digital wagering GGR changed in these countries between 2010 and 2018. In 2018, digital was responsible for 71 percent of sports wagering volume. If one were to exclude Italy – which still skews toward retail – the percentage would increase to 79 percent.

Figure 27: Change in composition of retail and digital wagering, 2010 and 2018

	2010		2018		Variance	
	Retail	Digital	Retail	Digital	Retail	Digital
Australia	25%	75%	19%	81%	-5%	7%
United Kingdom	60%	40%	29%	71%	-52%	79%
France	50%	50%	29%	71%	-43%	43%
Italy	73%	27%	61%	39%	-17%	45%
Germany	22%	78%	6%	94%	-71%	19%
Average	**46%**	**54%**	**29%**	**71%**		

Source: H2 Gambling Capital, Spectrum Gaming Group

For all U.S.-based analysis, we estimate digital wagering will account for at least two-thirds of all bets, which is in line with many of the largest European countries. This estimate may be conservative across the United States.

b. U.S. Sports Wagering GGR Factors

We arrived at our per-adult estimates by tabulating data from other markets, adjusting for GDP, and reconciling those values. In more developed markets, we observed a range of $25 to $89; for the U.S. market we estimate GGR per adult would be at the higher end of this range, about $50 to $70 per adult.

For higher-income states our estimates would be closer to $70 per adult or higher, and for lower-income states our estimates would be closer to $50 per adult or lower.

Figure 28: Summary of indicators for size of the U.S. sports wagering market

	Sports Wagering GGR/Adult	Sports Wagering GGR/Adult[1]	Total U.S. GGR
Top European Markets	$18 to $85	$25 to $89	$7B to $21B
United Kingdom	$59	$89	$20B
Australia	$90	$106	$27B

Source: H2 Gambling Capital, Spectrum Gaming Group. **Note:** 1 Values adjusted for GDP/capita

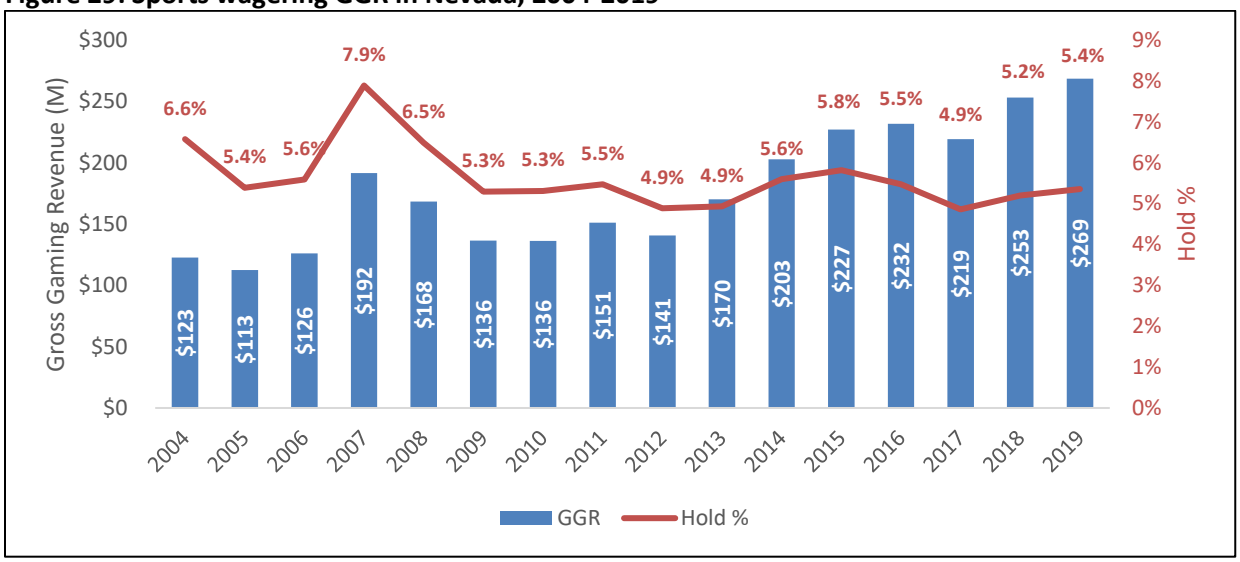
This comparative analysis assumes retail sports wagering is offered at betting venues such as casinos and racetracks (or betting shops on high streets in Europe) and – crucially – includes digital wagering. There will be factors that influence the potential for the U.S. market to generate $50 to $70 per adult, as estimated, including tax rates, variety of events on which to bet beyond the four core U.S. sports (for example: college sports, soccer, esports) and other regulatory constraints including wagering limits and the availability of credit.

c. Although Well Established, Nevada Provides Little Market Insight

Sports wagering has existed in Nevada since 1951, but the business is small, peaking at only $268 million in 2019, about 3 percent of statewide GGR. The adult population is only 2.3 million, and sportsbooks are considered a peripheral amenity, especially for the Las Vegas Strip resorts. A simple calculation of sports wagering GGR per adult of about $130 is misleading because Nevada is predominantly a destination market. Although its locals have a much higher propensity to gamble than the average U.S. resident, we cannot separate locals gaming from destination visitors.

However, we can gain insight into the value of digital wagering in Nevada. The sports wagering GGR increased to $268 million in 2019 from about $150 million in 2011, despite the fact that one must visit a retail location to open and fund an account. Figure 29 illustrates sports wagering GGR growth since digital wagering started, along with historical hold percentages.

Figure 29: Sports wagering GGR in Nevada, 2004-2019



Source: Nevada Gaming Commission

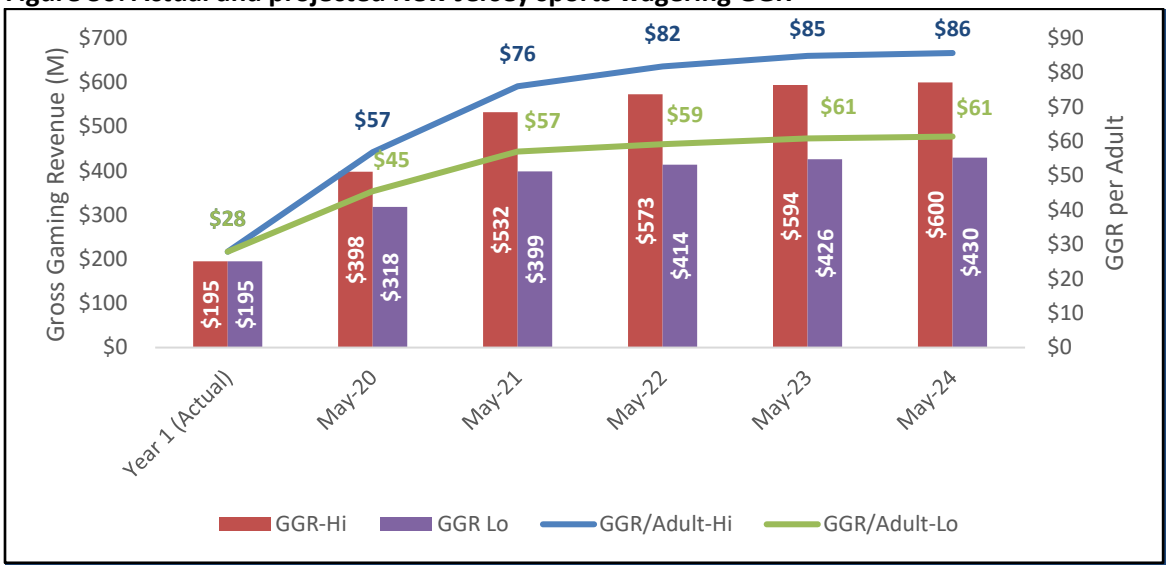
d. Among Recently Legalized States, New Jersey Provides the Most Insight

The most insight on the impact of sports wagering can be derived from New Jersey because state legislators legalized both retail and digital wagering the earliest. Additionally, New Jersey's adult population is relatively high at 7 million, and that number is augmented as a result of the large New York City metropolitan population that can place bets when they physically cross the border into New Jersey. Also, HHI is $76,000, much higher than the U.S. average of $61,000. Therefore, despite the relative newness of the sports wagering industry, New Jersey provides the most robust data at this early stage.

On a GGR-per-adult basis for the 12-month period ended February 2020, New Jersey generated $48 per adult. Based on our projection for the total United States of $50 to $70 per adult, New Jersey will generate between $61 and $86 per adult at stabilization ($76,475 median HHI vs. $61,937 for total United States). That translates to between $430 million and $600 million of GGR. For the 12-month period ended February 2020, New Jersey generated $338 million from sports wagering. Given the initial success in New Jersey, we expect GGR at stabilization will be at the higher end of our range of estimates. In Figure 30, we illustrate the expected ramp-up of New Jersey's sports wagering market to stabilization of $61 to $86 GGR per adult (analysis does not take into account the Covid-19 impact).

In any benchmarking exercise using the New Jersey market, it is important to note that a meaningful portion of sports wagering GGR there is generated from New Yorkers. Based on our discussions with sports wagering operators, as much as 25 percent of handle is generated by New Yorkers.

Figure 30: Actual and projected New Jersey sports wagering GGR



Source: New Jersey Division of Gaming Enforcement

New Jersey legalized sports wagering at the state's casinos and racetracks, thereby enabling accessibility of retail sports wagering throughout the state. New Jersey's casinos are all located in Atlantic City, which is easily accessible for residents of the southern part of the state but a two-hour drive from the densely populated New York City and northern New Jersey area.

By allowing sports wagering at racetracks – including the Meadowlands in northern New Jersey and Monmouth Park, which is more centrally located – more of the population could access retail sports wagering. Figure 31 illustrates the market share results and impact of making retail sports wagering more accessible to more of the population.

For the 12-month period ended February 2020, Meadowlands and Monmouth Park together generated just under 70 percent of all retail GGR, while all nine Atlantic City casinos combined only accounted for 30 percent. We note that during the peak summer season, when the number of visitors to Atlantic City increases significantly, its share of retail GGR increased. However, during the peak season for sports wagering – fall and winter (football season and basketball season) – retail locations in the middle and northern part of New Jersey are outperforming. This suggests that accessibility and convenience of sports wagering has a direct impact on GGR results – just like accessibility to and convenience of casino gaming helps that industry.

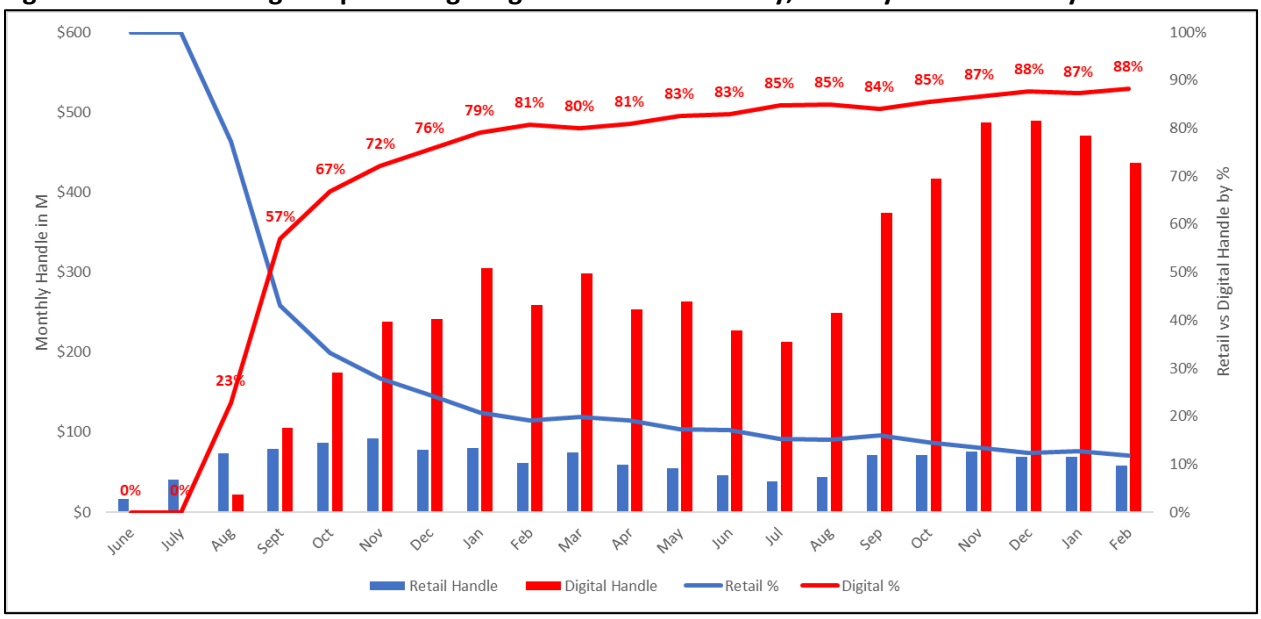
Figure 31: Retail sports wagering GGR in New Jersey, January 2019-February 2020

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	LTM
Meadowlands (FanDuel)	1.2	1.5	4.3	3.3	0.8	1.7	1.8	2.6	3.6	4.1	2.7	2.4	4.3	1.4	**33.0**
Monmouth Park	0.8	(0.5)	1.0	0.8	0.5	0.5	0.3	0.7	1.0	1.2	0.7	0.6	0.9	(0.1)	**8.1**
Atlantic City Casinos	1.2	(0.9)	2.2	0.6	0.5	0.6	1.9	2.7	3.8	2.4	1.8	0.9	1.7	(0.3)	**18.7**
Total Retail	3.2	0.1	7.4	4.7	1.8	2.8	4.0	6.0	8.5	7.7	5.1	3.9	6.9	1.1	**59.8**
Retail Share															
Meadowlands (FanDuel)	36%	2061%	58%	72%	44%	60%	44%	43%	43%	54%	52%	62%	62%	132%	**55%**
Monmouth Park	26%	-690%	13%	16%	30%	19%	8%	12%	12%	15%	13%	16%	13%	-5%	**14%**
Atlantic City Casinos	38%	-1270%	29%	12%	27%	21%	47%	45%	45%	31%	35%	23%	25%	-27%	**31%**

Source: New Jersey Division of Gaming Enforcement, Spectrum Gaming Group

Although retail sports wagering in New Jersey commenced in the middle of June 2018, digital wagering did not go live until August 2018. Since its start, digital sports wagering has significantly outpaced the growth of retail. For the 12-month period ended February 2020, retail generated $733 million in handle while digital generated almost $4.1 billion. During that same period, digital GGR accounted for 83 percent of total sports wagering GGR in New Jersey (considering the digital portion of Atlantic City casinos sports wagering). Among all the U.S. states that legalize digital wagering, the outcome will be similar to what we are seeing in New Jersey (and Europe).[29] A comparison of retail and digital volume, by handle, is graphically illustrated in Figure 32.

Figure 32: Retail vs. digital sports wagering handle in New Jersey, January 2019-February 2020



Source: New Jersey Division of Gaming Enforcement, Spectrum Gaming Group

[29] Additional states that more recently started offering digital wagering include Indiana, Iowa, West Virginia, Pennsylvania, Rhode Island and New Hampshire. Due to limited months of actual reported data coupled with the abrupt stoppage of all sports in March of 2020 due to COVID-19 there is limited insight to be drawn from these states (except Pennsylvania).

Appendix H: Background and Overview of iGaming (Casino and Poker) in the U.S.

Five states have legalized some form of iGaming: Delaware, Nevada, New Jersey, Pennsylvania, West Virginia and Michigan. Delaware, Nevada and New Jersey were early adopters of iGaming, launching their first online gambling sites in November 2013. It was not until July 2019 that Pennsylvania became the next state to launch legal online gambling sites. Legalized iGaming in West Virginia and Michigan is not expected to launch until the second half of 2020 and sometime in 2021, respectively.

States implementing iGaming have set differing operating parameters, such as which entities are eligible for licensure, which games to allow, and whether license holders may operate multiple brands, or "skins." In all states except Nevada and Pennsylvania, iGaming licensure is available only to retail casino operators. Figure 33 provides a summary of the rules and tax rates for iGaming in the United States. We do not include GGR in this table, as not all states report GGR, and among those that do, the calculations are not always comparable.

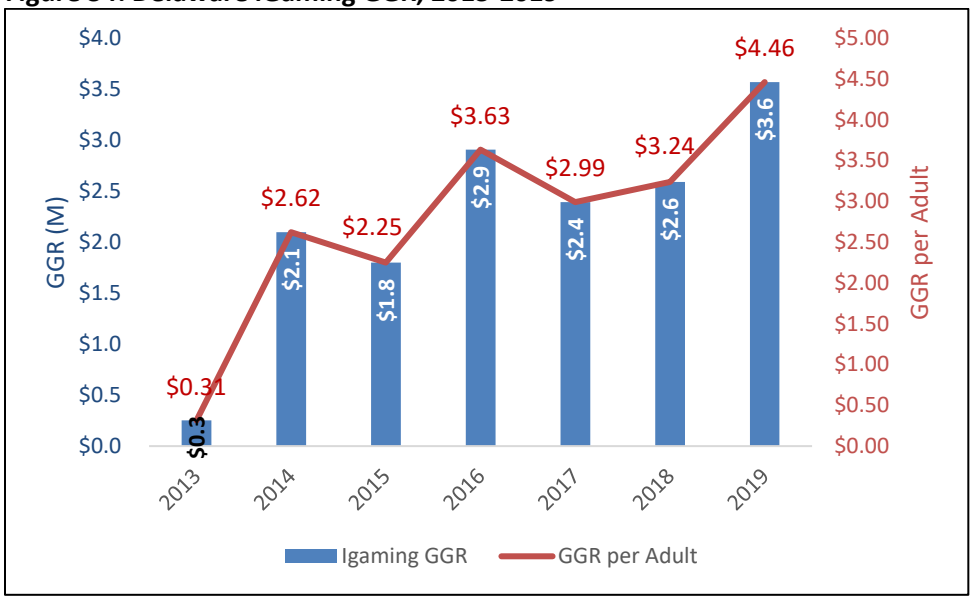
Figure 33: Overview of iGaming states

State	iGaming Games Allowed	Tax Rate	Start Date	Skins/License Holder
Delaware	Slots, Tables, Poker	Above $3.75M of GGR: 53.5% slots/34% tables	November 2013	1
Nevada	Poker	6.75%	November 2013	1
New Jersey	Slots, Tables, Poker	17.5%	November 2013	5
Pennsylvania	Slots, Tables	54%/16%	July 2019	Unlimited
West Virginia	Slots, Tables, Poker	15%	Second half 2020	TBD

Source: State regulatory agencies

Delaware: iGaming in Delaware was legalized in 2012, and the first iGaming sites launched in 2013. Since inception, Delaware has allowed digital poker, slots, and table games through a single technology platform provider. Each of the state's three retail casinos has an iGaming license. In 2015, Delaware signed a liquidity agreement with Nevada, allowing poker players from both states to play against each other and provide additional liquidity (pot size) to the games. In 2018, New Jersey joined this agreement; however, only a single operator is licensed in all three states, so the addition of New Jersey is not expected to materially grow the U.S. digital poker market. Due to its small size (800,000 adults), Delaware generated only $3.6 million of iGaming GGR in 2019, which is equivalent to $4.50 of spend per adult. iGaming GGR in Delaware and spend per adult is shown in Figure 34.

Figure 34: Delaware iGaming GGR, 2013-2019



Source: Delaware Lottery, Spectrum Gaming Group

The iGaming tax rate in Delaware is as follows: the first $3.75 million in GGR industrywide goes to the state government, and marginal GGR is taxed at 43.5 percent for slots and 29.4 percent for tables. An additional 10 percent of slot GGR and 4.5 percent of table GGR goes to the horse racing industry. Because statewide GGR totals have yet to exceed the $3.75 million threshold, iGaming GGR in Delaware has been effectively taxed at 100 percent. Under this tax scheme, it is uneconomic for operators to materially invest in growing their iGaming business. We expect Delaware to remain a tiny market.

Nevada: Online poker was legalized in February 2013, and the player pool was restricted to adults located within Nevada. In 2015, the state signed a liquidity agreement with Delaware, allowing poker players from both states to play against each other. Despite many companies applying for poker licenses, only three providers have ever offered licensed real-money digital poker in Nevada. Due to the limited number of players, the market struggled to gain traction. Ultimate Poker, owned by an affiliate of Red Rock Resorts, opened to players in early 2013 and shut down in November 2014. The other two – WSOP.com and Real Gaming Online Poker – opened in late 2013 and early 2014 respectively, and while both still exist, the Nevada Gambling Control Board stopped publishing revenue reports due to too few participants. Online poker GGR is subject to the same 6.75 percent state tax imposed on retail GGR.

Pennsylvania: In October 2017, Pennsylvania legalized digital versions of poker, casino games, daily fantasy sports, and sports wagering. Players must be within Pennsylvania to make deposits and wagers. iGaming tax rates vary based on the revenue source: table games and poker are taxed at 16 percent and slot GGR is taxed at 54 percent. These are the same rates that apply to retail slot and table GGR. Pennsylvania commenced online gaming in July of 2019 and generated $33 million of GGR over the first six-month period.

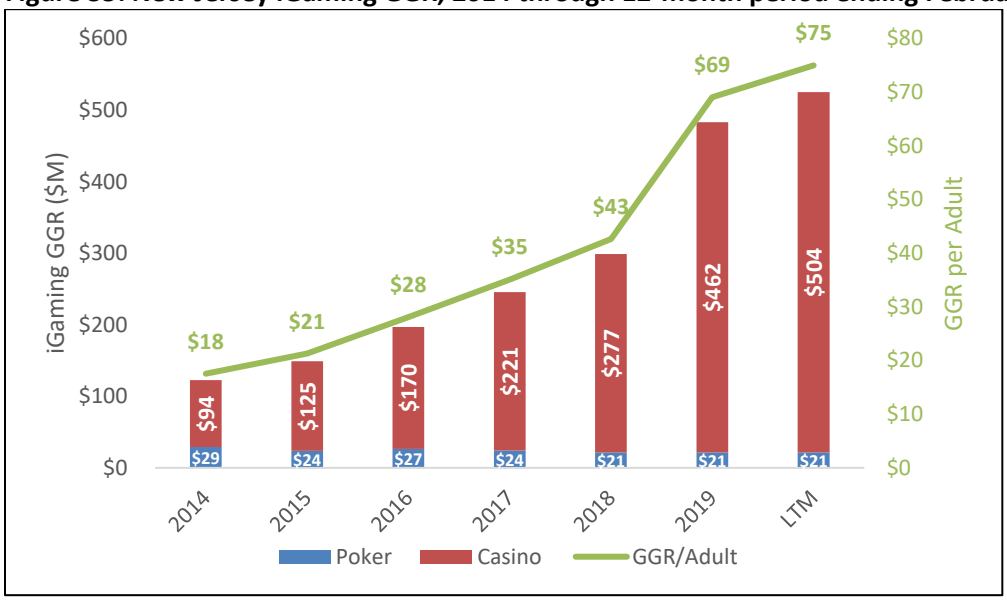
West Virginia: West Virginia legalized iGaming in March 2019 with passage of the West Virginia Lottery Interactive Wagering Act. The law allows each of the state's five retail casinos to apply for a permit to offer digital poker and casino games. Online casinos are not expected to launch in the state until second

half of 2020 at the earliest. The expected tax rate for iGaming GGR is 15 percent for purposes of this analysis. By comparison, GGR from video lottery terminals (the state's format for slot machines) in the state are taxed at 49 percent, and table GGR is taxed at 35 percent.

