

MARCH 2024



A Comprehensive Analysis of NERA's Study on New Jersey's iGaming Economic Impact

SUBMITTED TO

iDevelopment & Economic Association (iDEA)

SUBMITTED BY



Douglas Walker, Ph.D.
Alan Meister, Ph.D.
Meister Economic Consulting



Gene Johnson, MBA
Victor-Strategies



Dan Waugh
Regulus Partners

Executive Summary

In November 2013, New Jersey became the third U.S. state to permit the legal operation of Internet gaming (“iGaming”). Our previous studies show as a result of the upfront capital investment in New Jersey iGaming facilities, equipment, and technology, and the ongoing annual operation of iGaming, there have been significant positive impacts on the New Jersey economy as a whole.¹ Not only is there the incremental contribution of iGaming itself, but also secondary effects that result from the investment in and operation of iGaming. Secondary effects come about as player expenditures are subsequently spent by the gaming operators and then re-spent by suppliers and all employees throughout the economy. This phenomenon is often referred to as the “multiplier effect.”

In a 2019 study, it was estimated that from its inception in late 2013 through calendar year 2018, New Jersey iGaming had directly and indirectly generated an incremental impact of:

- \$2.0 billion in output (i.e., value of sales);
- 6,552 jobs (i.e., full-time equivalents);
- \$401.0 million in wages to employees; and
- \$259.3 million in tax revenue to state and local governments (including \$178.9 million in iGaming taxes).

| 2013-2018 Economic & Fiscal Impact of Investment in & Operation of iGaming on State of New Jersey | | | | |
|--|------------------------|--------------|----------------------|----------------------|
| Type of Effect | Output | Jobs | Wages | Taxes |
| Direct | \$1,086,633,618 | 1,617 | \$106,338,586 | \$208,284,680 |
| Indirect | \$604,206,501 | 3,240 | \$202,395,710 | \$30,614,394 |
| Induced | \$305,637,895 | 1,695 | \$92,295,157 | \$20,387,157 |
| Total | \$1,996,478,014 | 6,552 | \$401,029,454 | \$259,286,231 |

Detail may not equate to total due to rounding.
Output and Wages in 2019 Dollars.
Jobs are measured as full-time equivalents (FTEs).
Taxes include state and local taxes.

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

¹ Meister Economic Consulting and Victor-Strategies (2017), “Economic Impact of New Jersey Online Gaming: Lessons Learned” on behalf of iDevelopment and Economic Association (iDEA); and Meister Economic Consulting and Victor-Strategies (2019), “Economic Impact of New Jersey Online Gaming: Further Lessons Learned” on behalf of iDevelopment and Economic Association (iDEA).

In calendar year 2018 alone, the operation of iGaming (excluding investments) generated an incremental impact of:

- \$553.6 million in output;
- 1,851 jobs;
- \$104.8 million in wages to employees; and
- \$74.4 million in tax revenue to state and local governments (including \$52.3 million in iGaming taxes).

| 2018 Economic & Fiscal Impact of Operation of iGaming on State of New Jersey | | | | |
|---|----------------------|--------------|----------------------|---------------------|
| Type of Effect | Output | Jobs | Wages | Taxes |
| Direct | \$300,782,930 | 481 | \$22,866,018 | \$60,317,472 |
| Indirect | \$172,314,516 | 924 | \$57,622,206 | \$8,693,264 |
| Induced | \$80,471,986 | 446 | \$24,300,433 | \$5,368,231 |
| Total | \$553,569,432 | 1,851 | \$104,788,658 | \$74,378,967 |

Detail may not equate to total due to rounding.
 Output and Wages in 2019 Dollars.
 Jobs are measured as full-time equivalents (FTEs).
 Taxes include state and local taxes.
 Direct Effect was computed from data provided by industry participants.
 Indirect and Induced Effects were computed using input-output analysis.
 The Indirect Effect represents economic activity generated by entities down the supply chain. The Induced Effect represents economic activity generated as a result of household purchases.

As New Jersey iGaming has continued to grow in size since 2018, so have the aforementioned economic impacts.

A recent study, "Economic Assessment of iGambling in New Jersey," conducted by NERA on behalf of the Campaign for Fairer Gambling (November 9, 2023) concluded that iGaming has been "detrimental to the New Jersey economy."²

Based on a comprehensive review of that study, we find this conclusion of the NERA study to be fatally flawed. It is based on incomplete data, highly speculative and illogical assumptions, a lack of understanding of the U.S. gaming industry, faulty methodologies, and a flawed study that does not even apply to New Jersey and ignores decades of existing literature and research on the subject of social costs of gambling.

² S. Christian and D. Broadie (2023), "Economic Assessment of iGambling in New Jersey," on behalf of the Campaign for Fairer Gambling, San Francisco, CA: NERA Economic Consulting.

SUMMARY OF NERA STUDY FINDINGS

The purpose of the NERA report (2023) is to criticize the findings from the 2019 report by Meister Economic Consulting and Victor-Strategies commissioned by the iDevelopment & Economics Association (iDEA).³ NERA focuses on employment in different industries, including both the brick-and-mortar casino and iGaming segments of the New Jersey gaming industry. The relative contributions of gaming segments are compared to those of other entertainment-related industries.

NERA analyzes employment and employee spending using a spending multiplier model in which workers spend 20% of their wages each period. They estimate the aggregate impact of \$1 in consumer spending to various industries and conclude that the iGaming segment of the New Jersey gaming industry contributes relatively little to the New Jersey economy. NERA draws this conclusion because the iGaming segment directly employs a smaller number of people than brick-and-mortar casinos or other industries. NERA translates less employees into lower total wages and subsequent spending by those employees.

To show the marginal impact of the brick-and-mortar and iGaming segments, NERA assumes that any and all money spent on gaming would have instead been spent at retail, dining, or other entertainment businesses in New Jersey. This enables them to compare the relative amounts of aggregate spending in various industries. For example, they claim:

“In 2022, New Jersey consumers spent \$2.4 billion gambling online. Alternate forms of recreation may have created \$202 million in new spending from this revenue, but we find that iGambling only created \$22 million in new spending ...”⁴

NERA's estimated economic impacts from the brick-and-mortar and iGaming segments are shown in comparison to the original estimated economic impacts from Meister Economic Consulting and Victor-Strategies (2019). Given the two reports utilized starkly different methodologies, it may be unsurprising that they have different conclusions. While Meister Economic Consulting and Victor-Strategies (2019) estimated positive impacts from iGaming on output, employment, and wages, NERA estimated strongly negative effects.

The NERA report provides a very brief discussion of the social costs of gambling in Great Britain. These estimates are then used to suggest that, if problem gambling and government programs in New Jersey are like those in Britain, the annual social costs of gambling