Michigan: Michigan legalized iGaming in December 2019. Michigan regulators estimated that it will take approximately one year to establish rules and regulations for iGaming, which suggests a 2021 launch.

New Jersey: iGaming in New Jersey was legalized in February 2013, and the first iGaming sites launched in November of that year. Each license holder is allowed five skins. Currently, there are seven retail casinos that offer an iGaming option and 24 total authorized sites. Games include slots, poker, and table games. Players can create and fund an account from anywhere; however, they must physically be inside New Jersey in order to play. iGaming GGR is subject to a 15 percent state tax, and an additional 2.5 percent of GGR goes to the Casino Reinvestment Development Authority. By comparison, retail GGR is subject to an 8 percent state tax and an additional 1.25 percent community investment alternative tax. New Jersey has been successful during the first five years of operation, growing an average of 32 percent per year and generating $483 million of GGR in 2019. Traditional casino games generate an average of 90 percent of GGR, with poker accounting for only 10 percent. Figure 35 illustrates the degree to which iGaming has grown in New Jersey. The data is limited; it does not distinguish between residents of various states, nor does it distinguish between the types of locations within New Jersey where the digital bettors are located.

Figure 35: New Jersey iGaming GGR, 2014 through 12-month period ending February 2020

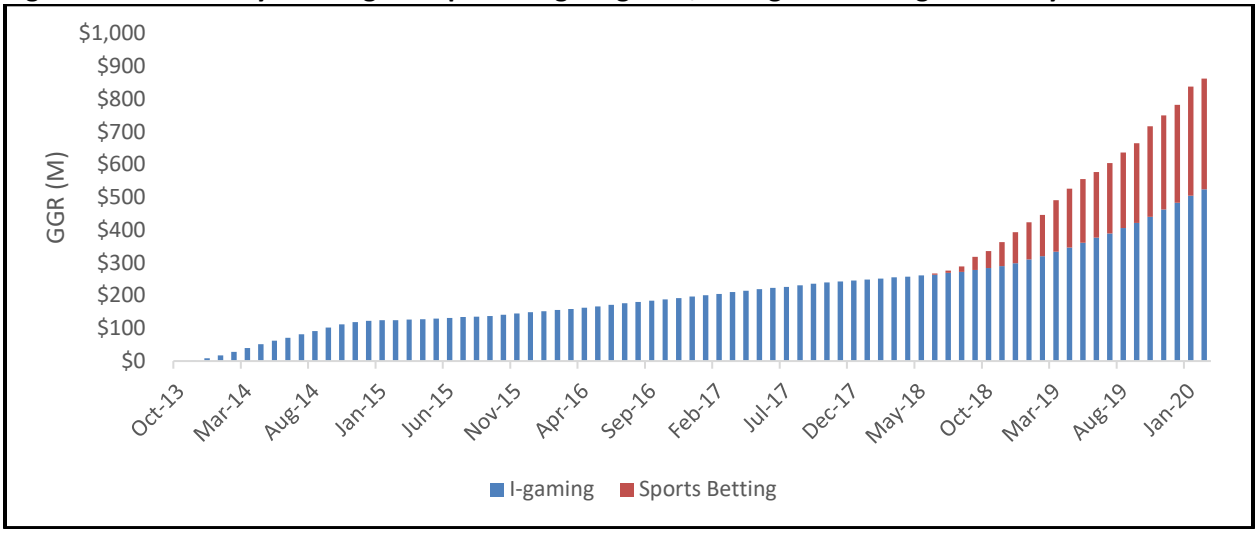


Source: New Jersey Division of Gaming Enforcement

In 2019, New Jersey iGaming GGR received a significant boost, mainly due to iGaming participation by players of digital sports wagering, growing 62 percent in 2019. We attribute this outsized growth to the significant marketing and promotional investment that sports wagering operators have made to grow the market. This outsized level of spend, which is mostly focused on digital sports wagering (approximately 85 percent of sports wagering handle is digital), is having a substantial impact on player

migration from sports wagering to iGaming, as both are digitally focused activities. To illustrate the uptick in iGaming GGR upon the authorization of sports wagering, we produced Figure 36, which depicts how the businesses have grown on a rolling 12-months basis.

Figure 36: New Jersey iGaming and sports wagering GGR, rolling LTM through February 2020



Source: New Jersey Division of Gaming Enforcement. LTM = last 12 months.

1. New Jersey Shows iGaming is Complementary Business for Retail Casinos

Online gamblers typically fall into a younger demographic than typical casino players.[30] Online gamblers tend to share similar characteristics to sports bettors, but we believe they are more attracted to traditional casino games than are sports bettors. It is therefore more probable that digital gamblers can be incented to visit a retail casino with the intention of gambling. One New Jersey operator stated that of its digital customer base, 50 percent are new players.[31] Golden Nugget disclosed in 2017 that 89 percent of customers who registered for digital accounts were not already in their retail customer database.[32] Additional benefits of digital gaming cited by retail casinos in New Jersey are summarized as follows:

- New customers are creating the bulk of digital accounts
- Digital gaming has helped casinos re-engage with lapsed customers who were inactive for a year or more
- Active customers who register a digital account do not decrease their retail spend or visitation frequency

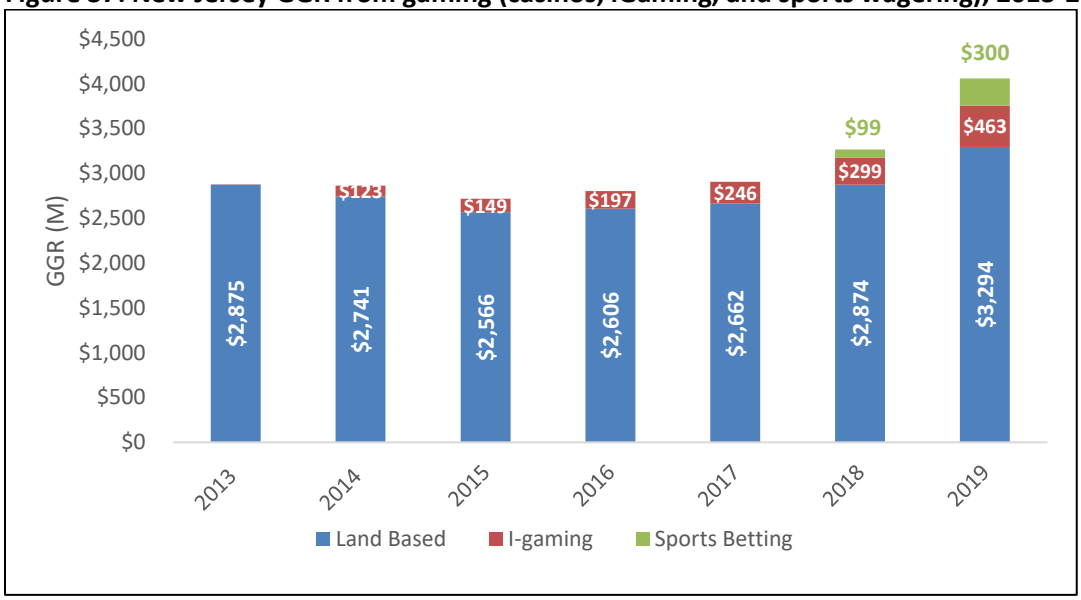
[30] Robert T. Wood, Robert J. Williams, "A comparative Profile of the Internet Gambler: Demographic characteristics, game-play patterns and problem gambling status", University of Lethbridge, November 2011.

[31] Jacob Oberman of MGM Resorts International, which owns and operates Borgata in Atlantic City, NJ.

[32] Steve Rudock, "Golden Nugget's Data Blasts a Hole In Online Gambling Cannibalization Arguments," *Online Poker Report,* March 14, 2017. https://www.onlinepokerreport.com/24404/online-casino-myth-golden-nugget/

In Figure 37, we provide an illustration of how New Jersey's retail casino GGR rebounded, aided by the reopening of two closed properties, despite the addition of iGaming at the end of 2013 and sports wagering in 2018. By 2019, the casino industry returned to generate more than $3 billion in GGR, while at the same time iGaming and sports wagering generated an additional $763 million in GGR.

Figure 37: New Jersey GGR from gaming (casinos, iGaming, and sports wagering), 2013-2019



Source: Spectrum Gaming Group

These statistics suggest that digital gaming is a complement to retail gaming as opposed to being a competitor.[33]

2. iGaming vs. Retail Gaming

Traditional retail gaming differs materially from iGaming in several key aspects, which must be understood by policymakers and operators. The most vivid example is offered by Golden Nugget Atlantic City, which is the only New Jersey gaming entity that generates roughly half of its total GGR from its online channels and has analyzed the key differences between online and retail.

For the 12-month period ending February 2020 (before COVID-19), Golden Nugget reported iGaming GGR of $195 million, or 49 percent of its total GGR. The next-closest competitor, Resorts Atlantic City, generated $111 million, or 29 percent of its total GGR. As shown in Figure 38, Golden Nugget learned through a database analysis of its players that key performance indicators are generally higher in the online segment than at the physical casino. Note that the hold percentage is lower for online slots, but the company compensates with higher volumes.

[33] Steve Ruddock, "Five out of Five New Jersey Casino Operators Agree: Regulated Online Gambling is Good for Business, *Online Poker Report,* May 8, 2017. https://www.onlinepokerreport.com/25201/online-gambling-helping-nj-casinos/

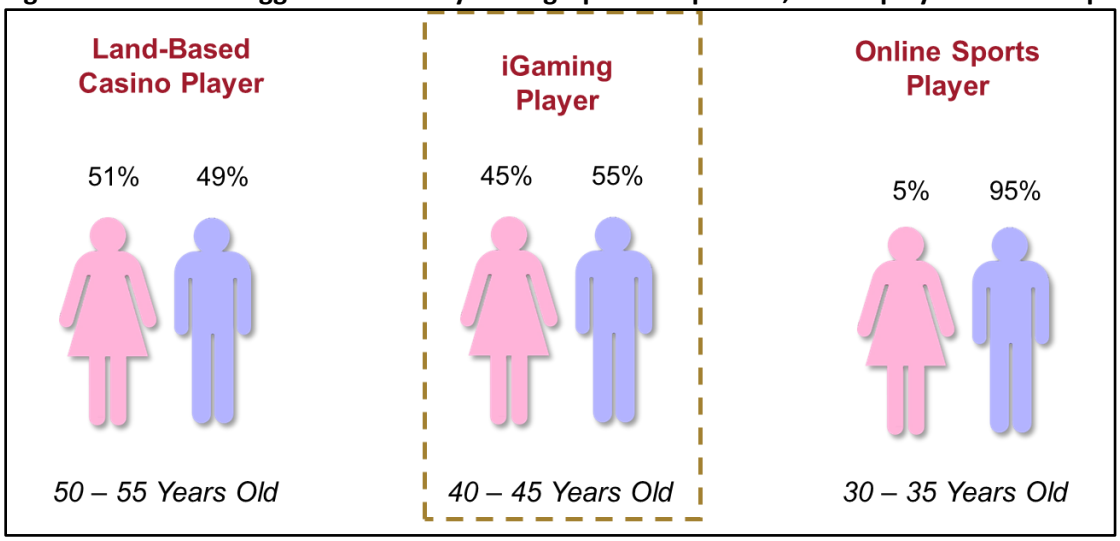
Figure 38: Comparison of Golden Nugget Atlantic iGaming vs. retail performance, 2019

	iGaming		Land-based Casino		Online Sports
	Slots	Tables	Slots	Tables	Bets
Avg. Bet	$2.7	$45	$1.8	$50	$45
Daily Handle	$1.9k	$1.75k	$1.5k	$2.4k	$240
Hold %	4.3%	1.9%	8%	1.9%[1]	6.0%
Daily Hold $	$83	$33	$120	$46	$14
Visits/month	6x	6x	2.7x	2.7x	7x
Monthly Bets	4,300	230	2,200	130	35
Monthly Hold	$500	$200	$320	$130	$100
Hold / Active / Month (including freeplay)	**$700 (median <$200)**		**$450**		**$100 ($175 incl. casino)**

Source: Golden Nugget Casinos, 2019. [1] Golden Nugget estimate, based on typical table wagers

Golden Nugget further found that its online players, whether playing online casino games or wagering on sports online, were younger than its retail casino players, as shown in Figure 39. Note that while the split between male and female players is roughly even for retail casino players, it skews more male for iGaming players – and heavily so for online sports bettors.

Figure 39: Golden Nugget Atlantic City demographic comparison, online players vs. retail players, 2019



Source: Golden Nugget Casinos, 2019

Appendix I: Background and Overview of iLottery in the U.S.

The lottery industry landscape changed in 2011, when the U.S. Department of Justice ("DOJ") reversed a longstanding opinion that the Interstate Wire Act prevented states from allowing lottery products to be offered on the internet and stated that lottery products could be sold online if the transaction began and ended within state boundaries.[34] States began authorizing lottery authorities to sell their products online. In 2019, the DOJ reversed its opinion on the Wire Act, which potentially cast all gaming in the digital space in doubt. However, on June 3, 2019, the U.S. District Court for the District of New Hampshire sided with the State of New Hampshire in ruling that the Wire Act applies only to sports wagering.[35]

This section will discuss how New York may regulate this space by defining the parameters of an iLottery offering, when casinos could – as five other states have done (see Chapter 1 above) – ultimately offer internet casino games.

Beginning in 2012, state legislatures started authorizing their respective lotteries to begin to operate on the internet and mobile platforms. As of the date of this report, five states allowed their respective lotteries to sell a full selection of lottery games on the internet and/or via a mobile platform: Georgia, Illinois, Kentucky, Michigan and New Hampshire.[36] Five other states sell jackpot and draw games, subscriptions, or season tickets sales on the internet or via mobile platform: Maine, New York, North Carolina, North Dakota and Virginia.[37] Pennsylvania is the only iLottery state that does not sell all of its traditional lottery draw and jackpot games as part of an iLottery offering,[38] although the Pennsylvania Department of Revenue recently issued proposed temporary regulations to do just that.[39] The Pennsylvania Lottery does offer multi-state games on its iLottery platform.

Pennsylvania and Michigan provide contrasting, and perhaps cautionary, examples of introducing iLottery.

Pennsylvania's statute offers greater detail on what constitutes iLottery and what constitutes iGaming; i.e., defining each stakeholder's lane in the digital space. New York should consider the Pennsylvania example in developing iLottery legislation. New York should also take note of Pennsylvania's

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[34] "Whether Proposals By Illinois And New York To Use The Internet And Out-Of-State Transaction Processors To Sell Lottery Tickets To In-State Adults Violate The Wire Act," DOJ Opinion, September 20, 2011. https://www.justice.gov/sites/default/files/olc/opinions/2011/09/31/state-lotteries-opinion.pdf.

[35] Marc Edelman, "How Monday's Wire Act Decision Affects The Poker, DFS And Sports Gambling Industries," *Forbes*, June 5, 2019. https://www.forbes.com/sites/marcedelman/2019/06/05/how-mondays-wire-act-decision-affects-the-poker-dfs-and-sports-gambling-industries/#6b232c8853ac.

[36] Steve Ruddock, "Which States Offer Online Lottery Sales For Mega Millions Tickets?" *Online Poker Report*, November 29, 2018. https://www.onlinepokerreport.com/32756/online-lottery-mega-millions-tickets/; Eric Ramsey, "Pennsylvania Casinos Challenge Legality Of New PA iLottery Games In Lawsuit," Online Poker Report, November 29, 2018, https://www.onlinepokerreport.com/31913/pennsylvania-casinos-iLottery-lawsuit/

[37] Ibid.

[38] Ibid.

[39] 49 Pa.B. 2242.

shortcomings in implementation of this statutory scheme. Specifically, Pennsylvania has not promulgated clear regulations that further define the space to provide each stakeholder guidance on the types of games that can be offered. Additionally, in Pennsylvania, regulatory authority is somewhat muted as lotteries and casinos are regulated by different agencies. The single umbrella of the New York State Gaming Commission will provide an immediate advantage over the Pennsylvania example. Ultimately, this lack of operational and regulatory guidance has led to Pennsylvania casino operators suing the Pennsylvania Lottery, claiming iLottery games are similar to iGaming products offered by casinos.

Michigan's statute offers less detail on the types of games casinos and other iGaming providers may offer, but two aspects of the Michigan situation bear watching:

- How the Michigan iGaming framework develops, and
- How iGaming impacts the successful iLottery.

New York may consider limiting its iLottery to offering only lottery-style games based on its history and the history of lottery products in the United States. With that being said, it is helpful to quickly discuss what types of games are considered traditional lottery products.

Every lottery in the United States is authorized or operated by its respective state government and shares similar roots. Most U.S. lotteries started by offering a sweepstakes or draw-style game. A numbers-style game – e.g., Pick 2 or Pick 3 – generally followed the initial introduction of jackpot-style games during the early years of a lottery. These games offered the player a weekly or even daily chance to match their numbers against the draw numbers to win a prize. Most state lotteries began to add the instant, scratch-off-style games in the mid-1970s and early 1980s. The instant, scratch-off-style games have been the sales driver for most U.S. lottery jurisdictions over the last 40 years. In-state and multistate jackpot games, such as Powerball and Mega Millions, were added next to the state lotteries' game portfolios. Lotteries also have offered raffles and fast-play-style games more recently.

The New Hampshire and Massachusetts lotteries are illustrative of these trends. The New Hampshire Lottery is the oldest in the United States, having been authorized in 1963 and having started sales in 1964.[40] The New Hampshire legislature authorized the establishment of a lottery to fund education. Since 1964, 43 other states have established lotteries, each raising funds for a specific cause. While some argue that the proliferation of lotteries diverts spending on other consumer activities,[41] states have opted to establish lotteries rather than raise taxes as a fund-raising vehicle.[42]

At its beginning, New Hampshire sold only one sweepstakes game, but later began to sell different draw and jackpot games and instant tickets. In 2017, the New Hampshire Lottery began offering keno. Similarly, in Massachusetts, the legislature authorized a state lottery in 1971, with ticket sales beginning in 1972.[43] The initial game for the Massachusetts State Lottery was a sweepstakes game, and the lottery then branched into numbers games and other games. Massachusetts was the first state to offer an instant

[40] New Hampshire Lottery. www.nhlottery.com (accessed April 26, 2020)

[41] 14 Geo. J. on Poverty & Pol'y 319.

[42] *Id.* at 320.

[43] Massachusetts State Lottery, "History." www.masslottery.com/about/history (accessed April 20, 2020)

ticket, in 1974.[44] Over time, like other jurisdictions, Massachusetts grew its game portfolio to include in-state and multistate jackpot games.

In more recent years, lotteries have offered terminal-based lottery games. For instance, in 2008, the Ohio Lottery began to offer EZPLAY games, which are instant-ticket style games that are purchased from a lottery terminal. The player matches numbers to the winning numbers to determine if it is a winner. This game is the same as the Fast Play game offered by the Pennsylvania Lottery. The Ohio Lottery is also one several state lotteries to offer video lottery terminal ("VLT") games at racetrack casinos (along with Delaware, Maryland, New York and West Virginia).

Based on this history, traditional lottery games can be categorized as follows:

- Daily or weekly draw games, such as Numbers, Pick 3, Pick 4, Pick 5 and in-state jackpot games
- Multistate jackpot games (national and regional), such as Powerball, Mega Millions, Tri-State Megabucks (New Hampshire, Vermont and Maine)
- Multistate draw games, such as Lucky for Life and Cash for Life
- Instant ticket or scratch off games
- EZPlay or fast play games, as found in Pennsylvania and Ohio, which offer electronic instant-style games via terminals at retailer locations
- Monitor games, such as keno or esports games in Pennsylvania

Play styles for each category are discussed in more detail below.

The Pennsylvania statute provided definitions of iLottery and iGaming style products. The relevant portions of the Pennsylvania statutory definitions are as follows:

> **"iLottery."** A system that provides for the distribution of lottery products through numerous channels that include, but are not limited to, web applications, mobile applications, mobile web, tablets and social media platforms that allow players to interface through a portal for the purpose of obtaining lottery products and ancillary services, such as account management, game purchase, game play and prize redemption.
>
> **"iLottery game."** Internet instant games and other lottery products offered through iLottery. The term does not include games that represent physical, Internet-based or monitor-based interactive lottery games which simulate casino-style lottery games, specifically including poker, roulette, slot machines or blackjack.
>
> **"Lottery products."** Plays, shares or chances offered by the State Lottery as well as lottery property that may be exchanged for plays, shares or chances. The term includes instant tickets, terminal-based tickets, raffle games, play-for-fun games, lottery vouchers, subscription services and gift cards authorized for sale under the State Lottery Law.
>
> **"Internet instant game."** A lottery game of chance in which, by the use of a computer, tablet computer or other mobile device, a player purchases a lottery play, with the result of play being

[44] "Scratching their Way to Success," *WLA Magazine For Sustainable Global Gaming Excellence*, Spring 2014.

a reveal on the device of numbers, letters or symbols indicating whether a lottery prize has been won according to an established methodology as provided by the lottery. [45]

"**Slot machine**." Any mechanical or electrical contrivance which, upon … payment of any consideration whatsoever … is available to play or operate, the play or operation of which, whether by reason of skill or application of the element of chance or both, may deliver or entitle the person or persons playing or operating the contrivance … to receive cash, billets, tickets, tokens or electronic credits to be exchanged for cash … . A slot machine: (1) May utilize spinning reels or video displays or both. (2) May or may not dispense coins, tickets or tokens to winning patrons. (3) May use an electronic credit system for receiving wagers and making payouts. The term shall include associated equipment necessary to conduct the operation of the contrivance, terminal, machine or other device.[46]

The Pennsylvania definitions are detailed and should provide the lottery and casinos with sufficient guidance, but the enforcement has not been consistent. In essence, casinos and the lottery are regulated by separate regulatory authorities. In Spectrum's opinion, this separate regulatory structure leads to a lack of enforcement of each stakeholder's digital space. Conversely, New York enjoys a unified gaming commission that regulates the lottery and casinos. This should provide a single-handed guidance that would clearly define what is allowed in the iLottery and iGaming spaces.

Lottery traditional products have common features that should help define the digital space in New York. Traditional lottery games offer the player an experience that is finite in time with a game that ends either when the last grand prize is won (instant games and Fast Play) or a drawing occurs (jackpot and draw games). Conversely, casino or slot-like games operate continuously, whereby players play games to beat the odds and beat the house. Casino games, like slot machines, can operate continuously because the prize pool is reloaded, whereas instant ticket games operate with a fixed pool so when the grand prize is awarded, the game ends. The real issue in defining iLottery games versus iGaming games is the definition and characteristics of slot-like games and digital instant games.

Lottery instant games share three common characteristics of game design that are common in the lottery industry and define the consumer experience:

- Fixed price point for each game;
- Fixed number of tickets or plays per game; and
- Pre-determined number of winners for each game at each prize level.[47]

In instant games, a fixed price point allows a lottery to develop a prize structure for each game. For jackpot and draw games, set price points allow the lottery to set a prize pool based on a fixed percentage of ticket sales for each draw. For jackpot and draw games, this concept is straightforward because the jackpots and lower-tier prizes are based on the size of the prize pool; i.e., the amount of the

[45] Act of October 30, 2017, P.L. 419, No. 42, Chapter 5, Section 502.

[46] 4 Pa.C.S. § 1103.

[47] See, for example, Massachusetts Lottery, "Merry Money Blowout (Limited Edition)." https://www.masslottery.com/games/instant/10-dollar/merry-money-blowout-257-2019.html; and Louisiana Lottery, "5X Payout - Game No. 12,2." https://louisianalottery.com/scratch-offs/1222/5x-payout

prize directly correlates to total sales. The jackpot and draw games are pari-mutuel games, which means that a percentage of total sales is designated for the prize pool, then the pool is divided among the types of wagers for each drawing.

In designing an instant game and its terminal-based counterpart Fast Play games, a lottery and the ticket manufacturer determine the price point for the game and where it fits into the annual marketing plan. The annual marketing plan is set to include different price point tickets to allow the lottery to maximize sales by offering the right mix of price points and game themes. Lotteries typically launch new instant ticket games every four to six weeks, depending on the individual lotteries' past practice. The next game characteristic decided by the manufacturer, in conjunction with the lottery, is how many tickets will be in each instant game. The number of tickets in the game and the price point determine the size of the prize pool. The manufacturer considers the price point in determining the top prizes the lottery needs to offer in a game in order for the game to be successful. The interplay of these factors dictates the number of prizes, as well as the amount of each prize, available in each game.

All instant games have a fixed number of tickets or plays per game. Generally, the prize payout percentage is dependent on the price point and what is historically done in each lottery. As stated above, this factor determines the prize pool, with a fixed number of prizes at each level, as well as winning combinations in each game.

The instant ticket manufacturer divides the number of tickets in a game into pools or groups of tickets. The manufacturer uses an algorithm to distribute winning tickets throughout all pools of tickets in the game to ensure each consumer has an equal chance to win a grand prize at any point the game is for sale. Lotteries typically stop the sales of an instant game when the final grand prize in the game is claimed.

This established methodology for instant games allows a lottery to provide the consumer with a predictable game experience – predictable in the sense that the lottery can inform the consumer, *prior to purchase*, how many winners there will be in each game at each prize level and how many tickets or plays are in the entire game. A consumer knows the exact odds and how many wins are remaining at each prize level. This allows the consumer to choose which, if any, game he or she may select to play, depending on the number of winners remaining in the game. Similarly, for jackpot and draw games, the consumer will choose to play one of these games based on the jackpot or the availability of lower-tier winners.

Lottery players are well aware of the product and/or the games they are buying. Regular players know the rules of the game, game structure and, more importantly, the prize structure for each, as well as how many prizes are available in the game. The player can learn about the instant and Fast Play game design and structure in several ways. First, reading the front and back of a ticket will inform the player about games rules and how to play. Second, game rules for instant games, and general information about each game, are posted on a lottery's website. On the New York Lottery's website, a player can learn about

the game rules for both the instant games. All lotteries post on their website information about how many high-tier winners are still unclaimed.[48]

Many lotteries use their websites to inform players how many prizes remain in any given game, and once all prizes are distributed, games are terminated, and a last day to claim prizes in that game is set, and then the game is replaced with a new game. The New York Lottery provides the same information on its website.

The common characteristics of the Lottery instant games, along with the information provided the player, not only reflect the structure of the lottery games, but also define the consumer experience and expectations. Lottery games pit player versus player to purchase the ticket with the grand prize, with many consumers tracking how many grand prizes are available on the lottery website. Conversely, casino-style slot games pit the player versus the house. Each game runs continuously with the player facing the same odds for each play as the prize pool constantly reloads.

To some, these different traits of an iLottery versus an iGaming experience are distinctions without a difference. To the consumer, however, these traits define the experience. It is these differences that provide a guidepost for states that wish to allow both lotteries and casinos to sell in the digital space. Specifically, iLottery is required to offer games that provide the same consumer experience with games that have a fixed prize pool, fixed number of prizes and fixed number of plays per game. Similar to the traditional instant ticket, digital instant games would terminate once the grand prize in a game is claimed.

One commonly discussed issue in consideration of authorizing an iLottery is the potential negative effects on traditional lottery retailers. Spectrum studied this issue in 2012 when the Massachusetts Lottery was considering the question of creating digital offerings. Our report noted:

> By engaging the Internet, the Lottery, which has previously followed a business-to-business model by selling exclusively through retail agents, now begins to market directly to consumers. This brings the Lottery into potential competition with its most important asset – the retail sales agents. The Lottery's network of 7,400 retail locations has been essential to the historical success of lottery sales and these small businesses provide employment and support local economies across the Commonwealth. Every effort must be made to ensure that Internet lottery sales will not adversely impact retail lottery sales and to utilize the established retailer network as a potent sales force for new online products that will effectively benefit all stakeholders in Massachusetts.[49]

Those principles and goals remain, and the experience in Michigan has shown that steps can be taken to address the needs of retailers.

The successful iLottery in Michigan has demonstrated that with a proper rollout, cross marketing, and improved traditional lottery product development that iLottery sales and traditional retail lottery

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[48] New York Lottery, "Top Prize Report." https://nylottery.ny.gov/sites/default/files/game-reports/pdf-reports/TOPPRS_4_20_2020.pdf

[49] "Facing the Lottery's Future: Implications and Strategies Regarding Internet Sales," Spectrum Gaming Group, December 4, 2012, p. 18. https://www.masslottery.com/lib/downloads/leadership/pdfs/SpectrumGamingGroupFinalReport12-4-12Ammended.pdf

sales can grow together, as shown in Figure 40 below. Lastly, this section will provide a projection on potential revenue New York can realize in this space.

Figure 40: Michigan Lottery performance, 2014-2019

Fiscal Year	Total Gross Sales (M)	Gross Sales Minus iLottery (M)	iLottery Net Win (M)	School Aid Fund (M)
2014	$2,608.9	$2,608.3	$0.6	$742.9
2015	$2,785.1	$2,766.6	$18.5	$795.5
2016	$3,118.1	$3,070.1	$48.0	$888.9
2017	$3,347.1	$3,269.2	$77.9	$924.1
2018	$3,591.9	$3,498.2	$93.7	$941.3
2019	$3,897.4	$3,781.1	$116.3	$1,070.6

Source: Bureau of State Lottery: An Enterprise Fund of the State of Michigan, Comprehensive Annual Financial Reports for the Fiscal Years September 30, 2014 through September 30, 2019.

In Michigan, the growth in the sale of traditional lottery products has been driven by increases in sales in traditional lottery instant ticket products. In FY19, lottery instant tickets sales increased by 11.2 percent. In FY18, lottery instant ticket sales increased by 12.6 percent.

New York could authorize the New York Lottery to develop a digital platform using the same strategy employed by the Michigan Lottery. In reviewing the iLottery experience in other states, the Michigan strategy of a soft rollout combined with offering distinct digital instant games that were not available at retailers is the key to long-term player loyalty and success of the iLottery product. Moreover, as detailed below, the Michigan lottery employed a cross-marketing strategy that incentivized players to visit the traditional lottery retailer and incentivized the customers of the traditional lottery retailer to visit the iLottery portal. If New York authorizes an iLottery platform, it is reasonable to project that in Year 3 the Lottery could reach the $100 million in GGR threshold. This projection is supported by Figure 41 depicting Michigan iLottery GGR over the last four fiscal years.

Figure 41: Michigan iLottery performance, 2016-2019

	FY2016	FY2017	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

From 2016 to 2019, GGR grew at a 34 percent compound annual growth rate (CAGR), and by all accounts Michigan is the most successful iLottery market. Commenting on cannibalization impacts, the director of public relations for the Michigan Lottery, Jeff Holyfield, stated: "There is no indication that online games are affecting sales at our 11,000 retailers. In fact, we continue to see sales growing across all channels. There is zero indication that the online games have taken away sales from other; the indication is that it's exactly the opposite."[50]

[50] Steve Ruddock, "Make Some Room Michigan: Two More States Legalize Online Lottery," PlayMichigan.com, November 8, 2017. https://www.playmichigan.com/two-states-legalized-online-lottery/

From the launch of its iLottery, Michigan introduced the Online Game Card program that allowed players to purchase an Online Game Card at a retailer and provided the retailer a commission on the sale.[51] The Michigan Lottery also offers regular cross promotions that drive traffic to both the iLottery platform and to traditional lottery retailers. At the same time, the Michigan Lottery improved its traditional product-development process, particularly in its instant game, and combined with the development of the iLottery program increased sales at retailers. This fact is supported by the growth of retailer commissions over the last five fiscal years, as shown in Figure 42.

Figure 42: Michigan Lottery retailer commissions, 2015-2019

(M)	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Retailer Commission	$203.6	$231.7	$249.2	$266.5	$287.6

Source: Michigan Lottery Comprehensive Annual Financial Reports

The growth of retailer commissions over the last five fiscal years coincides with the growth of the iLottery platform. The Michigan Lottery also expanded the iLottery portfolio from distinct digital instant games to offering all jackpot and draw games.

The Michigan Lottery's five-year history of iLottery GGR growth combined with traditional sales growth over the same period makes it an example worth exploring and replicating. Other states such as Kentucky and Georgia offer similar products on their respective iLottery platforms. If you compare the GGR in Figure 43 that provides GGR for iLottery for Georgia, Kentucky, New Hampshire and Pennsylvania, there are significant differences between the Michigan iLottery and the other states.

New Hampshire and Pennsylvania are too early in their respective developments to compare to the mature Michigan iLottery model. Conversely, there is a distinction between Michigan and the Kentucky and Georgia examples. The Michigan iLottery offers higher payouts in its digital instant products, which increases the overall prize payout percentage to 83.5 percent in Fiscal Year ("FY") 2019.[52] The Kentucky Lottery pays out 64 percent in prizes, while the Georgia Lottery pays out 60 percent.[53]

1. Existing iLottery Market

Figure 43 illustrates the GGR performance of digital instants relative to all other lottery products for five states. Note that Illinois is not included because it does not offer digital instants. Like other forms of online gaming expansion, iLottery is experiencing substantial growth as it draws existing players to migrate to online and attracts new players who are more digitally inclined.

[51] Id.

[52] Michigan Lottery Comprehensive Annual Reports for Years Ending September 30, 2019, and September 30, 2018. https://www.michigan.gov/documents/msl/2019_CAFR_MSL_679209_7.pdf

[53] "Where's the money go?" Kentucky Lottery. https://www.kylottery.com/apps/about_us/where_the_money_goes.html; Georgia Lottery Corporation Annual Financial Statements For The Years Ending June 30, 2019 and June 20, 2018. https://www.galottery.com/content/dam/portal/pdfs/about-us/20190106-galottery-2019-audit-report.pdf.

Figure 43: States' iLottery GGR (except Georgia and Pennsylvania, where sales are provided), selected states, 2013-2019

($M)	2013	2014	2015	2016	2017	2018	2019	3-Year CAGR
Michigan								
Digital Instants		1	19	48	78	94	116	34%
All Other Games	2,476	2,595	2,754	3,059	3,258	3,498	3,781	7%
Georgia								
Digital Instant Sales				5	11	22	41	102%
Other Game Sales			4,195	4,551	4,518	4,576	4,735	1%
Kentucky								
Digital Instants				0	1	2	4	236%
All Other Games				984	986	1,033	1,126	5%
New Hampshire								
Digital Instants							5	NA
All Other Games		276	283	309	304	338	386	8%
Pennsylvania								
Digital Instants						20		
All Other Games						4,200	4,503	

Source: State lotteries. **Note:** CAGR = compound annual growth rate. Pennsylvania did not report sales from digital instants in 2019; data are for illustrative purposes.

Georgia Lottery: "Diggi" instant games can be played online and exhibit the same characteristics as traditional instant games, including grids and game-reveal data. The games are sold at price points ranging from $0.50 to $10, with prizes up to $100,000. The Georgia Lottery currently offers 48 active games. For FY 2019, Diggi game sales were $41.1 million, an increase of $19.4 million or 89.9 percent over 2018.

Kentucky Lottery: Sales for the Kentucky Lottery's online channel overall rose from $10.3 million in FY 2018 to $26.8 million in FY 2019, a 160 percent increase. The primary driver in these results was in the Instant Play category, which increased from $10.3 million to $17.3 million, a 68 percent gain. GGR from instant play category increased 95 percent year over year to $4.1 million in 2019. More than 52 Instant Play games were available to players in FY 19 (up from 34 the previous year) and, for the first time, a game at the $20 price point was offered. A new offering included having a 50X The Cash online game at the same time a 50X The Cash instant ticket was for sale at retail, providing players with a comprehensive omni-channel experience.

Michigan Lottery: The Michigan Lottery has the most mature digital instant market, having launched in 2014, as discussed in detail earlier. As a result of the success in Michigan, additional state lotteries have subsequently authorized iLottery offerings.

New Hampshire Lottery: House Bill 517 was signed into law in June 2017 allowing the lottery commission "to sell lottery tickets on the Internet and by mobile applications and create certain practices to address problem gaming in such sales." Its "iLottery" was developed and launched in the first quarter of FY 2019 on the lottery's website. Electronic games called e-Instants resemble scratch tickets and are available in demo mode for free play or real-money mode to play for cash prizes. Participants can set the value of their wager from $0.02 to $30 for e-Instants, and Powerball and Mega Millions draw-based games can be purchased through iLottery for up to 52 consecutive drawings. Additional features will be phased in, including expanding the draw-based games to include Tri-State products, and contracting other third-party developers to provide a wider library of games.

Pennsylvania Lottery: In an effort to modernize its lottery, Pennsylvania legalized iLottery in 2017. This included selling lottery tickets online and online lottery games via online devices. More than 91,000 players created online accounts, and more than $332 million in prizes were paid out to iLottery winners. Upon the legalization of iLottery in Pennsylvania, seven casino operators sued the Pennsylvania Lottery seeking an injunction against the games, arguing they were illegal.[54] The suit asserted that the games would cause the casinos a significant loss of GGR due to their similarity to digital and retail casino games. The judge acknowledged that iLottery games appeared to be similar, but that was not cause to allow for an injunction. The case is still pending in Pennsylvania, with a trial on the issue expected to occur in 2020. Several Pennsylvania casinos began offering internet casino gaming starting in 2019. The iLottery continues to operate in Pennsylvania.[55]

Virginia Lottery: Virginia will become the seventh state to sell lottery tickets over the internet as Governor Ralph Northam in March 2020 signed SB 922 into law. The law aims to help the lottery expand sales after a legislative study found lottery sales could drop 3.6 percent, or $30 million, by 2024 if the state legalizes casinos.[56] Virginia expects to go live in July 2020.

[54] Andrew Maykuth, "Casinos Sue PA Lottery to Stop Online Games, Claiming Unfair Competition," *Philadelphia Inquirer*, August 22, 2018. https://www.inquirer.com/philly/business/tourism_casinos/pennsylvania-casinos-parx-harrahs-sue-to-stop-lottery-online-interactive-games-20180822.html

[55] Erik Gibbs, "Pennsylvania Casinos Lose Lawsuit Against PA Lottery," Calvinayre.com, July 15, 2019. https://calvinayre.com/2019/07/15/casino/pennsylvania-casinos-lose-lawsuit-against-pa-lottery/

[56] David McGee, "Northam 'open' to legalized casino gaming," *Bristol Herald Courier*, January 10, 2020. https://www.heraldcourier.com/news/local/northam-open-to-legalized-casino-gaming/article_a59426d5-83af-5a0e-80f5-9fa94dbc0aba.html

Appendix J: Understanding Gaming Tax Policy

Nevada in 1931 became the first state to legalize operations of commercial casinos, followed by New Jersey in 1976. Iowa and South Dakota were the next two states to legalize commercial casinos, in 1989. And 21 more states have legalized commercial casinos or VLT facilities since then. "About 50 percent of all casinos/racinos outside of Nevada have opened since 2001. In most states, casino/racino facilities are located near borders with other states to take advantage of cross-border consumers."[57]

All states tax commercial gaming revenue. However, tax rates and tax structures vary widely across states. Some states have graduated tax rates, which will generally increase when revenues exceed certain thresholds; other states levy a flat tax rate on GGR. Some of the states (e.g., Maine, Maryland, Massachusetts, New York, and Rhode Island) that have flat tax rates on commercial revenue may impose various tax rates on various facilities.

In addition to tax rates charged on GGR, some states also charge admission fees (e.g., Illinois, Louisiana, and Missouri), license fees, gaming device fees, or other local fees. In recent years, many states have expanded gaming options and allowed casinos to operate table games. Tax rates on table games are usually much lower, which is a recognition that tables have significant labor components and generally operate at lower margins than slots.

Overall, early adopter states have much lower tax rates on gaming operations, while late adopter states have much higher tax rates. Illinois and Indiana are the two exceptions, as both states are early adopter states but have high commercial casino tax rates. In both states the tax rates are graduated.

The tax rate on commercial casinos in Illinois ranges from 15 percent for casinos with less than $25 million adjusted gross revenues to 50 percent for casinos with more than $200 million in adjusted gross revenues (equivalent to GGR). The Rockefeller Institute of Government noted that "Illinois has a long history of legislated tax changes for casinos. Casino tax rates in Illinois were flat at 20 percent until 1997. In 1998, the Illinois legislature implemented a graduated tax rate ranging from 15 percent to 35 percent for five brackets. In 2002, the Illinois legislature revised the commercial casino tax structure, added two more brackets with a top rate at 50 percent to address revenue shortfalls caused by the 2001 recession. In 2003, casino tax rates were revised once again, and the legislature added a top rate at 70 percent. The legislature reduced top rate from 70 percent to 50 percent in 2005."[58]

The tax rates on commercial gaming in Indiana range between 15 percent and 35 percent. The Rockefeller Institute continued: "Casino tax structures went through legislated changes in Indiana as well. Before 2002, the casinos in Indiana were taxed at a 20 percent flat rate. In 2002, the legislature in Indiana introduced a graduated tax rate for casinos ranging from 22.5 percent to 35 percent for five brackets. The

[57] Lucy Dadayan, "Are States Betting on Sin? The Murky Future of State Taxation," Tax Policy Center, October 2019. https://www.urban.org/sites/default/files/publication/101132/are_states_betting_on_sin-the_murky_future_of_state_taxation.pdf

[58] Lucy Dadayan, "State Revenues from Gambling: Short-Term Relief, Long-Term Disappointment," Rockefeller Institute of Government, April 2016. https://rockinst.org/wp-content/uploads/2017/11/2016-04-12-Blinken_Report_Three-min.pdf

legislature once again revised casino tax structures in 2007 and added an additional bracket with a 40 percent tax rate."[59] Officials in Indiana adopted new and lower tax rates for riverboats and VLT facilities effective July 1, 2021.[60]

States may be reviewing their gaming tax policies in coming months to address budgetary shortfalls attributed to the COVID-19 pandemic, and the expected responses may range from proposed increases in tax rates to decreases in such rates to assist an industry that has been closed down for an extended period.

One important cautionary note is that an increase in tax rates, including changes to marginal tax rates, cannot be expected to generate a proportionate increase in tax revenue. A detailed study of the Illinois experience from 1997 to 2008 showed an elasticity of -0.2 between changes in marginal tax rates and gaming revenue.[61] In effect, this means that a 1 percent increase in the marginal tax rate led to a decline of 0.2 percent in gaming revenue.

That detailed paper noted that, while gaming taxes are not directly passed along to consumers, management can take certain steps to offset increases in tax rates, as well as increases in marginal rates. Such steps might include reductions in staff and service, reductions in marketing and promotional spending, and/or a reduction in planned capital investment. Such changes, individually and in aggregate, might lead to a decrease in consumer activity.

Those findings support our experience, which notes that increases (or decreases) in tax rates have the potential to affect management decisions ranging from staffing to changes in the overall business model.

Figure 44: Commercial gaming facility tax rates

State	Legalization Date	Tax Type	Tax Rates	Tax Rate Details
Commercial Casino States				
Arkansas	2018	Graduated	Graduated tax between 13% to 20%	13% tax on $0 to $150 million 20% tax on over $150 million
Colorado	1990	Graduated	Graduated tax between 0.25% to 20%	0.25% tax on $0 - $2 million 2% tax on $2 - $5 million 9% tax on $5 - $8 million 11% tax on $8 - $10 million 16% tax on $10 - $13 million 20% tax on over $13 million
Illinois	1990	Graduated	Graduated tax between 15% to 50% AND $2 or $5 admission fee	15% tax on $0 to $25 million 22.5% tax on $25 to $50 million 27.5% tax on $50 to $75 million 32.5% tax on $75 to $100 million 37.5% tax on $100 to $150 million 45% tax on $150 to $200 million 50% tax on over $200 million

[59] Ibid.

[60] "2019 Annual Report," Indiana Gaming Commission. https://www.in.gov/igc/files/FY2019-Annual.pdf

[61] Kathryn L. Combs, Jim Landers, and John A. Spry, "The Responsiveness of Casino Revenue to the Casino Tax Rate," University of St. Thomas, 2013.

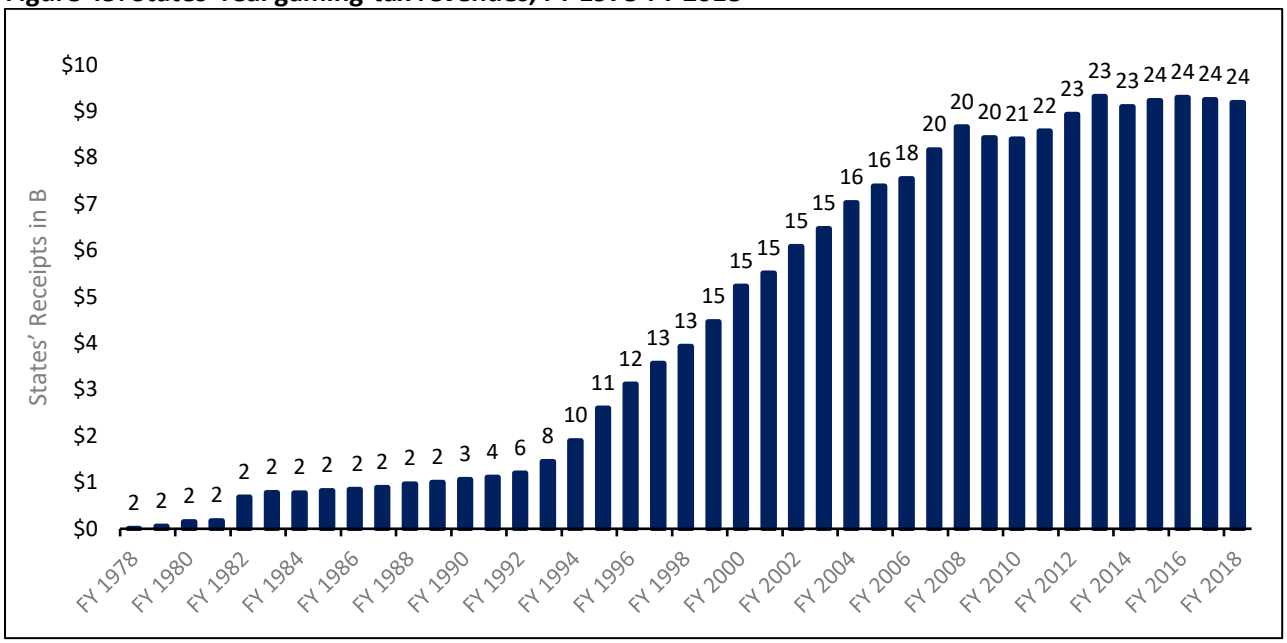
State	Legalization Date	Tax Type	Tax Rates	Tax Rate Details
Indiana	1993	Graduated	Graduated tax between 15% to 35% AND Supplementary wagering tax effective FY 2019, which replaced $3 to $4 admission fees	15% tax on $0 to $25 million 20% tax on $25 to $50 million 25% tax on $50 to $75 million 30% tax on $75 to $150 million 35% tax on $150 million to $600 million 40% tax on over $600 million
Iowa	1989	Graduated	Graduated tax between 5% to 22%	5% tax on $0 to $1 million 10% tax on $1 to $3 million 22% tax on over $3 million
Kansas	2007	Flat	Flat tax rate at 27%	22% state tax 3% local government tax 2% tax to fund problem gambling treatment
Louisiana	1991	Flat	Flat tax rate at 21.5% AND Additional local government taxes	
Maine	2010	Flat	Flat tax rate of 39% or 46% depending the casino facility	39% for Hollywood casino 46% for Oxford casino
Maryland	2008	Flat	Flat tax rate between 40.75% to 62.5% depending on the casino facility	
Massachusetts	2011	Flat	Flat tax rate between 25% to 49% depending on the casino facility	
Michigan	1996	Flat	Flat tax rate of 19%	8.1% state share 10.9% local share
Mississippi	1990	Graduated	Graduated tax between 4% to 8%; Additional municipality tax	4% tax on $50,000/per month 6% tax on $50,000 to $134,000/per month 8% tax on revenue over $134,000/per month
Missouri	1993	Flat	Flat tax rate of 21% AND $2 admission fee	
Nevada	1931	Graduated	Graduated tax between 3.5% to 6.75%	3.5% tax on $0 to $50,000 4.5% tax on $50,000 - $134,000 6.75% tax on over $134,000
New Jersey	1976	Flat	Flat tax rate of 9.25%	8% gross revenue tax 1.25% investment alternative tax
New York	2014	Graduated	Flat tax rate between 37% to 45% depending on the casino facility	37% for Tioga Downs casino 37% for del Lago resort and casino 39% for Resorts World Catskills casino 45% for Rivers casino and resort
Ohio	2009	Flat	Flat tax rate of 33%	
Pennsylvania	2004	Flat	Flat tax rate of 54%	34% state tax 2% local share assessment 5.5% Economic Development & Tourism Fund 12% Race Horse Development Fund
Rhode Island	2016	Flat	Flat tax rate of 60.89% or 61.07% depending on the casino facility	60.89% at Twin River 61.07% at Tiverton
South Dakota	1989	Flat	Flat tax rate of 9%	
West Virginia	2009	Flat	Flat tax rate of 53.5%	
VLT or Racetrack Slots ("Racino") States				
Delaware	1995	Flat	Flat tax rate of 39%	
Florida	2006	Flat	Flat tax rate of 35%	

State	Legalization Date	Tax Type	Tax Rates	Tax Rate Details
Indiana	2008	Graduated	Graduated state tax between 25% to 35%; County wagering tax at 3%; Admission wagering tax at 1%	25% tax on $0 to $100 million 30% tax on $100 to $200 million 35% tax on over $200 million
Iowa	1995	Graduated	Graduated tax between 22% to 24%, depending on various conditions	22% tax on $0 to $100 million 24% tax on over $100 million also subject to other conditions
Louisiana	2002	Flat	Flat tax rate of 18.5%	
Maryland	2011	Flat	Flat tax rate of 48.5%	
New Mexico	1999	Flat	Flat tax rate of 46.25%	26% gaming tax 20% tax for racing purses 0.25% tax for problem gambling
New York	2004	Flat	Flat tax rate between 34% to 52.5% depending on the VLT facility	
Ohio	2012	Flat	Flat tax rate of 33.5%	
Oklahoma	2005	Graduated	Graduated tax between 10% to 30%; 9% to state racing commission; Varying payments to horsemen, breeders and purses	10% tax on $0 to $30 million 15% tax on $30 to $40 million 20% tax on $40 to $50 million 25% tax on $50 to $70 million 30% tax on over $70 million
Pennsylvania	2006	Flat	Flat tax rate of 54%	34% state tax 2% local share assessment 6% Economic Development & Tourism Fund 12% Race Horse Development Fund
West Virginia	1994	Flat	Flat tax rate of 53.5%	

Source: State regulatory agencies, American Gaming Association "State of the States," 2019

Between 1978 and 2018, states in the aggregate raised about $185 billion in real terms in tax and fee revenues from casinos. The overall growth in casino/VLT tax and fee revenues has been relatively stagnant in the past decade despite widespread expansion of gaming facilities across the nation. Figure 45 shows inflation-adjusted casino/VLT facility tax and fee revenues between FY 1978 and FY 2018 as well as the number of states with casino/VLT operations for each fiscal year. Before 1989, casinos/VLT facilities were legal and operational only in Nevada and New Jersey. Casino/VLT operations spread in another 22 states between FY 1990 and 2018.

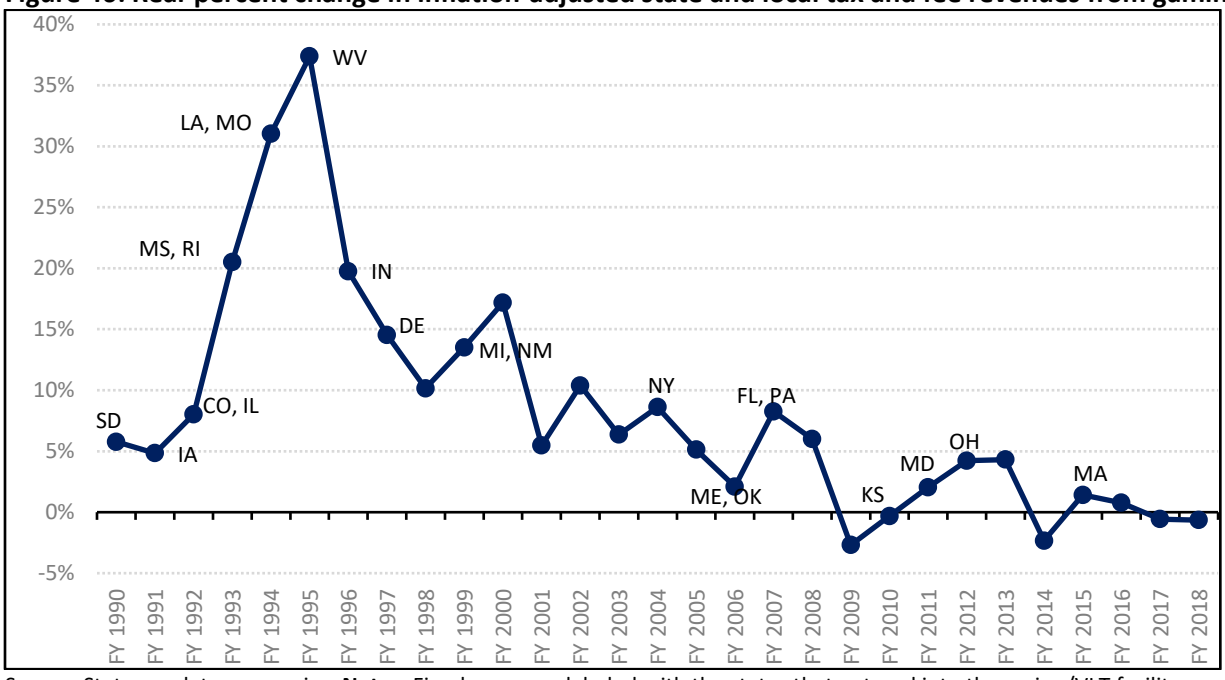
Figure 45: States' real gaming-tax revenues, FY 1978-FY 2018



Source: State regulatory agencies, Spectrum Gaming Group. **Notes:** Each fiscal year is labeled with the number of states that had operation of casinos. Revenues are adjusted for inflation.

Figure 46 shows year-over-year percent change in inflation-adjusted state and local tax and fee revenues from casinos and VLT facilities for FY 1990 through FY 2018. Overall growth in casino and VLT tax and fee revenues has been downward since the mid-1990s, despite expansions.

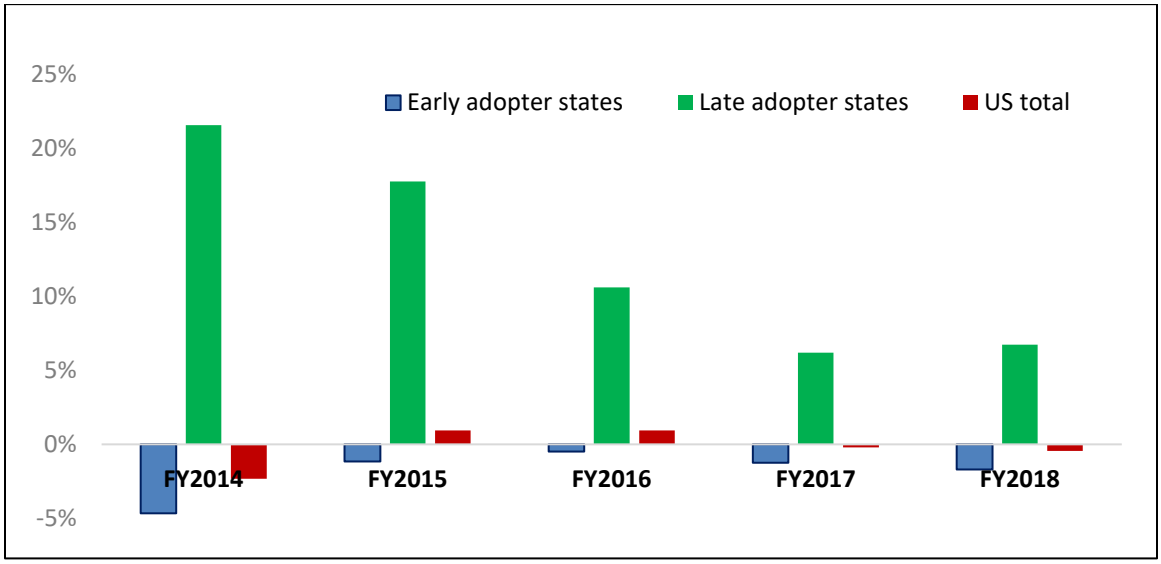
Figure 46: Real-percent change in inflation-adjusted state and local tax and fee revenues from gaming



Source: State regulatory agencies. **Notes:** Fiscal years are labeled with the states that entered into the casino/VLT facility market in that given year.

While the number of casinos and VLT facilities grew over time in recent years, inflation-adjusted tax and fee revenues from casinos and VLT facilities declined in FY 2017 and FY 2018. Figure 47 illustrates that for the nation as a whole, as well as in early-adopter states.

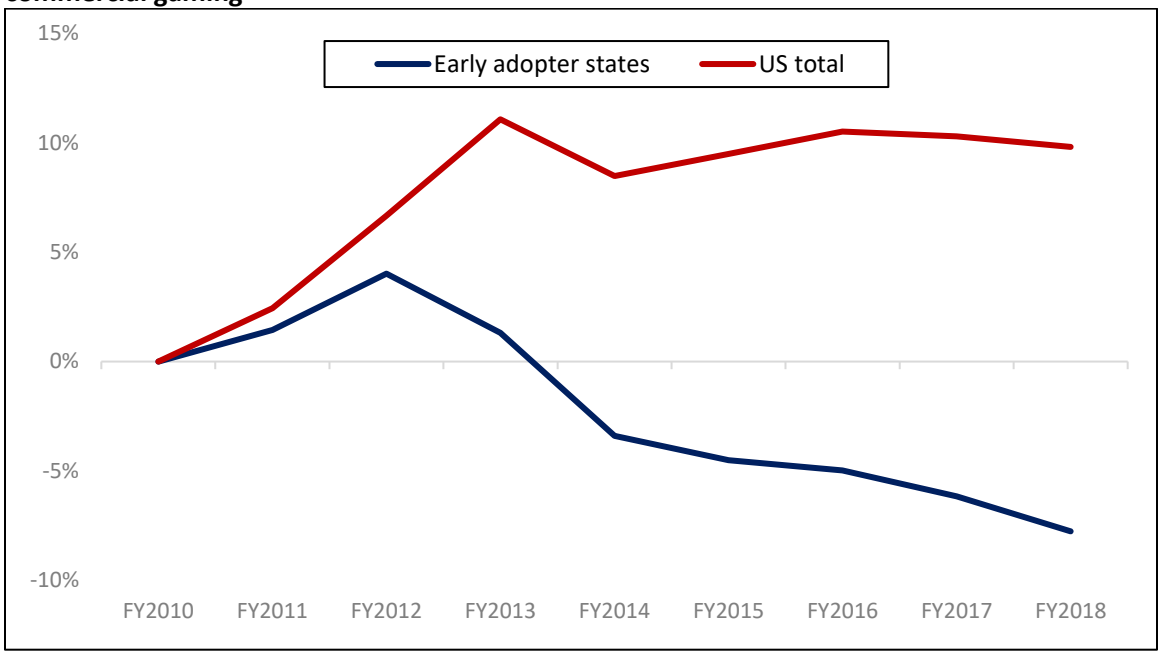
Figure 47: Inflation-adjusted change in state and local tax and fee revenues from commercial gaming, FY 2014-FY 2018



Source: State regulatory agencies. **Notes:** Late-adopter states included here are Kansas, Maryland, Massachusetts and Ohio. In these states, gaming facilities were opened during or after FY 2010. New York is identified as early adopter state because VLT facilities were operational prior to FY 2010.

Figure 48 shows the cumulative percent change in inflation-adjusted casino and VLT facility tax and fee revenues for all states versus early adopter states. The blue line excludes casino/VLT facility tax and fee revenues for four states (Kansas, Maryland, Massachusetts and Ohio), because all four states started operation of casinos/VLT facilities after FY 2008. New York is included in early adopter states because the State legalized VLT facilities prior to 2008, even though legalization of commercial casinos occurred after 2008. After excluding tax and fee revenues for these four states, revenues for the rest of the nation (i.e. early adopter states) declined steeply, particularly in the past five years. At the end of FY 2018, inflation-adjusted casino and VLT facility tax and fee revenues were 7.8 percent below FY 2010 levels in the early adopter states, and 9.8 percent above FY 2010 level for the nation.

Figure 48: Cumulative percent change in inflation-adjusted state and local tax and fee revenues from commercial gaming



Source: State gaming regulatory agencies. **Notes:** Four states – Kansas, Maryland, Massachusetts and Ohio – are identified as late adopter states because they did not open casinos until during or after FY 2010.

The states in the Northeast are competing for casino tax dollars. For example, casino tax revenues in New Jersey started declining after Pennsylvania opened its own casinos and VLT facilities, and officials in New Jersey blamed the new competition from its neighboring state. Pennsylvania enjoyed a boom of tax revenue growth from casinos/VLT facilities for the next few years, until two of its neighboring states, Ohio and Maryland, legalized and opened their own casinos and VLT facilities. Moreover, the opening of a new VLT facility in New York City created competition both for New Jersey and Pennsylvania. Although the expansion of casinos and VLT facilities leads to some growth in total tax revenues, much of the growth appears to come at the expense of established operations.[62]

[62] Dadayan, 2016.

Appendix K: Tax Sensitivity Analysis with Hypothetical VLT Facility

To provide additional context for the tax analysis, we have created a hypothetical VLT facility model to illustrate the connection between tax rates and a facility's business model. We assume in this instance that, in exchange for a lower tax rate, the operator would create a wider variety of attractive nongaming amenities that, in turn, would drive incremental employment, GGR, and investment as compared with the scenario with higher tax rates.

However, our analysis shows that there may have to be tradeoffs. A business model that can generate greater economic activity due, in part, to a lower tax rate may also result in fewer overall tax dollars, thus creating a choice: Greater economic output and overall activity vs. less direct revenue for the State.

- Hypothetical VLT facility with a higher tax:
- GGR $60 million
- Non-gaming revenue: $4 million
- Employment (not including trackside operations): 400
- VLT tax rate: 38 percent
- Hypothetical VLT facility with a lower tax rate:
- GGR: $65 million
- Non-gaming revenue: $10 million
- Employment (not including trackside operations): 600
- Necessary capital investment: $25 million
- VLT tax rate: 30 percent

The summary statewide economic impacts are shown in Figure 49. It is not surprising that the larger facility creates larger economic impacts, with 261 more total jobs and $24 million more value added or gross state product. However, the impacts are not only larger but proportionally different. Changing the tax rate to foster a change in the business model also impacts the multiplier, or the additional activity created by the properties.

A VLT facility with a higher tax rate will create 0.82 additional jobs in the state for each one job at the VLT facility versus 0.65 jobs with the lower tax. On the other hand, a lower tax rate enables larger returns to revenues: $1.41 of additional output and $0.51 of additional gross state product per dollar of revenues with a lower tax rate versus $1.22 of output and $0.39 of gross state product with a higher tax rate.

These results imply there is a tradeoff between tax rates and labor productivity in VLT facilities. Or put another way, the State can incentivize higher productivity development and larger statewide economic returns to gaming revenue by lowering tax rates on GGR.

Figure 49: Hypothetical VLT facility summary results, 10-year annual average

Region		State Total
Higher Tax Rate	Total Employment	730
	Output (M)	$142
	Value-Added (M)	$89
	Personal Income (M)	$71
Lower Tax Rate	Total Employment	991
	Output (M)	$181
	Value-Added (M)	$113
	Personal Income (M)	$94
Difference	Total Employment	261
	Output (M)	$39
	Value-Added (M)	$24
	Personal Income (M)	$23

Source: Spectrum Gaming Group, PI+

The results in the Figure 49 show that that increasing the tax rate reduces the financial viability of investments in the gaming facility. Figure 50 shows these changes normalized to a 1 percent change in the tax rate. In general, each 1 percent increase in the tax rate on a VLT facility reduces statewide economic impacts by an annual average of 33 jobs, $5 million of output, $3 million of value added, and $3 million of personal income.

Figure 50: Hypothetical VLT facility economic impact difference per 1 percent increase in tax rate

Region	Difference per 1% Increase in Tax Rate			
	Total Employment	Output (M)	Value-Added (M)	Personal Income (M)
State Total	-33	($5)	($3)	($3)

Source: Spectrum Gaming Group, PI+

While a reduction in the tax rate increases economic activity, it does not create more tax revenues to the State in our example.63 The amounts shown in Figure 51 are net of the direct tax changes related to gaming, i.e. gains in gaming, sales, and hotel taxes and losses in sales tax from the reallocation of consumer spending away from other consumption. Furthermore, the amounts also include estimated state tax revenue gains from economic growth.

Here, increasing the tax rate and the resulting change in the business model yields $2 million more in tax revenues to the State in an average year, or $220,000 more per each 1 percent increase in the tax rate. Put another way, the cost to the State of each additional job is roughly $6,700 of forgone tax revenue. Similarly, the State can grow its gross state product by $1 million at a cost of only $73,000 of tax revenues.

Figure 51: Hypothetical VLT facility State tax revenue impacts and difference per 1 percent increase in tax rate

Scenario	State Tax Revenues (M)
High	$26
Low	$28
Difference	($2)
Per 1%	$0.220

Source: Spectrum Gaming Group, PI+

The above findings illustrate the tradeoff the State faces between economic growth and tax revenue growth. As tax rates increase, the financial viability of large investments will decrease while GGR increases. However, it is important to note that this tradeoff does not apply indefinitely. At high enough rates, the tax burden would become so onerous as to be unattractive to suitable investment, thus yielding diminishing tax revenues and economic impacts. If policy remains near the rates examined in this analysis, the findings of our generalized model imply that there is some tradeoff to the State between seeking higher economic impacts from gaming and higher State tax revenues.

Appendix L: Statutory OTB Revenue Distribution Formulas

Under §301(4), all distributions based on super-exotic wagers should be made as though the wagers were exotic wagers.

Figure 52: Distribution of OTB handle on out-of-state Thoroughbred races

NYRA Aqueduct or Belmont Live Finger Lakes Live or Dark						
	Signal 1				Signal 2+	
	§1016(1)(b)(3)(B)				§1016(1)(b)(4)(B)	
Distribution	**WPS**	**Mult.**	**Exotic - Super Exotic**	**WPS**	**Mult.**	**Exotic - Super Exotic**
State Tax	1.00%	1.00%	1.00%	0.50%	0.50%	0.50%
State Regulatory Fee	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
NYRA Operator	2.00%	1.50%	1.50%	2.25%	2.25%	2.00%
NYRA Purses	2.00%	3.00%	3.00%	2.25%	3.25%	3.00%
NYRA (total)	4.00%	4.50%	4.50%	4.50%	5.50%	5.00%
Finger Lakes Operator	0.50%	0.50%	0.50%	0.50%	0.25%	0.50%
Finger Lakes Purses	0.50%	0.50%	0.50%	0.50%	0.25%	0.50%
Finger Lakes (total)	1.00%	1.00%	1.00%	1.00%	0.50%	1.00%
NYTB	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Regional Harness Tracks	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Distributions	**7.10%**	**7.60%**	**7.60%**	**7.10%**	**7.60%**	**7.60%**

Source: New York State Pari-Mutuel Laws §1016(1)(b)(3)(B) and §1016(1)(b)(4)(B)

Figure 53: Distribution of OTB handle on out-of-state Thoroughbred races

NYRA Aqueduct or Belmont Dark Finger Lakes Live						
	Signal 1				Signal 2+	
	§1016(1)(b)(3)(A)				§1016(1)(b)(4)(A)	
Distribution	**WPS**	**Mult.**	**Exotic - Super Exotic**	**WPS**	**Mult.**	**Exotic - Super Exotic**
State Tax	1.50%	1.50%	1.50%	1.00%	1.00%	1.00%
State Regulatory Fee	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
NYRA Operator	0.50%	0.50%	0.50%	1.00%	1.00%	1.00%
NYRA Purses	2.00%	2.00%	2.50%	2.00%	2.00%	2.50%
NYRA (total)	2.50%	2.50%	3.00%	3.00%	3.00%	3.50%
Finger Lakes Operator	0.50%	0.50%	0.50%	0.00%	0.00%	0.00%
Finger Lakes Purses	1.50%	2.00%	1.50%	2.00%	2.00%	2.00%
Finger Lakes (total)	2.00%	2.50%	2.00%	2.00%	2.00%	2.00%
NYTB	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Regional Harness Tracks	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Distributions	**7.10%**	**7.60%**	**7.60%**	**7.10%**	**7.10%**	**7.60%**

Source: New York State Pari-Mutuel Laws §1016(1)(b)(3)(A) and §1016(1)(b)(4)(A)

Figure 54: Distribution of OTB handle on out-of-state Thoroughbred races

NYRA Saratoga Live (During Day's Live Racing)						
Finger Lakes Live or Dark						
	Signal 1			Signal 2+		
	§1018(b)(3)			§1018(b)(3)		
Distribution	**WPS**	**Mult.**	**Exotic - Super Exotic**	**WPS**	**Mult.**	**Exotic - Super Exotic**
State Tax	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
State Regulatory Fee	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
NYRA Operator	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
NYRA Purses	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
NYRA (total)	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
Finger Lakes Operator	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Finger Lakes Purses	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Finger Lakes (total)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
NYTB	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Regional Harness Tracks	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Distributions	**8.85%**	**8.85%**	**8.85%**	**8.85%**	**8.85%**	**8.85%**

Source: New York State Pari-Mutuel Law §1018(b)(3)

Figure 55: Distribution of OTB handle on out-of-state Thoroughbred races

NYRA Saratoga Live (After Day's Live Racing)						
Finger Lakes Live or Dark						
	Signal 1			Signal 2+		
	§1016(1)(b)(4)(B)			§1016(1)(b)(4)(B)		
Distribution	**WPS**	**Mult.**	**Exotic - Super Exotic**	**WPS**	**Mult.**	**Exotic - Super Exotic**
State Tax	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
State Regulatory Fee	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
NYRA Operator	2.25%	2.25%	2.00%	2.25%	2.25%	2.00%
NYRA Purses	2.25%	3.25%	3.00%	2.25%	3.25%	3.00%
NYRA (total)	4.50%	5.50%	5.00%	4.50%	5.50%	5.00%
Finger Lakes Operator	0.50%	0.25%	0.50%	0.50%	0.25%	0.50%
Finger Lakes Purses	0.50%	0.25%	0.50%	0.50%	0.25%	0.50%
Finger Lakes (total)	1.00%	0.50%	1.00%	1.00%	0.50%	1.00%
NYTB	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Regional Harness Tracks	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Distributions	**7.10%**	**7.60%**	**7.60%**	**7.10%**	**7.60%**	**7.60%**

Source: New York State Pari-Mutuel Law §1016(1)(b)(4)(B)

Figure 56: Distribution of OTB handle on out-of-state Thoroughbred races

NYRA Saratoga Dark (Tuesdays)						
Finger Lakes Live or Dark						
	Signal 1			Signal 2+		
	§1014(1)(h)(3)(i)			§1014(1)(h)(3)(i)		
Distribution	**WPS**	**Mult.**	**Exotic - Super Exotic**	**WPS**	**Mult.**	**Exotic - Super Exotic**
State Tax	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
State Regulatory Fee	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
NYRA Operator	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NYRA Purses	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
NYRA (total) (A)	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Finger Lakes Operator	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Finger Lakes Purses	Finger Lakes purses get a pro-rated amount based on 1993					
Finger Lakes (B)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NYTB	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Regional Harness Tracks	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Distributions	**4.60%**	**4.60%**	**4.60%**	**4.60%**	**4.60%**	**4.60%**

Source: New York State Pari-Mutuel Law §1014(1)(h)(3)(i) **Notes:** (A) No proration. A flat 2.0% to NYRA on out-of-state Thoroughbred handle. (B) Finger Lakes, if they run the required number of days, they get a flat rate per dark day based on 1993 year. Each OTB amount is different.

Figure 57: Distribution of OTB handle on out-of-state harness races

OTB Regions Excluding Western Region			
	All Signals		
	§1015(3)(b)		
Distribution	**WPS**	**Mult.**	**Exotic - Super Exotic**
State Tax	1.00%	1.00%	1.00%
State Regulatory Fee	0.60%	0.60%	0.60%
NYRA Operator	0.00%	0.00%	0.00%
NYRA Purses	0.00%	0.00%	0.00%
NYRA (total)	0.00%	0.00%	0.00%
Finger Lakes Operator	0.00%	0.00%	0.00%
Finger Lakes Purses	0.00%	0.00%	0.00%
Finger Lakes (total)	0.00%	0.00%	0.00%
NYSB	1.00%	1.00%	1.00%
Regional Harness Operators	5.00%	5.00%	5.00%
Regional Harness Purses	1.00%	1.00%	1.00%
Regional Harness (total)	6.00%	6.00%	6.00%
Total Distributions	8.60%	8.60%	8.60%

Source: New York State Pari-Mutuel Law §1015(3)(b)

Figure 58: Distribution of OTB handle on out-of-state harness races, Western OTB Region

Western OTB Region						
	All Signals			All Signals		
	Finger Lakes Simulcasting			Finger Lakes Not Simulcasting		
	Out-of-State Harness			Out-of-State Harness and County is in Special Thoroughbred Betting District and County is not in Special Harness Betting District		
	§1015(3)(b) and (d)			§1015(3)(b) and (d)		
Distribution	**WPS**	**Mult.**	**Exotic - Super Exotic**	**WPS**	**Mult.**	**Exotic - Super Exotic**
State Tax	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
State Regulatory Fee	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%
NYRA Operator	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NYRA Purses	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NYRA (total)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Finger Lakes Operator	0.00%	0.00%	0.00%	1.50%	1.50%	1.50%
Finger Lakes Purses	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Finger Lakes (total)	0.00%	0.00%	0.00%	1.50%	1.50%	1.50%
NYSB	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Regional Harness Operators	5.00%	5.00%	5.00%	3.50%	3.50%	3.50%
Regional Harness Purses	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Regional Harness (total)	6.00%	6.00%	6.00%	4.50%	4.50%	4.50%
Total Distributions	**8.60%**	**8.60%**	**8.60%**	**8.60%**	**8.60%**	**8.60%**

Source: New York State Pari-Mutuel Law §1015(3)(b) and (d)

Appendix M: Statutory Revenue Distributions of New York OTB Pari-Mutuel Handle, 2016-2018, and Recommended Simplified OTB Distribution Rates

The following tables show the amounts of each OTB payment and the percentage of total handle for the years 2016 to 2018. Examples of recommended simplified formulas based on percentage of total handle to replace complex distribution schemes are at the bottom of several tables and summarized in the last table.

The other approach, as mentioned in the report, is to calculate a "distributor fee" (a certain fixed percentage of the net takeout after deduction of the host fee) in a fashion like New York's market origin fees. If the OTBs are permitted to keep a fixed percentage, as a distributor, then simple formulas can be used to allocate the remaining revenue to the other horse racing industry stakeholders.

Figure 59: OTB pari-mutuel tax and pari-mutuel tax as a percentage of total handle, 2016-2018

Pari-Mutuel Tax			
OTB	**2018**	**2017**	**2016**
Capital	$1,060,438	$1,079,979	$1,133,712
Catskill	$468,553	$576,467	$552,614
Nassau	$968,652	$1,097,918	$1,186,157
Suffolk	$698,507	$735,005	$739,853
Western	$593,602	$625,455	$706,603
All Regions	**$3,789,753**	**$4,114,824**	**$4,318,938**
Pari-Mutuel Tax as Percentage of Total Handle			
OTB	**2018**	**2017**	**2016**
Capital	0.74%	0.74%	0.74%
Catskill	0.79%	0.87%	0.82%
Nassau	0.64%	0.69%	0.70%
Suffolk	0.83%	0.84%	0.84%
Western	0.86%	0.87%	0.88%
All Regions	**0.75%**	**0.78%**	**0.77%**
	Recommend 0.75% of Total Handle		

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 60: OTB regional Thoroughbred payments, and regional Thoroughbred payments as a percentage of total handle, 2016-2018

Regional Thoroughbred Payments			
OTB	**2018**	**2017**	**2016**
Capital	$3,601,540	$3,500,379	$3,587,257
Catskill	$1,522,335	$1,638,763	$1,629,613
Nassau	$4,087,249	$4,204,851	$4,498,283
Suffolk	$2,041,271	$2,074,115	$2,043,054
Western	$2,055,151	$2,138,389	$2,242,628
All Regions	**$13,307,546**	**$13,556,497**	**$14,000,835**
Regional Thoroughbred Payments Pct. Total Handle			
OTB	**2018**	**2017**	**2016**
Capital	2.50%	2.40%	2.35%
Catskill	2.57%	2.46%	2.42%
Nassau	2.72%	2.65%	2.65%
Suffolk	2.42%	2.37%	2.32%
Western	2.98%	2.97%	2.80%
All Regions	**2.62%**	**2.56%**	**2.51%**
	Recommend 2.6% of Total Handle		

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 61: OTB regional Standardbred payments and regional Standardbred payments as a percentage of total handle, 2016-2018

Regional Standardbred Payments			
OTB	**2016**	**2017**	**2018**
Capital	$2,269,546	$1,993,014	$1,915,236
Catskill	$726,268	$691,843	$684,397
Nassau	$1,296,178	$1,225,315	$1,131,692
Suffolk	$802,884	$691,710	$715,498
Western	$1,217,178	$1,094,337	$1,065,843
All Regions	**$6,312,054**	**$5,696,219**	**$5,512,666**
Regional Standardbred Payments as Percentage of Total Handle			
OTB	**2016**	**2017**	**2018**
Capital	1.49%	1.37%	1.33%
Catskill	1.08%	1.04%	1.15%
Nassau	0.76%	0.77%	0.75%
Suffolk	0.91%	0.79%	0.85%
Western	1.52%	1.52%	1.55%
All Regions	**1.13%**	**1.07%**	**1.09%**
	Recommend 1.10% of Total Handle		

Source: New York State Gaming Commission Reports, Spectrum Gaming Group

Figure 62: OTB New York Standardbred breeders' payments and New York Standardbred breeders' payments as a percentage of total handle, 2016-2018

NY Standardbred Breeders Payments			
OTB	**2016**	**2017**	**2018**
Capital	$326,959	$303,253	$298,943
Catskill	$185,397	$173,824	$152,851
Nassau	$382,515	$352,721	$334,749
Suffolk	$197,411	$197,164	$191,206
Western	$259,274	$230,013	$220,405
All Regions	**$1,351,556**	**$1,256,975**	**$1,198,153**
NY Standardbred Breeders Payments as Percentage of Total Handle			
OTB	**2016**	**2017**	**2018**
Capital	0.21%	0.21%	0.21%
Catskill	0.28%	0.26%	0.26%
Nassau	0.23%	0.22%	0.22%
Suffolk	0.22%	0.23%	0.23%
Western	0.32%	0.32%	0.32%
All Regions	**0.24%**	**0.24%**	**0.24%**
	Recommend 0.24% of Total Handle		

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 63: OTB New York Thoroughbred breeders' payments and New York Thoroughbred breeders' payments as a percentage of total handle, 2016-2018

NY Thoroughbred Breeders			
OTB	**2016**	**2017**	**2018**
Capital	$692,536	$651,505	$645,501
Catskill	$284,374	$278,979	$251,298
Nassau	$796,935	$736,115	$701,144
Suffolk	$426,047	$417,713	$401,463
Western	$332,859	$297,571	$288,028
All Regions	**$2,532,751**	**$2,381,883**	**$2,287,434**
NY Thoroughbred Breeders as Percentage of Total Handle			
OTB	**2016**	**2017**	**2018**
Capital	0.45%	0.45%	0.45%
Catskill	0.42%	0.42%	0.42%
Nassau	0.47%	0.46%	0.47%
Suffolk	0.48%	0.48%	0.48%
Western	0.41%	0.41%	0.42%
All Regions	**0.45%**	**0.45%**	**0.45%**
	Recommend 0.45% of Total Handle		

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 64: OTB direct Standardbred racetrack and purse payments, and direct Standardbred racetrack and purse payments as a percentage of total handle, 2016-2018

Direct Standardbred Racetrack and Purse Payments			
OTB	**2016**	**2017**	**2018**
Capital	$366,319	$342,483	$341,470
Catskill	$290,482	$253,052	$229,631
Nassau	$1,492,779	$1,477,805	$1,565,743
Suffolk	$181,333	$155,790	$180,191
Western	$282,820	$234,206	$209,494
All Regions	**$2,613,733**	**$2,463,336**	**$2,526,529**
Direct Standardbred Payments as Percentage of Total Handle			
OTB	**2016**	**2017**	**2018**
Capital	0.24%	0.24%	0.24%
Catskill	0.43%	0.38%	0.39%
Nassau	0.88%	0.93%	1.04%
Suffolk	0.21%	0.18%	0.21%
Western	0.35%	0.33%	0.30%
All Regions	**0.47%**	**0.46%**	**0.50%**
	No Recommendation		

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 65: OTB direct Thoroughbred racetrack and purse payments, and direct Thoroughbred racetrack and purse payments as a percentage of total handle, 2016-2018

Direct Thoroughbred Racetrack & Purse Payments			
OTB	**2016**	**2017**	**2018**
Capital	$3,489,292	$3,281,706	$3,199,526
Catskill	$1,320,219	$1,246,452	$1,028,710
Nassau	$4,029,854	$3,585,524	$3,242,521
Suffolk	$2,494,066	$2,301,316	$2,110,530
Western	$992,501	$815,883	$733,343
All Regions	**$12,325,932**	**$11,230,881**	**$10,314,630**
Direct Thoroughbred Payments as Percentage of Total Handle			
OTB	**2016**	**2017**	**2018**
Capital	2.29%	2.25%	2.22%
Catskill	1.96%	1.87%	1.74%
Nassau	2.37%	2.26%	2.16%
Suffolk	2.83%	2.63%	2.50%
Western	1.24%	1.13%	1.07%
All Regions	**2.21%**	**2.12%**	**2.03%**
	No Recommendation		

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 66: OTB out-of-State Thoroughbred payments, and out-of-state Thoroughbred payments as a percentage of total handle, 2016-2018

Out-of-State Thoroughbred Payments			
OTB	**2016**	**2017**	**2018**
Capital	$4,024,380	$4,214,842	$4,371,382
Catskill	$1,703,040	$1,879,411	$1,776,134
Nassau	$4,405,601	$4,509,024	$4,504,951
Suffolk	$2,158,457	$2,384,250	$2,397,047
Western	$1,908,152	$1,934,935	$1,948,986
All Regions	**$14,199,630**	**$14,922,462**	**$14,998,500**
Out-of-State Thoroughbred Payments as Percentage of Total Handle			
OTB	**2016**	**2017**	**2018**
Capital	2.64%	2.89%	3.03%
Catskill	2.53%	2.82%	3.00%
Nassau	2.59%	2.84%	2.99%
Suffolk	2.45%	2.73%	2.84%
Western	2.38%	2.69%	2.83%
All Regions	**2.54%**	**2.81%**	**2.96%**
	No Recommendation		

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 67: OTB out-of-State Standardbred payments, and out-of-state Standardbred payments as a percentage of total handle, 2016-2018

Out-of-State Standardbred Payments			
OTB	**2016**	**2017**	**2018**
Capital	$293,509	$299,226	$270,745
Catskill	$225,263	$202,737	$150,524
Nassau	$351,948	$320,507	$316,143
Suffolk	$183,541	$203,407	$186,102
Western	$345,652	$322,228	$285,249
All Regions	**$1,399,913**	**$1,348,105**	**$1,208,763**
Out-of-State Standardbred Payments as Percentage of Total Handle			
OTB	**2016**	**2017**	**2018**
Capital	0.19%	0.21%	0.19%
Catskill	0.33%	0.30%	0.25%
Nassau	0.21%	0.20%	0.21%
Suffolk	0.21%	0.23%	0.22%
Western	0.43%	0.45%	0.41%
All Regions	**0.25%**	**0.25%**	**0.24%**
	No Recommendation		

Source: New York State Gaming Commission, Spectrum Gaming Group

The following is a summary of the results of simplification using this type of approach.

Figure 68: Spectrum's recommended simplified OTB distribution rates

Statutory Distributions	Recommended Rate	Applied to	2018 Percent of Total Handle
NY State (Pari-Mutuel Tax & Breakage)	0.75%	Total handle	0.75%
NY State Racing & Wagering Board Regulatory Fee	0.60%	Total handle	0.60%
NY Thoroughbred Industry			
NY Thoroughbred Tracks Direct Payments	Negotiated	NY TB handle by track	2.03%
NY Thoroughbred Tracks Regional Payments	2.66%	Total handle	2.62%
NY Thoroughbred Development & Breeding Fund	0.45%	Total handle	0.45%
Total NY Thoroughbred Industry			5.10%
NY Standardbred Industry			
In-State Harness Tracks Direct Payments	Negotiated	NY SB handle by track	0.50%
In-State Harness Tracks Regional Payments	1.10%	Total handle	1.09%
Ag. & NYS Breeding & Dev. Fund Breeders' Fund - Harness	0.24%	Total handle	0.24%
Total NY Standardbred Industry			1.83%
Out-of-State Racing Industry			
Out-of-state Thoroughbred Tracks	Negotiated	Out-of-state TB handle	2.96%
Out-of-state Harness Tracks	Negotiated	Out-of-state SB handle	0.24%
Total Out-of-State Racing Industry			3.20%
Total OTB Statutory Distributions as Percentage of Handle			**11.48%**
Multi-Jurisdictional ADW Distributions to OTBs	2%	ADW handle	-1.34%
Effective OTB Statutory Distributions			10.14%

Source: New York State Gaming Commission, Spectrum Gaming Group

1. Notes Pertaining to Recommended Flat Rates for OTB Statutory Distributions

The recommendations assume no change in overall current distributions, which industry participants, particularly OTBs, are seeking (and which are addressed in other sections of this report), such as the elimination of hold-harmless fees. Rates paid as a percentage of total OTB handle vary by OTB corporation depending on their mix of in-state and out-of-state handle by breed and time of day and depending on which region the OTB represents.

- **New York pari-mutuel tax:** OTBs consistently pay about 0.75 percent in State pari-mutuel taxes as a percentage of total handle. The pari-mutuel tax should be 0.75 percent of all OTB handle.
- **Regulatory fees:** Regulatory fees are 0.6 percent of handle. The regulatory fee was introduced later than other statutory fees and reflects a reasonable, controlled way to tax handle compared with, for example, the State pari-mutuel tax.
- **New York State Thoroughbred Development & Breeding Fund**: The Thoroughbred breeding fund receives 0.5 percent of Thoroughbred handle and 0.25 percent of breakage on imported Thoroughbred races. Overall, the Thoroughbred breeding fund receives about 0.53 percent of Thoroughbred handle and 0.45 percent of total handle from all sources. The Thoroughbred Development & Breeding Fund should receive 0.45 percent of all handle.

- **Agriculture and New York State Horse Breeding and Development Fund:** The Standardbred breeding fund receives 1 percent of handle on imported harness simulcasts and 0.25 percent of breakage on imported simulcasts of Thoroughbred races. Overall, the Standardbred breeding fund receives about 0.24 percent of total handle. The Standardbred breeding fund should receive 0.24 percent of all handle, and the OTBs should retain all breakage.
- **Direct payments to New York Thoroughbred racetracks:** OTB host fees, related direct payments and contractual fees with New York's Thoroughbred racetracks should be negotiated with the racetracks and should constitute direct payments.
- **Direct payments to New York Harness racetracks**: OTB host fees, related direct payments and contractual fees with New York's harness racetracks should be negotiated with the racetracks and should constitute direct payments.
- **Regional Payments to New York Thoroughbred racetracks:** OTB regional payments to New York's harness and Thoroughbred racetracks involve some of the most complex formulas in New York Pari-Mutuel Law and in the nation. Regional payments are largely tied to imported simulcasts from out of state. From 2016 through 2018, Thoroughbred racetracks and purses combined received between 2.51 percent and 2.62 percent of total OTB handle, while Standardbred racetracks and purses combined received between 1.09 percent and 1.13 percent of handle. Regional payments to Thoroughbred racetracks should be 2.6 percent of handle. Regional payments to harness racetracks should be 1.1 percent of handle. Regional payments currently include hold-harmless payments to harness racetracks and hold-harmless payments have been identified by some legislators and the State's Comptroller as unfair and overly burdensome to the OTBs. Regional payments to harness racetracks at current levels are likely unsustainable for the OTBs without alternative revenue for OTBs from the operation of VLTs or sports wagering – specifically Capital OTB and Catskill OTB.

Appendix N: OTB Structures in Selected States

Figure 69 is a list of the OTB structures in selected states. Sources for this table include the 2010 Task Force on the Future of Off-Track Betting in New York State and interviews conducted as part of this report.

Figure 69: OTB structures in selected states

State with OTBs	Structure	Comment
Arizona	Track run/managed	Track run, agreements with bars/restaurants for space
California	SCOTWINC/NOTWINC[1]	Racing industry owned/operated entities
Connecticut	Privately run (no racetracks in the state)	Sportech (tote company) owns and operates
Florida	Track run/managed	Revenue split between track, purses and OTB
Illinois	Track run/managed	Each track can operate up to a fix number of OTBs by regulation
Louisiana	Independent	Revenue divided with state, industry and OTB
New Jersey	Track run/managed	Percentage kept by OTB, remainder to the track and purses
New York	Independent-State/County	Revenue distributed to state, counties, and racing industry
Ohio	Track run/managed	OTBs run by track, lease space in bars/restaurants (currently only one OTB)
Oregon	Track licensed to operate	After all expenses, profits are split between OTB, track and purses
Virginia	Industry run	Either operated by track (Colonial Downs) or the Virginia Equine Alliance (VEA)

Source: 2010 Task Force on the Future of Off-Track Betting in New York State, NYRA, Turf Paradise Racetrack, Monmouth Park Racetrack, and the Illinois, Virginia, and Ohio Racing commissions. [1]SCOTWINC is Southern California Off-Track Wagering Incorporated and NOTWINC is Northern Californian Off-Track Wagering Incorporated.

Appendix O: Market-Origin Fee Scenarios

It is recommended that one of the options to raise the market origin fee ("MOF") is implemented. They are listed in our suggested order of preference. Each option includes an increase of pari-mutuel tax for the State and an increase for the NYSGC to help with the expense of regulation.

Please note that in each of the following tables, the right column demonstrates allocations using 2019 actual ADW handle.

Option 1: Increase MOF from 5.0 percent to 6.5 percent. Revise the percentage splits – all parties gain, live racing is supported, and out-of-state ADWs help pay more for wagering integrity. This option is Spectrum's recommendation, but we offer two other options (Nos. 2 and 3) as alternatives to consider. Option 2 is the same 6.5 percent but provides more revenue for OTBs and less to racing. Option 3 is a 6.0 percent option. Each option provides an increase for all entities from the current 5 percent market origin fee.

Figure 70: Option 1 – increase Market Origin Fee to 6.5 percent and recommended reallocation percentages

Raise MOF with Reallocation		Split of 6.5% Market Origin Fee for Out-of-State ADWs *Revised splits - reallocated different from existing law*									2019
											$ 340,353,323
6.5% split					6.50%						
90% to Racetracks & OTBs	88%				5.72%						
Racing	55%					3.58%					
		60% to Thoroughbred					2.15%				
			83% NYRA					1.79%			
				40% NYRA					0.72%		$ 2,433,526
				40% Purses					0.72%		$ 2,433,526
				12% NYBDF					0.21%		$ 730,058
				8% AG Fund					0.14%		$ 486,705
			17% Finger Lakes					0.36%			
				40% Finger Lakes					0.14%		$ 486,705
				40% Purses					0.14%		$ 486,705
				12% NYBDF					0.04%		$ 146,012
				8% AG Fund					0.03%		$ 97,341
		40% to Harness					1.43%				
			Further split by track based on handle								
				40% Tracks				0.57%	0.57%		$ 1,946,821
				40% Purses				0.57%	0.57%		$ 1,946,821
				12% NYBDF				0.17%	0.17%		$ 584,046
				8% AG Fund				0.11%	0.11%		$ 389,364
OTBs	33%		*Further split by OTB based on handle*			2.15%	2.15%	2.15%	2.15%		$ 7,300,579
Pari-Mutuel Tax	6%				0.0039	0.0039	0.0039	0.0039	0.0039		$ 1,327,378
NYSGC	6%				0.0039	0.0039	0.0039	0.0039	0.0039		$ 1,327,378
	100%			Totals	6.50%	6.50%	6.50%	6.50%	6.50%		$ 22,122,966

Source: New York State Pari-Mutuel Laws §§1012 and 1012-A, New York State Gaming Commission monthly ADW Market Origin Credit Reports, Spectrum Gaming Group

Option 2: Increase MOF from 5.0 percent to 6.5 percent. Revise the percentage splits – all parties gain, live racing is supported, and out-of-state ADWs help pay more for wagering integrity.

Figure 71: Option 2 – increase Market Origin Fee to 6.5 percent and recommended reallocation percentages

Raise MOF with Reallocation		Split of 6.5% Market Origin Fee for Out-of-State ADWs *Revised splits - re-allocated different from existing law*									2019
											$ 340,353,323
6.5% split					6.50%						
90% to Racetracks & OTBs	88%				5.72%						
Racing	54%					3.51%					
		60% to Thoroughbred					2.11%				
			83% NYRA					1.76%			
				40% NYRA					0.70%		$ 2,389,280
				40% Purses					0.70%		$ 2,389,280
				12% NYBDF					0.21%		$ 716,784
				8% AG Fund					0.14%		$ 477,856
			17% Finger Lakes					0.35%			
				40% Finger Lakes					0.14%		$ 477,856
				40% Purses					0.14%		$ 477,856
				12% NYBDF					0.04%		$ 143,357
				8% AG Fund					0.03%		$ 95,571
		40% to Harness					1.40%				
			Further split by track based on handle								
				40% Tracks				0.56%	0.56%		$ 1,911,424
				40% Purses				0.56%	0.56%		$ 1,911,424
				12% NYBDF				0.17%	0.17%		$ 573,427
				8% AG Fund				0.11%	0.11%		$ 382,285
OTBs	34%		*Further split by OTB based on handle*			2.21%	2.21%	2.21%	2.21%		$ 7,521,808
Pari-Mutuel Tax	6%				0.0039	0.0039	0.0039	0.0039	0.0039		$ 1,327,378
NYSGC	6%				0.0039	0.0039	0.0039	0.0039	0.0039		$ 1,327,378
	100%			Totals	6.50%	6.50%	6.50%	6.50%	6.50%		$ 22,122,966

Source: New York State Pari-Mutuel Laws §§1012 and 1012-A, New York State Gaming Commission monthly ADW Market Origin Credit Reports, Spectrum Gaming Group

Option 3: Increase MOF from 5.0 percent to 6.0 percent. Revise the percentage splits – all parties gain, live racing is supported, and out-of-state ADWs help pay more for wagering integrity.

Figure 72: Option 3 – increase Market Origin Fee to 6.0 percent and recommended reallocation percentages

Raise MOF with Reallocation		**Split of 6% Market Origin Fee for Out-of-State ADWs** *Revised splits - re-allocated different from existing law*								**2019**
										$ 340,353,323
6% split					6.00%					
90% to Racetracks & OTBs	88%				5.28%					
Racing	54%					3.24%				
		60% to Thoroughbred					1.94%			
			83% NYRA					1.62%		
				40% NYRA					0.6480%	$ 2,205,490
				40% Purses					0.6480%	$ 2,205,490
				12% NYBDF					0.1944%	$ 661,647
				8% AG Fund					0.1296%	$ 441,098
			17% Finger Lakes					0.32%		
				40% Finger Lakes					0.1296%	$ 441,098
				40% Purses					0.1296%	$ 441,098
				12% NYBDF					0.0389%	$ 132,329
				8% AG Fund					0.0259%	$ 88,220
		40% to Harness					1.30%			
			Further split by track based on handle							
				40% Tracks				0.52%	0.5184%	$ 1,764,392
				40% Purses				0.52%	0.5184%	$ 1,764,392
				12% NYBDF				0.16%	0.1555%	$ 529,317
				8% AG Fund				0.10%	0.1037%	$ 352,878
OTBs	34%		*Further split by OTB based on handle*			2.04%	2.04%	2.04%	2.0400%	$ 6,943,208
Pari-Mutuel Tax	6%				0.0036	0.0036	0.0036	0.0036	0.3600%	$ 1,225,272
NYSGC	6%				0.0036	0.0036	0.0036	0.0036	0.3600%	$ 1,225,272
	100%			Totals	6.00%	6.00%	6.00%	6.00%	6.0000%	$ 20,421,199

Source: New York State Pari-Mutuel Laws §§1012 and 1012-A, New York State Gaming Commission monthly ADW Market Origin Credit Reports, Spectrum Gaming Group

Status Quo: This demonstrates the current proportions at the present rate of 5 percent.

Figure 73: Status Quo Market Origin Fee of 5.0 percent and allocation percentages

Status Quo Market Origin Fee		Split of 5% Market Origin Fee for Out-of-State ADWs									2019
											$ 340,353,323
5% split					5.00%						
90% to Racetracks & OTBs	90%				4.50%						
Racing	50%					2.50%					
		60% to Thoroughbred					1.50%				
			83% NYRA (5/6th)					1.25%			
				40% NYRA					0.50%		$ 1,701,767
				40% Purses					0.50%		$ 1,701,767
				12% NYBDF					0.15%		$ 510,530
				8% AG Fund					0.10%		$ 340,353
			17% Finger Lakes (1/6th)					0.25%			
				40% Finger Lakes					0.10%		$ 340,353
				40% Purses					0.10%		$ 340,353
				12% NYBDF					0.03%		$ 102,106
				8% AG Fund					0.02%		$ 68,071
		40% to Harness					1.00%				
			Further split by track based on handle								
				40% Tracks				0.40%	0.40%		$ 1,361,413
				40% Purses				0.40%	0.40%		$ 1,361,413
				12% NYBDF				0.12%	0.12%		$ 408,424
				8% AG Fund				0.08%	0.08%		$ 272,283
OTBs	40%		*Further split by OTB based on handle*			2.00%	2.00%	2.00%	2.00%		$ 6,807,066
Pari-Mutuel Tax	5%				0.0025	0.0025	0.0025	0.0025	0.0025		$ 850,883
NYSGC	5%				0.0025	0.0025	0.0025	0.0025	0.0025		$ 850,883
				Totals	5.00%	5.00%	5.00%	5.00%	5.00%		$ 17,017,666

Source: New York State Pari-Mutuel Laws §§1012 and 1012-A, New York State Gaming Commission monthly ADW Market Origin Credit Reports

Appendix P: Calculations of VLT Revenue and Distributions

The following tables calculate the revenues, purse allocation and breeders fund allocation as outlined in the Tax Law §1612-f(1-2). The percentages to purses and breeders fund total is the weighted average total for each year as a percentage of total VLT net revenue.

Figure 74: 2015 VLT net revenue, net revenue distributions to NYRA purses, Thoroughbred breeders

2015 Net Revenue & Distributions					
VLT Facility	VLT Net Revenue	Purses	Breeders	Weighted Average - Purses	Weighted Average - Breeders
Resorts World NYC	$831,222,582	$62,341,694	$12,468,339	7.5%	1.5%
Nassau OTB					
Total RWNYC + Nassau OTB	$831,222,582	$62,341,694	$12,468,339	7.5%	1.5%
Jake's 58					
Total	**$831,222,582**	**$62,341,694**	**$12,468,339**	**7.5%**	**1.5%**

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 75: 2016 VLT net revenue, net revenue distributions to NYRA purses, Thoroughbred breeders

2016 Net Revenue & Distributions					
VLT Facility	VLT Net Revenue	Purses	Breeders	Weighted Average - Purses	Weighted Average - Breeders
Resorts World NYC	$826,486,601	$61,986,495	$12,397,299	7.5%	1.5%
Nassau OTB	$30,074,109	$691,705	$150,371	2.3%	0.5%
Total RWNYC + Nassau OTB	$856,560,710	$62,678,200	$12,547,670	7.3%	1.5%
Jake's 58					
Total	**$856,560,710**	**$62,678,200**	**$12,547,670**	**7.3%**	**1.5%**

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 76: 2017 VLT net revenue, net revenue distributions to NYRA purses, Thoroughbred breeders

2017 Net Revenue & Distributions					
VLT Facility	VLT Net Revenue	Purses	Breeders	Weighted Average - Purses	Weighted Average - Breeders
Resorts World NYC	$702,120,545	$52,659,041	$10,531,808	7.5%	1.5%
Nassau OTB	$147,418,167	$3,390,618	$737,091	2.3%	0.5%
Total RWNYC + Nassau OTB	$849,538,712	$56,049,659	$11,268,899	6.6%	1.3%
Jake's 58	$118,491,217	$2,725,298	$592,456	2.3%	0.5%
Total	**$968,029,929**	**$58,774,957**	**$11,861,355**	**6.1%**	**1.2%**

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 77: 2018 VLT net revenue, net revenue distributions to NYRA purses, Thoroughbred breeders

2018 Net Revenue & Distributions					
VLT Facility	VLT Net Revenue	Purses	Breeders	Weighted Average - Purses	Weighted Average - Breeders
Resorts World NYC	$692,648,656	$51,948,649	$10,389,730	7.5%	1.5%
Nassau OTB	$159,207,556	$3,661,774	$796,038	2.3%	0.5%
Total RWNYC + Nassau OTB	$851,856,212	$55,610,423	$11,185,768	6.5%	1.3%
Jake's 58	$199,949,374	$4,598,836	$999,747	2.3%	0.5%
Total	**$1,051,805,586**	**$60,209,259**	**$12,185,514**	**5.7%**	**1.2%**

Source: New York State Gaming Commission, Spectrum Gaming Group

Figure 78: 2019 VLT net revenue, net revenue distributions to NYRA purses, Thoroughbred breeders

2019 Net Revenue & Distributions					
VLT Facility	VLT Net Revenue	Purses	Breeders	Weighted Average - Purses	Weighted Average - Breeders
Resorts World NYC	$679,286,642	$50,946,498	$10,189,300	7.5%	1.5%
Nassau OTB	$204,644,517	$4,706,824	$1,023,223	2.3%	0.5%
Total RWNYC + Nassau OTB	$883,931,159	$55,653,322	$11,212,522	6.3%	1.3%
Jake's 58	$227,684,572	$5,236,745	$1,138,423	2.3%	0.5%
Total	**$1,111,615,731**	**$60,890,067**	**$12,350,945**	**5.5%**	**1.1%**

Source: New York State Gaming Commission, Spectrum Gaming Group

Appendix Q: Pareto Analysis: Breeders, Owners, Trainers, Jockeys

The Pareto Principle, or the 80/20 Rule, is based on the principle that about 80 percent of results are generated by 20 percent of participants or effort. In business, about 80 percent of revenue is often generated by 20 percent of customers.

While there are many participants in New York's horseracing industry, a relatively small portion of them account for most starts and earnings, in line with the Pareto Principle. A total of 80 percent of NYRA's 2019 purses were earned by 14.1 percent of trainers, 23 percent of owners and 7.9 percent of jockeys. These top trainers, owners and jockeys accounted for 69.7 percent, 60.6 percent, and 67.9 percent of starts, respectively.

When evaluating revenue distribution schedules and the effects of changes to both statutory revenue distribution and the allocation of the number of races, we suggest examining the changes in distribution among stakeholders is also a factor in attracting new owners, breeders and other participants that contribute to the state's economic benefits from the horse racing industry.

As mentioned in the report, the distribution revenues come not only from pari-mutuel sources but also VLT revenue. The results are an outcome or result of state policy and effects the racing industry and even the product for the horseplayers. The 2019 results detail the NYRA racetracks and the Thoroughbred and Standardbred breeders' funds. Similar data while not available for this report but can be easily duplicated with the data for Finger Lakes and the seven harness racetracks. Spectrum would hypothesis that the results at other racetracks would be reasonably similar.

For one, the data addresses who is impacted by race dates changes. For example, purses on average with less races would be higher and given away in less time. When looking at the various race meets it also helps to illustrate the fact that different trainers will have different economic interests in any date or purse restructuring. For example, many trainers on the NYRA circuit will only care about distributions at Belmont and Saratoga as some trainers send the majority if not all of their stables to the south for the winter. Other trainers will be more concerned with the distribution of the Aqueduct purses and race days as their horses may either be less competitive at the other race meets or they only race in the winter when the competition is not as great. As an extreme example, six jockeys earn 50 percent of the purses at Aqueduct and 14 jockeys earn 80 percent of the purses at Aqueduct. Therefore those 14 jockeys would have the most at stake when race dates at Aqueduct are changed.

The data would also be of interest to the state as it illustrates the results of state statutes, state policy and the distribution of not only pari-mutuel revenues but also VLT racing support payments to the horse industry. It helps answer the question how 80 percent of the VLT revenue is distributed.

The horse racing industry would be interested in the data and how it would impact incentives for growing the breeding and racing industry. Are the purses and breeder's awards distributed in a manner that would attract more horse owners and breeders? Are the purses and breeder's awards distributed in a way to make the racing product an attractive wagering product?

The wagering public is also directly impacted as the distribution effects the competitiveness of the races they wager on. Ideally the more competitive and the fuller the race fields are, the more attractive the races are to wager on. A better racing product increases pari-mutuel revenue for all stakeholders.

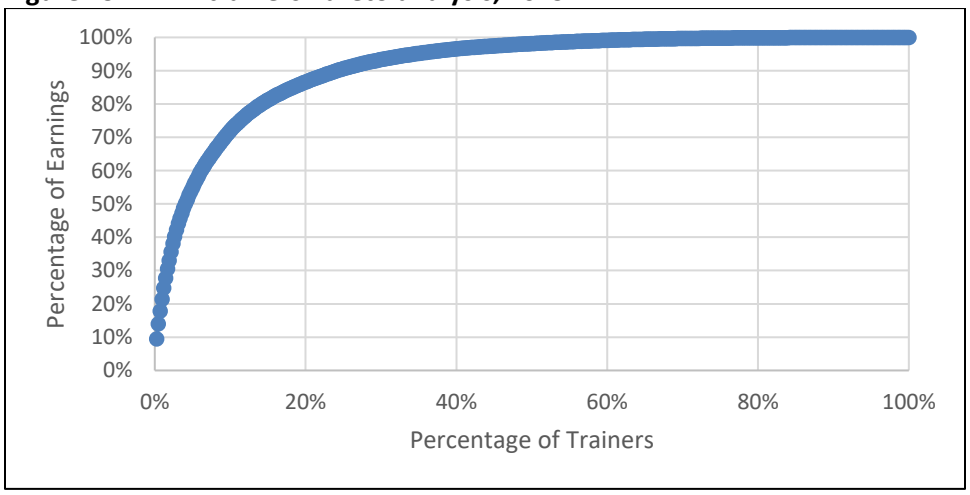
Some of the distribution models are likely not the most effective if the goal is to grow the industry and the resulting economic impacts.

1. New York Racing Association

a. NYRA Trainers

In 2019, a total of $165.3 million was earned by 417 trainers at NYRA racetracks. Half of earnings were won by 17 trainers (4.1 percent of trainers), who accounted for 33.6 percent of starts. A total of 80 percent of earnings were won by 14.1 percent of trainers, who accounted for 69.7 percent of starts.

Figure 79: NYRA trainers Pareto analysis, 2019

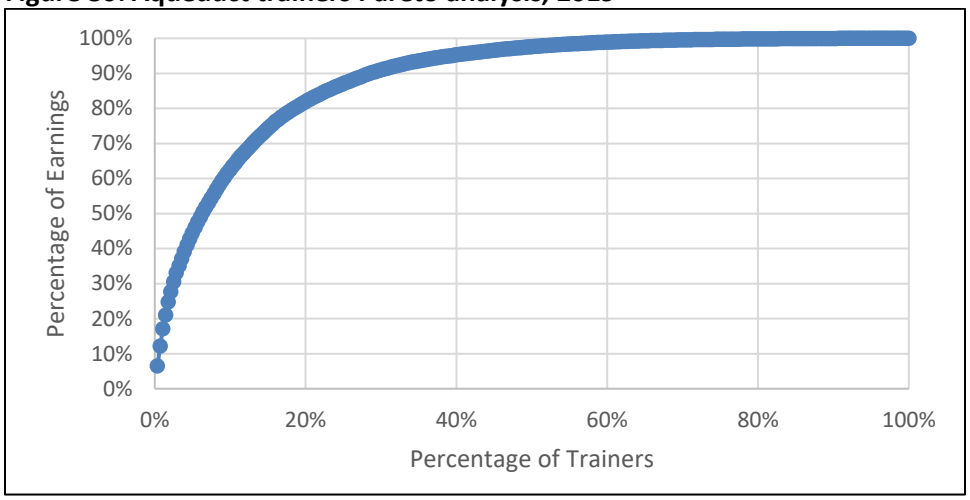


Source: Equibase, Spectrum Gaming Group

1) Aqueduct

In 2019, a total of $52.8 million in purses was earned by 281 trainers at Aqueduct. Half of earnings were won by 18 trainers (6.4 percent of trainers), who accounted for 35.6 percent of starts. A total of 80 percent of earnings were won by 18.5 percent of trainers, who accounted for 68.8 percent of starts.

Figure 80: Aqueduct trainers Pareto analysis, 2019

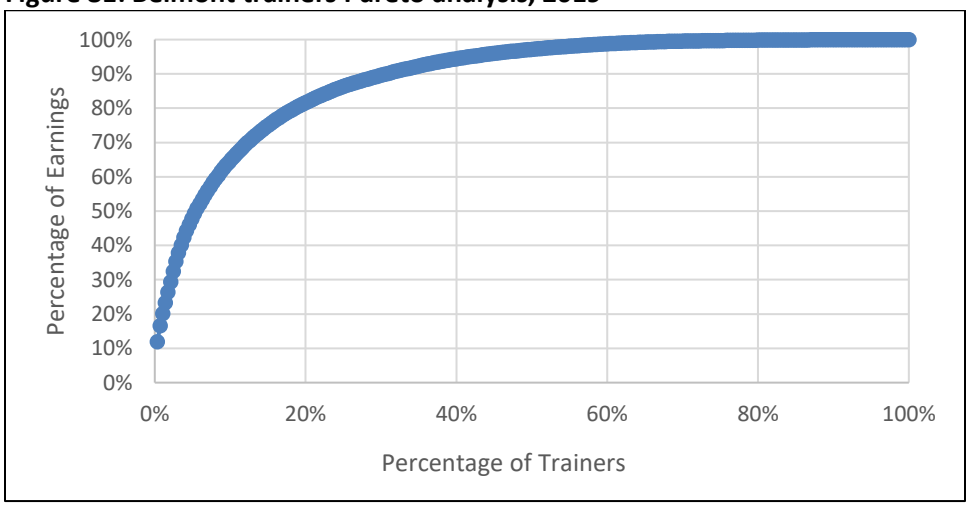


Source: Equibase, Spectrum Gaming Group

2) Belmont

In 2019, a total of $68.5 million in purses was earned by 285 trainers at Belmont. Half of earnings were won by 16 trainers (5.6 percent of trainers), who accounted for 32.4 percent of starts. A total of 80 percent of earnings were won by 18.6 percent of trainers, who accounted for 68.6 percent of starts.

Figure 81: Belmont trainers Pareto analysis, 2019

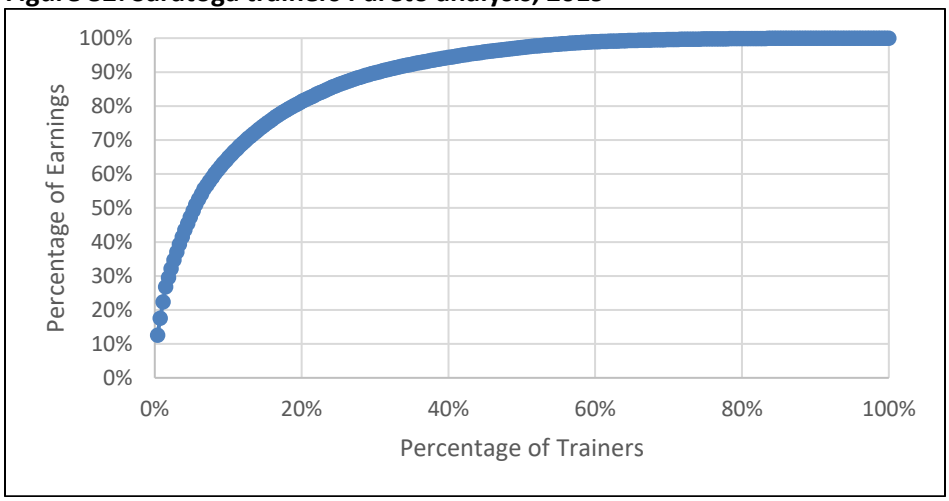


Source: Equibase, Spectrum Gaming Group

3) Saratoga

In 2019, a total of $44 million in purses was earned by 268 trainers at Saratoga. Half of earnings were won by 15 trainers (5.6 percent of trainers), who accounted for 32.5 percent of starts. A total of 80 percent of earnings were won by 19 percent of trainers, who accounted for 64.8 percent of starts.

Figure 82: Saratoga trainers Pareto analysis, 2019

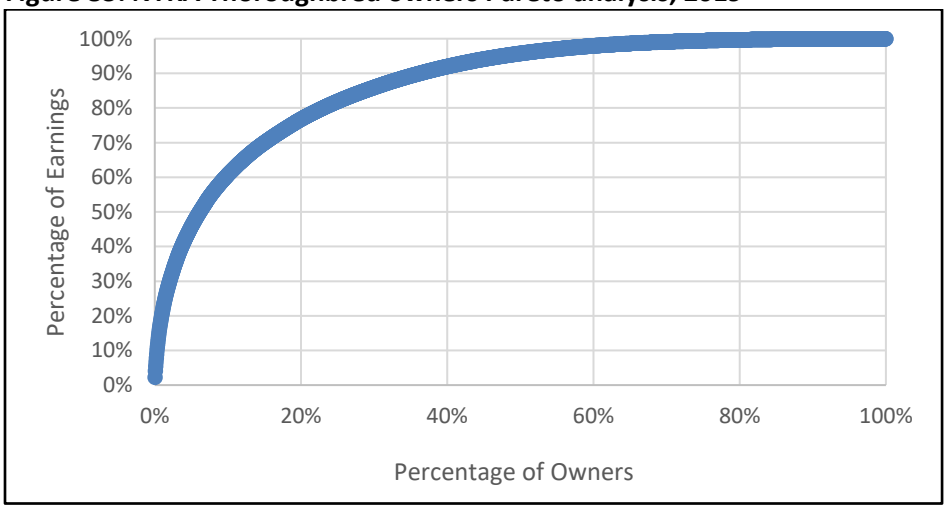


Source: Equibase, Spectrum Gaming Group

b. NYRA Owners

In 2019, a total of $165.3 million in purses was earned by 2,293 owners at NYRA racetracks. Half of earnings were won by 6.1 percent of owners, who accounted for 32 percent of starts. A total of 80 percent of earnings were won by 23 percent of owners, who accounted for 60.6 percent of starts. The data for the owners is skewed as top-earning owners are listed under various stable names and partnerships, which would result in more concentration of earnings and starts among the leading owners.

Figure 83: NYRA Thoroughbred owners Pareto analysis, 2019

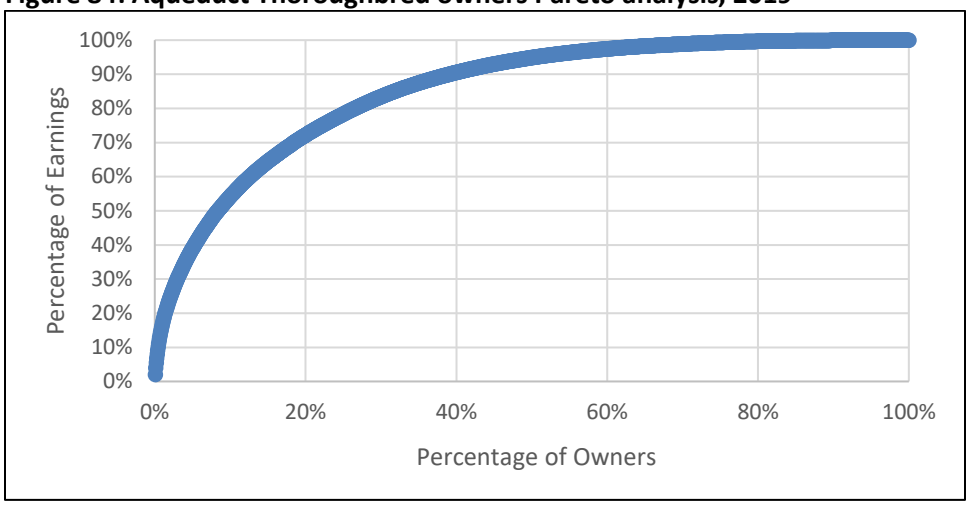


Source: Equibase, Spectrum Gaming Group

1) Aqueduct

In 2019, a total of $52.8 million in purses was earned by 1,552 owners at Aqueduct. Half of earnings were won by 8.4 percent of owners, who accounted for 32.3 percent of starts. A total of 80 percent of earnings were won by 26.5 percent of owners, who accounted for 57.7 percent of starts.

Figure 84: Aqueduct Thoroughbred owners Pareto analysis, 2019

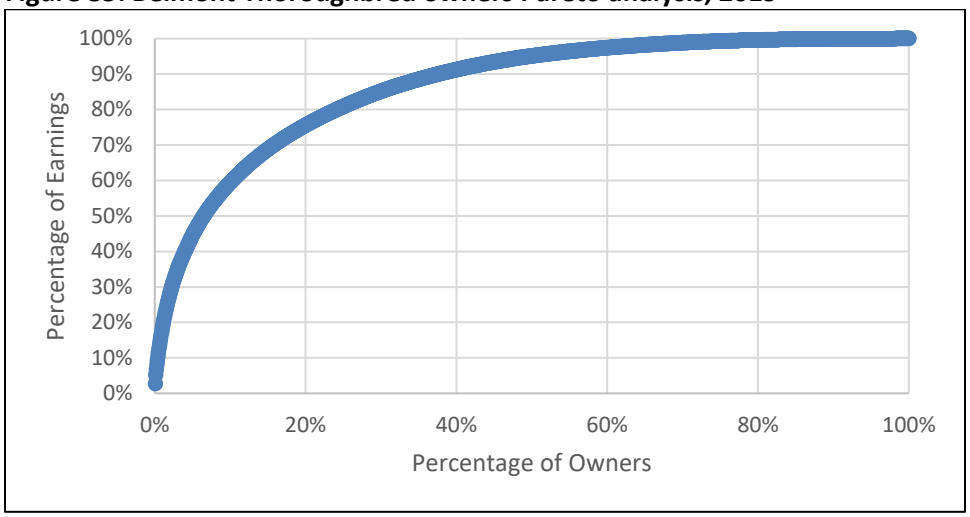


Source: Equibase, Spectrum Gaming Group

2) Belmont

In 2019, a total of $68.5 million in purses was earned by 1,463 owners at Belmont. Half of earnings were won by 6.5 percent of owners, who accounted for 24.9 percent of starts. A total of 80 percent of earnings were won by 24.1 percent of owners, who accounted for 53.8 percent of starts.

Figure 85: Belmont Thoroughbred owners Pareto analysis, 2019

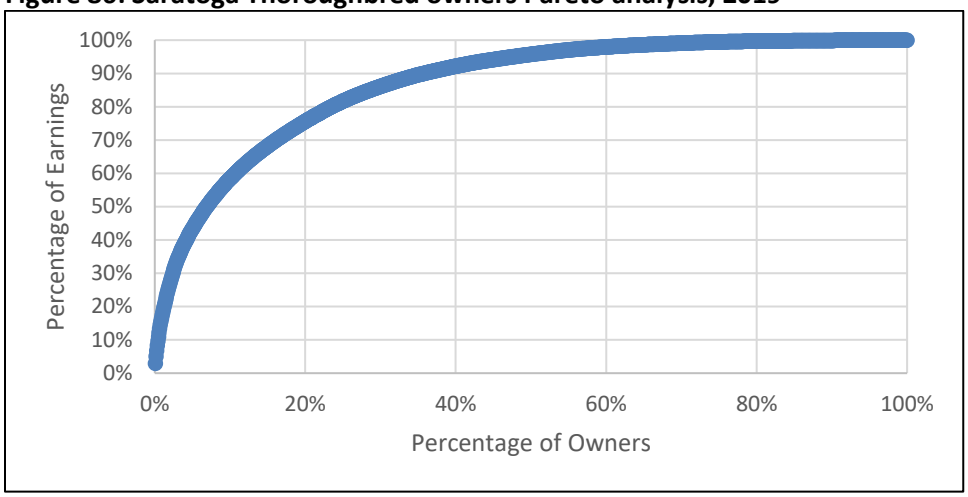


Source: Equibase, Spectrum Gaming Group

3) Saratoga

In 2019, a total of $44 million was earned by 1,227 owners at Saratoga. Half of earnings were won by 6.9 percent of owners, who accounted for 23.6 percent of starts. A total of 80 percent of earnings were won by 23.6 percent of owners, who accounted for 47.8 percent of starts.

Figure 86: Saratoga Thoroughbred owners Pareto analysis, 2019

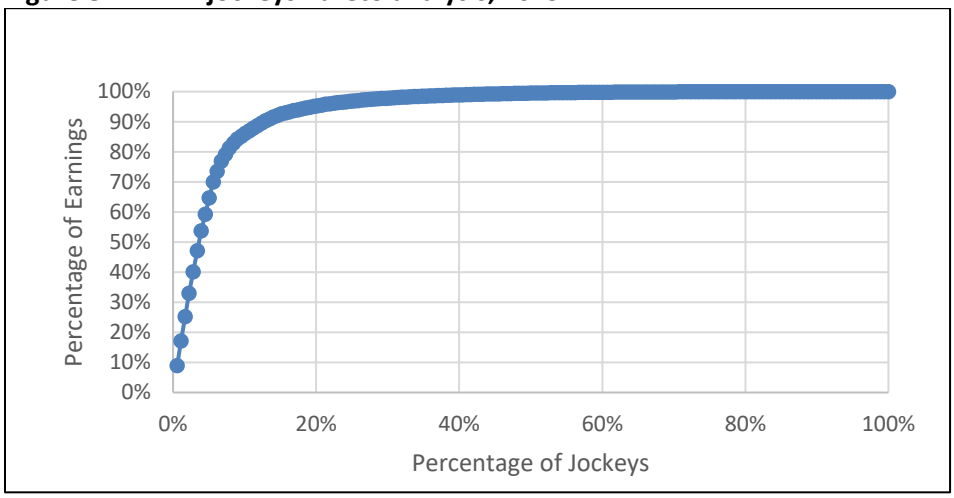


Source: Equibase, Spectrum Gaming Group

c. NYRA Jockeys

In 2019, a total of $165.3 million in purses was earned by 178 jockeys at NYRA racetracks. Half of earnings were won by seven jockeys (3.9 percent of jockeys), who accounted for 39 percent of starts. A total of 80 percent of earnings were won by 14 jockeys (7.9 percent of jockeys), who accounted for 67.9 percent of starts.

Figure 87: NYRA jockeys Pareto analysis, 2019

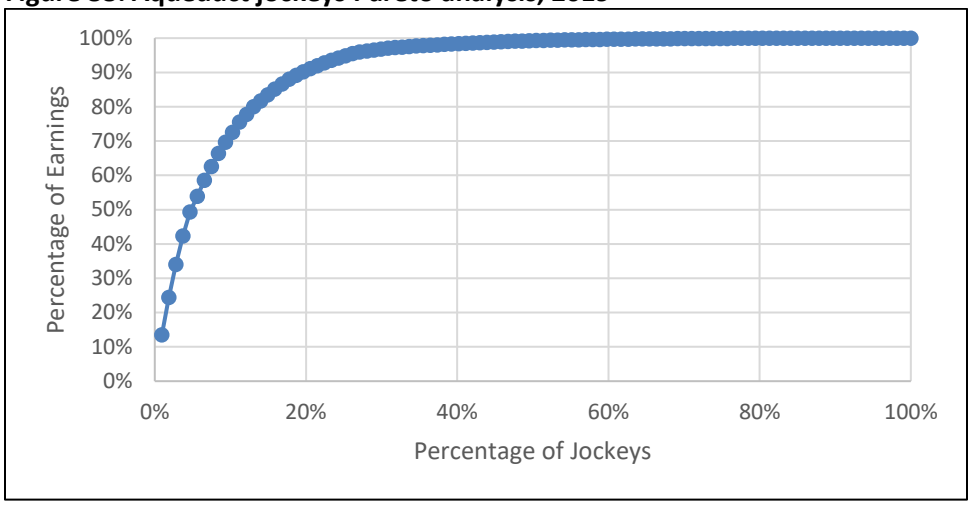


Source: Equibase, Spectrum Gaming Group

1) Aqueduct

In 2019, a total of $52.8 million in purses was earned by 107 jockeys at Aqueduct. Half of earnings were won by six jockeys (5.6 percent of jockeys), who accounted for 44 percent of starts. A total of 80 percent of earnings were won by 14 jockeys (13.1 percent of jockeys), who accounted for 65.4 percent of starts.

Figure 88: Aqueduct jockeys Pareto analysis, 2019

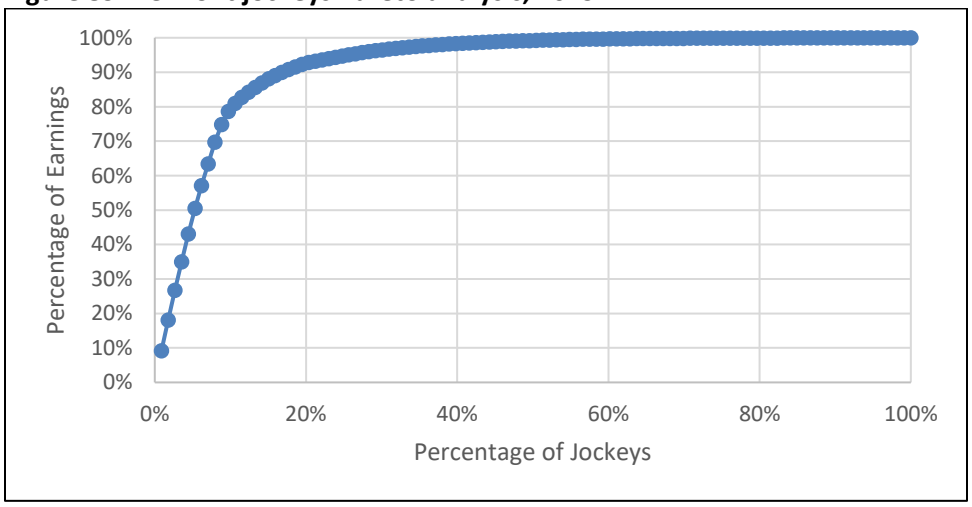


Source: Equibase, Spectrum Gaming Group

2) Belmont

In 2019, a total of $68.5 million in purses was earned by 113 jockeys at Belmont. Half of earnings were won by six jockeys (5.3 percent of jockeys), who accounted for 38 percent of starts. A total of 80 percent of earnings were won by 12 jockeys (10.6 percent of jockeys), who accounted for 71 percent of starts.

Figure 89: Belmont jockeys Pareto analysis, 2019

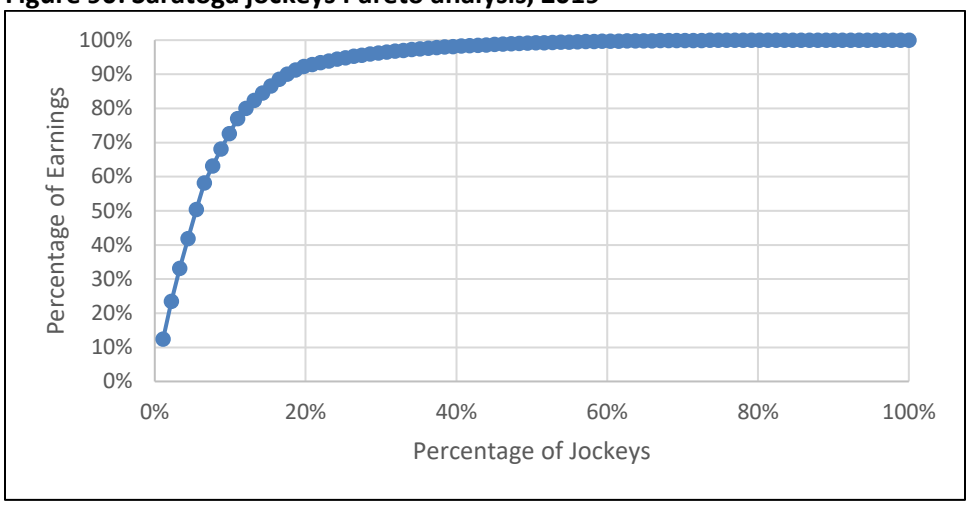


Source: Equibase, Spectrum Gaming Group

3) Saratoga

In 2019, a total of $44 million was earned by 91 jockeys at Saratoga. Half of earnings were won by five jockeys (5.5 percent of jockeys), who accounted for 38.3 percent of starts. A total of 80 percent of earnings were won by 11 jockeys (12.1 percent of jockeys), who accounted for 69.8 percent of starts.

Figure 90: Saratoga jockeys Pareto analysis, 2019



Source: Equibase, Spectrum Gaming Group

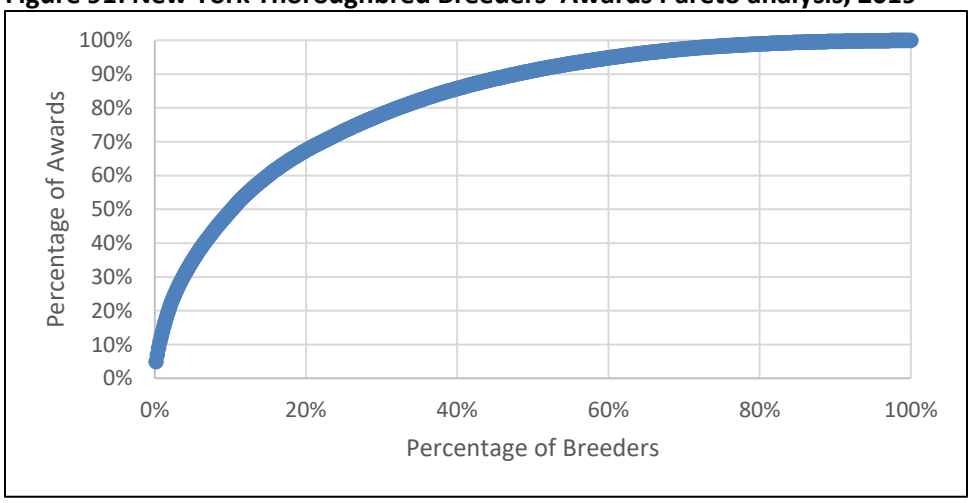
2. New York Thoroughbred Breeders

The New York State Thoroughbred Breeding and Development Fund distributes awards to New York Thoroughbred breeders, stallion owners and owners of racehorses competing in open company (New York State Thoroughbred Breeding and Development Fund Corporation, 2020). Funding sources include breeders' payments, a percentage of handle and video lottery revenue.

a. New York Thoroughbred Breeders Awards

In 2019, a total of $10,727,134 in Thoroughbred breeders' awards was distributed to 592 New York Thoroughbred breeders. The average Thoroughbred breeder award was $18,120 and the median award was $8,006. Half of awards were won by 10.3 percent of breeders and 80 percent of awards were won by 32.3 percent of breeders.

Figure 91: New York Thoroughbred Breeders' Awards Pareto analysis, 2019

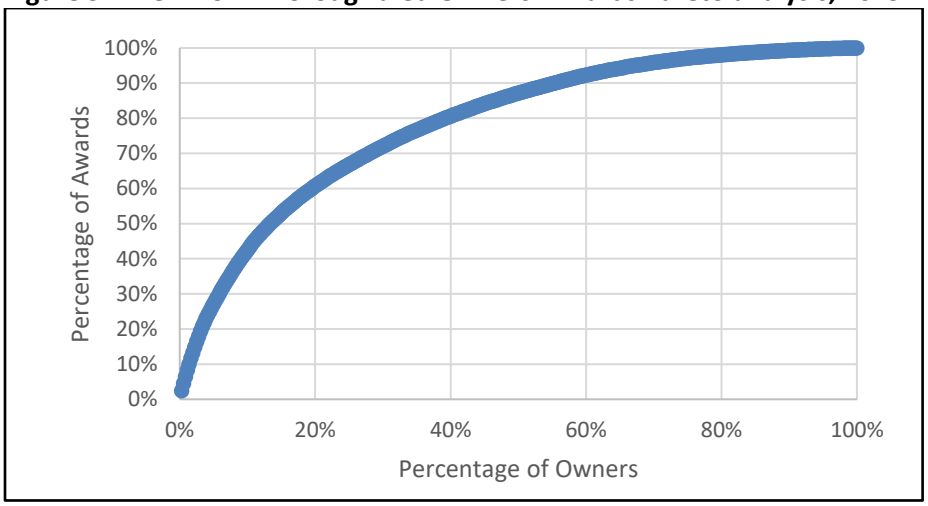


Source: New York State Thoroughbred Breeding and Development Fund

b. 2019 Thoroughbred Open Company Owner Awards

In 2019, a total of $2,225,503 was distributed to 360 owners of New York-bred Thoroughbreds competing in open company. The average Thoroughbred owner award was $6,182 and the median award was $3,524. Half of Thoroughbred owner awards were won by 13.3 percent of owners and 80 percent of owner awards were won by 40 percent of owners.

Figure 92: New York Thoroughbred Owners' Awards Pareto analysis, 2019

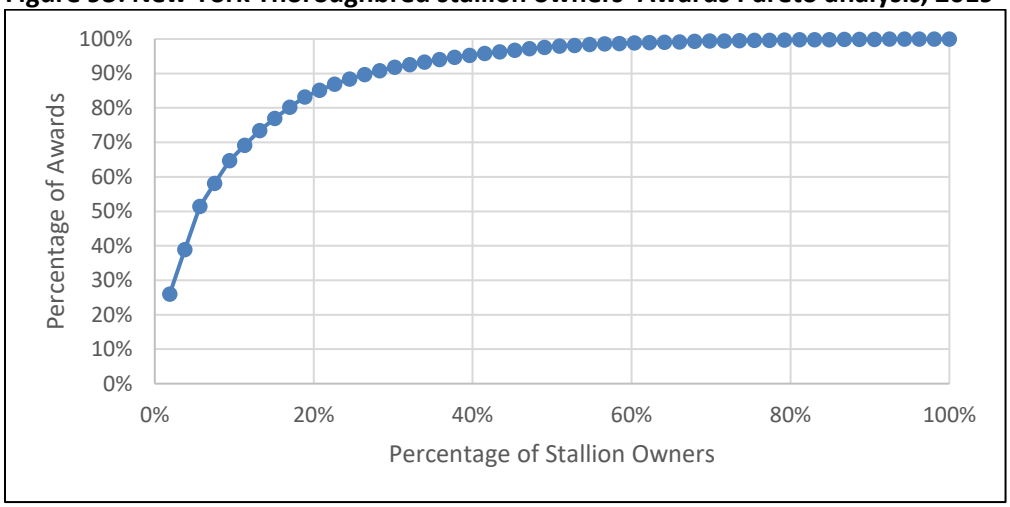


Source: New York State Thoroughbred Breeding and Development Fund

c. 2019 Thoroughbred Stallion Awards

In 2019, a total of $2,645,845 was distributed to 53 owners of New York Thoroughbred stallions. The average stallion award was $49,922 and the median award was $9,459. More than half of stallion awards were won by three stallion owners, representing 5.7 percent of all New York Thoroughbred stallion owners. A total of 80 percent of stallion awards were won by nine stallion owners, representing 17 percent of all stallion owners.

Figure 93: New York Thoroughbred stallion owners' Awards Pareto analysis, 2019



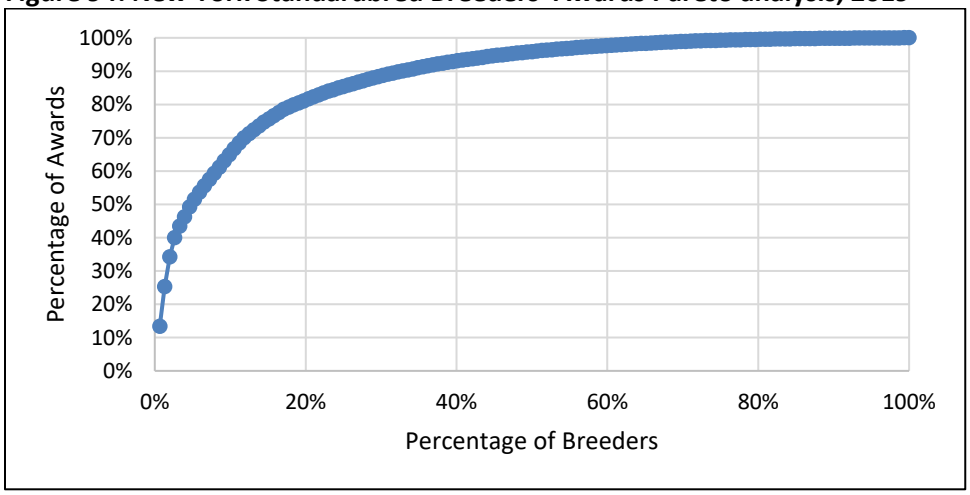
Source: New York State Thoroughbred Breeding and Development Fund

3. New York Standardbred Breeders Awards

The Agriculture & New York State Horse Breeding Development Fund distributes awards to breeders and owners of New York-bred Standardbred racehorses (Agriculture & New York State Horse Breeding Development Fund, 2019). Funding sources include breeders' payments, a percentage of handle and video lottery revenue.

In 2019, a total of $1 million was distributed to 152 breeders of New York Standardbreds based on the performances of 332 horses. Among breeders receiving awards, the average award per breeder was $6,579 and the median award was $1,475. Over half of breeders' awards were won by eight breeders, representing 5.3 percent of New York Standardbred breeders. A total of 80 percent of breeders' awards were won by 19.1 percent of breeders.[64]

Figure 94: New York Standardbred Breeders' Awards Pareto analysis, 2019



Source: Agriculture and New York State Horse Breeding Development Fund 2019 Report[65]

[64] New York Sire Stakes, "New York Sire Stakes Releases 2019 Breeders Awards," February 6, 2020. https://www.nysirestakes.com/backend/News/news_upload/2019_Breeders_Awards_Winners_Release_1226.pdf

[65] New York Sire Stakes, "New York Sire Stakes 2019 Breeders Awards." http://www.nysirestakes.com/backend/News/news_upload/Breeders_Awards_2019_1223.pdf

Appendix R: Potential Metrics for Evaluation and Determination of Race Days and Number of Races for Racing Seasons, Meets

Spectrum believes that there are several main drivers that need to be evaluated and monitored for determining the number of races and race days.

1. Demand
2. Supply
3. Economic impact effects for New York

We assess each of these separately to make suggestions on possible metrics for the industry to consider.

1. Demand

Handle has been one of the metrics universally used by the industry to measure the demand for horse racing. Obvious metrics such as average handle by race, meet, betting interests, and year are just a few. The table in this appendix gives several wagering data-related metrics that can be analyzed from the race chart data.

Of course, another measure that is important is the revenues that result from demand for the support of the live racing because this is tied to the economic impact for the state. Those measures are listed with the economic impact section below.

2. Supply

From the results of this report, the foal crops of the horses that are 2, 3, 4 and 5 years old (the four-year foal crop total) for the upcoming year is a significant indicator of the supply, and those numbers are available before the number of races and race days need to be approved. Also, given the fact that in New York many New York-bred horses supply the races, the following two metrics seem obvious:

- National total foal crop total of the 2, 3, 4 and 5-year-old horses to race in the upcoming year
- New York total foal crop total of the 2, 3, 4 and 5-year-old horses to race in the upcoming year

Figure 249 (in the New York Gaming Study main report) is a good example of some of the trends that can be monitored over a series of race meets and the year, and that should include the above two metrics.

In addition to those two primary supply indicators, other trends should be monitored. They may include the trend in the number of unique starters, the total number of starts, number of unique trainers and owners participating, average field size and distribution of field-size numbers, the number of unique New York foals, and the total number of starts by New York foals.

Figure 95 is a list of easily monitored data points that can be analyzed over time – as well as by race meet, by race day, and by year – and cross-referenced between any two or more data points.

Figure 95: Table of possible metrics derived from Equibase or USTA race charts

Potential Data Points to Monitor				
Major Category	**Races and Bets**	**Participants**	**Per Event, Basic**	**Per Event, Detailed**
Year	Race Days	Unique Horses	Runners Per Day	WPS Per Bint
Track	Races	Unique Trainers	Runners Per Race	Exotic Per Bint
Meet	Runners	Unique Owners	WPS Per Day	Total Pool Per Bint
Surface	Bints (Betting Interests)	Unique Jockeys (drivers)	Exotic Per Day	WPS Per Unique Horse
	Earnings	Starts Per Horse	Total Pool Per Day	Exotic Per Unique Horse
	WPS Pool	Starts Per Trainer	WPS Per Race	Total Pool Per Unique Horse
	Exotic Pool	Starts Per Jockey (driver)	Exotic Per Race	WPS Per Unique Trainer
	Total Pool	Starts Per Owner	Total Pool Per Race	Exotic Per Unique Trainer
		Earnings Per Unique Horse	Bints Per Day	Total Pool Per Unique Trainer
		Earnings Per Unique Trainer	Bints Per Race	WPS Per Unique Jockey (driver)
		Earnings Per Unique Jockey (driver)		Exotic Per Unique Jockey (driver)
		Earnings Per Unique Owner		Total Pool Per Unique Jockey (driver)
		Earnings Per Day		WPS Per Unique Owner
		Earnings Per Race		Exotic Per Unique Owner
		Earnings Per Bint		Total Pool Per Unique Owner

Source: Equibase, Spectrum Gaming Group

3. Economic Impact Effects for State of New York

The economic impact for New York – along with demand – is perhaps the most important for the State's policymakers. Some of the supply metrics mentioned above are also relevant to the total economic impact for the state.

The following are some of the more critical factors to consider:

- Number of horses in training and days of training, per year, per race meet, etc.
- Total purse monies and breeder awards distributed by year, by race meet, etc.
- The distribution of purses and breeders' awards like the Pareto analysis in **Appendix Q** as to the number of recipients and mean and mode and range of those allocations
- Total racetrack, NYSGC and OTB expenditures by year and by meet.
- Total full-time-equivalent ("FTE") employees (perhaps easier to monitor but similar would be the number of people licensed by the NYSGC in each category and each year).
- Estimates of pari-mutuel tax, payroll tax etc.
- Number of horses bred by year and number of farms in operation.

Consideration should be given to the Pareto analysis discussed in **Appendix Q**. The goal of expanding the state's benefit is impacted by the industry's ability to expand participation and grow the industry.

We believe the industry stakeholders must be part of the process of establishing these metrics, but also some "buy-in" from them is essential to use the data. The metrics should be important measures of the three categories above, and so should measures that cannot be easily manipulated, such as the four-year foal crop total as a good indicator of supply.

At the time of the writing of this report, COVID-19 is having a major impact on businesses. It is worth noting that there will be certain "variables" such as this that need to be considered when evaluating the metrics in the future. Using a three-year or five-year average will help smooth unusual effects, and we believe that rational exceptions must be applied when something of the magnitude of COVID-19 or other unusual events occur that would cause "outliers" to the data points.

Besides the recommended metrics in this appendix, we recommend consultation with an equine economist familiar with economic impact studies for assistance in the creation of the most relevant determinants of the state economic impact from the horse racing activities.

Appendix S: Methodology of the American Horse Council Economic Study

The Innovation Group performed the horse industry analysis utilizing IMPLAN data and software. Indirect and induced effects are calculated using multipliers derived from an input-output model of the economy. IMPLAN accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the Bureau of Economic Analysis.

Data collection for the analysis included two surveys. First a "balanced start" survey representative of the demographic composition of the U.S. population was undertaken to derive statistically valid inferences on horse ownership, participation in horse activities, and spending by spectators at horse-related events. A second survey of horse owners was distributed through equine associations and the American Horse Council asking respondents about expenses related to horse ownership and horse-related activities.

The two surveys – conducted on the Qualtrics platform – generated 3,284 and 19,857 responses, respectively. In addition, separate surveys were conducted of institutions involved in the horse industry.

Racing industry data was obtained for pari-mutuel operations, state and county fairs, steeplechase events and state racing commissions. A census of known racetracks and pari-mutuel operations was conducted, and responses included the four largest operators (Churchill Downs, NYRA, Penn National and the Stronach Group). The response rate from racetracks was over 40 percent of the known racetracks.

A regression analysis based on breed, number or race days and handle was performed on the respondent dataset to determine the revenue, employment, and employment compensation for the unknown population. The results show a direct effect from racetrack operations of $3.04 billion in revenue which supports 21,313 employees earning $722.2 million in compensation. OTBs and ADWs add another $1.1 billion in revenue and 754 employees to the racing segment.

Racing data from state and county fairs were obtained, along with data from the National Steeplechase Association and combined the fairs and steeplechase events direct effect is $30 million. State racing commissions often are funded through pari-mutuel taxes, and as such the direct effect input from this segment is limited to employment and labor income related to commission operations. To avoid double counting, the labor income of racing commission operations was subtracted from the direct input of racetrack revenue prior to the IMPLAN modeling.

Equine Associations such as breed registries and other racing organizations are mostly non-profit organizations that submit detailed financial information to the IRS on tax form 990, some of which are publicly available. Employment and salary data from 56 organizations were collected and after removing extreme outliers from the dataset, averages were used to estimate the unknown populations. The direct effect input from all equine-related associations includes 4,227 employees earning $213 million on compensation.

Sale data was collected through archival records of major horse public sales throughout the U.S. from sale company's websites or online databases such as Blood Horse and Harness Racing. For this segment, only the marginal effect is considered. Revenue accruing to horse owners is not included as an economic impact on the basis that industry-wide, horse ownership expenses exceed revenue. However, the sales margin of $197 million, as estimated by IMPLAN, reflects the staffing and expenses required to host the sales events and the commission accruing to the hosting enterprises.

Appendix T: Stakeholder Feedback

The following represents the variety of comments and concerns from each stakeholder group. We purposely did not list the comments by specific entities. Every entity within a group may not agree with all the ideas presented. We made every attempt to reflect the general feedback. Due to the extensive volume of information, some feedback points may be missing.

1. OTBs

- The OTB model is obsolete/broken.
- There is concern the pari-mutuel portion of the study is not the major focus and the accelerated due date will not allow thorough analysis.
- Competition, ADWs, and other forces have had a negative impact.
- The laws and distribution schedules need simplification, and several laws are antiquated.
- The market origin fees (which offset regulatory costs) were good but not enough.
- We received both positive and negative responses regarding consolidation/cooperation.
- Host fees negotiated statewide for New York will help with the rising expense of those fees.
- Some OTBs receive VLT support and others do not.
- Access to the Capital Acquisition Fund ("CAF") would be helpful. For example, allowing some of those funds to pay NYS entities such as tracks, breeding fund, etc.
- There were some good recommendations from past reports, but little was done.
- Shift some of the burden of the cost of regulation to out-of-state wagering entities.
- Surcharges are archaic. (§532)
- OTBs must pay out 100 percent of profits and thus cannot utilize retained earnings.
- Maintenance-of-effort or hold-harmless needs to be eliminated, and this makes nighttime Thoroughbred simulcast less feasible. (§1017)
- Sports wagering would help. (PML Article 13, title 8-1367)
- Need to make annual payments and not quarterly as OTBs cannot absorb losses of less profitable quarters.
- Out-of-state ADWs charge added fees in addition to host fees to circumvent the intent of host fee caps.
- The loss of the New York City market is costly to the industry.
- OTB payments to municipalities are an important aspect of the OTBs and the law that established them.

a. Horsemen Groups

- Horsemen do not have the ability to negotiate for revenue with NYRA for sources outside of handle and VLTs.
- The cost of doing business in New York has skyrocketed and makes it hard to attract horse owners to the state.
    - There is a need for a stable and long-term funding of the costs of workers' compensation. (*Laws of 2017-2019, Chapter 59)*
    - Jockey health insurance and equine testing and research funding is a concern. *Laws of 2017, Chapter 59 and Laws of 2016, Chapter 60*
- There is a concern that the share of current revenue streams may be reduced as New York expands commercial casinos. Potential damage to racing support payments is the greatest threat. (*Tax Law §1612-f.)*
- While the supply of horses is down, a stable year-round schedule is important, and winter racing is vital.
- OTB operations should be combined with racetrack operations.
- Nassau OTB is allocated the best-performing "ETG" machines, and this is unfair. Either the 2013 cap on VLT payments from Nassau and Suffolk should be adjusted or the cap should be changed to 2015 levels. (*Tax Law §1612(f-1)*. *Laws of 2016, Chapter 59 Part SS. Laws of 2019, Chapter 39, Part S.)*
- Approximately 63 percent of purses are derived from pari-mutuel handle. (Note: NYRA only.)
- The ability to negotiate with NYRA regarding Aqueduct race days is important. (§ 238(1)(d)(i).)
- Provide support to the racetracks by permitting sports wagering for NYRA through the NYRA Bets app.
- Remove the sunset provision on the 1 percent extender law that helps NYTHA fund its mission.
- The patchwork of statutes that drive distribution schedules could be simplified. They are complex and difficult, which has led/will lead to errors.
- The statutory numbers for race days are important. If racing turns around in a positive way, without the statute we would never get more race days back. The statute forces racetracks to negotiate. (§307 5-a and §236.3.b (i)(ii).)
- OTBs could be better managed.
- There has been a shift at OTBs away from New York signals to out-of-state tracks.
- There is resistance to work on a revision of the maintenance-of-effort payments.

b. Breeders' Organizations

- The New York Thoroughbred breeding industry has experienced a major positive turn-around in recent years recovering from the downward trends of 2005 to 2010.
- The economic impact of the industry is significant to New York State.

- The value of a New York-bred horse has increased substantially.
- Leverage horse racing expertise in wagering and betting platforms and authorize sports wagering for racing to stay competitive with their product line.
- Racing support payments need to be protected when New York considers additional commercial casinos.
- Nassau OTB agreement with Resorts re-designating the top performing machines to Nassau had a negative impact on racing. Because of this, the floor should be adjusted to 2015.
- The growth area for racing is out-of-state simulcasting, and the breeders should be permitted to derive revenue for this horse racing content.
- Preserving race day integrity is important. New York-bred horses provide a large percentage of the runners in New York and having sufficient opportunities to run is important to their value and future production. Further reduction in winter days could be detrimental.
    - The ability to negotiate with NYRA regarding day changes is important. (§238(1)(d)(i).)
- Breed development funds have lost revenue due to OTB declines. OTBs need restructuring and consolidation or should be encouraged to work together to streamline operations. OTBs Downstate could be consolidated into the NYRA organization.
- OTBs pay less to the fund than the tracks (0.5 percent versus 0.7 percent)

c. Racetracks

- The distribution schedules are too complex, with multiple tables and formulas for payments. Extra accountants are needed because of this. Some laws are also antiquated, and a number are open to different interpretations.
- The complexity of distribution schedules leads to mistakes and most likely hampers change because the difficulty of understanding any potential change and its impact may make some parties afraid to change for fear of an unintended negative consequence.
- In other states, like California and Maryland, the ADWs keep a hub fee, with the balance of net revenue going to the state racing industry. In most jurisdictions, non-track distributors only keep a percentage of the wager; the balance goes to the racing industry.
- Upstate New York Thoroughbred racing relies on a large percentage of New York-bred horses and local horsemen.
- Currently, race day negotiation regarding Upstate New York Thoroughbred race days is reasonable, and the new four-day-a-week schedule has worked well by increasing the quality of races offered.
- Nassau OTB's deal with Resorts World is a bad deal for racing industry revenues.
- Proration formulas are outdated because they are based on 1970s models.
- Hold-harmless/maintenance-of-effort payments can be renegotiated. There have been attempts to circumvent the law, and a better solution would help all parties.
- OTBs are several months behind in payments to racetracks due to their financial situation, and there is no recourse.

- The high cost to train and own racehorses in New York hurts both the horsemen and the racetracks.
- Close Monticello and Yonkers (half-mile tracks) and build a one-mile track in the Goshen area to run races for those horses. The Yonkers land is valuable; Monticello already closed its VLT operations.
- Legislation usually only moves forward when there is a consensus.
- Often, changes were made to distribution schedules that positively helped one group and negatively impacted another.
- Standardbred days should shift to more circuits to boost average purses while still maintaining year-round racing.
- Racing support payments need to be protected when New York considers additional commercial casinos.
- OTBs can be managed better.
- OTBs in other jurisdictions are extensions of the racetracks.
- If the OTB-as-an-extension-of-racetracks model is considered, and a stipulation is included to make municipalities whole, the net would be a positive.
- Upstate VLT facilities are hampered by restrictions with in tribal-State gaming compacts.
- Racetracks not operating in the NYRA or Finger Lakes market should not pay the statutory payments on simulcast of out-of-state Thoroughbred tracks. The wagering environment has changed, with ADWs and full-card simulcasting the Standardbred racetracks are of the opinion that now many in-state Standardbred racetracks do not operate in those New York Thoroughbred markets.
- A commercial casino just outside Finger Lakes market (26 miles) is exempt from reimbursing the purse account.
- OTBs should be consolidated. If consolidation is considered, allow the new entity to enter the New York City OTB market with EZBets, or at a minimum consolidate some efforts such as ADW.
- Have one entity negotiate host fees for out-of-state imports. NYRA would be the logical entity. OTBs and harness tracks usually pay more, and this would be a cost savings for them.
- Consider increasing market origin fees. Currently, the OTBs receive much more from the market origin fees than racetracks do. No portion of the OTB share goes to purses and breeders.
- Consider privatization of OTBs; however, the pension liability is a problem with this approach.
- OTBs in California are industry-owned (partnership among stakeholders) and this model is another option to consider.
- Allow OTBs to use a portion of capital reserves to pay outstanding payments to tracks.
- One statewide tote should be considered for efficiency.
- ADWs often hub wagers in Oregon because the tax rates are much better.

- The affiliate model for sports wagering at tracks and OTBs would be synergistic, with an upside for all. Sports wagering outlets should be required to offer horse racing as one of the sport options.
- Sports wagering at Rivers Schenectady has added to the casino's competitive advantage, which already existed because of its ability to offer more games than the VLT facility.
- There should be one payment for all statutory/regulatory obligations.
- Minimum race day laws are outdated.
- Geolocation software should be used to protect the local market and make sure New York residents are supporting the live racing in New York.
- Out-of-state ADWs can offer more product than some in-state ADWs and therefore have a competitive advantage.
- The difference in tax rates (for harness tracks) for running fewer race days is a burden if supply of horses warrants a decrease in race days.
- OTBs are one of several reasons on-track attendance and handle have dropped.
- Eliminate simulcast out-of-state payments by tracks to New York Thoroughbred tracks for purse enhancements.
- The shifting of wagering dollars to ADW has been a challenge for all parties.
- For many tracks, a large percentage of purses (85 percent to 90 percent) is from VLT monies.
- Regulatory fees continue to increase, adding to expenses of live racing.
- Maintenance-of-effort payments that OTBs pay to harness tracks are benchmarked back to almost 20 years ago, which is "crazy."
- NYRA cannot take out-of-state harness races (and Quarter Horse races), which is a competitive disadvantage.

d. Totalizator Companies

- There is limited direct impact to the tote company because of reduced live race days. On-track tote companies providing live race day labor could be reduced, but also some tote revenue is based on live racing handle/days of racing, so that would likely impact our business.
- At times there were significant drops in handle at premier racing jurisdictions (Santa Anita, 2019). Lost race days at lesser tracks seem to have less overall impact on handle. Spectrum does not have supporting handle impact information that would be able to be generalized. If the reduction in days resulted in higher quality fields, we believe there would be little impact.
- We also see significant handle reductions based on the quality of racing offered. For example, wagering drops significantly as the field size shrinks.
- Surcharge – an additional burden on the patron, taking money from the patron and reducing churn.
- As a result of regional harness track restrictions, Thoroughbred racing is only offered until 7:30 p.m. in certain locations. Patrons in those restricted locations are presented with an inconsistent product; one day you can only bet two races from a West Coast track, the next day four. The

patron has choices of ADW suppliers, some of which do not have restrictions and offer a full menu of quality racing.

- The tiered breakage takes money away from the patron, adversely affecting churn and thereby reducing overall handle.

e. ADW Licensees

- Market origin fee causes bettors to shift their wagers to other products with greater value.
- For a track operator that sends signals to New York State, there are frustrating limitations on signals and amounts paid by New York locations for signals that are below market rate. For example, some may only pay 1.5 percent to 2.0 percent due to surcharges and others pay 2.5 percent to 4.0 percent.
- Allow any signal anytime.
- The reduction of racing days was offset by the improved quality of racing.
- Any loss in live racing will affect revenue to an extent. Loss of live race days at Saratoga would have a far greater impact than losing live days at a small track.
- Eliminate source market fees (market origin fees).
- Chapter 1, Subchapter G. §4500. 2 (d) which requires each ADW platform to have a separate license. There is not another jurisdiction that requires an annual license fee for each URL. No other jurisdiction charges $20,000 per license per year, for that matter. This penalizes companies that are trying to innovate and promote multiple options to attract a greater number of demographics.
- After an ADW pays for the source market fee (5 percent), we are not aware of how these monies are distributed.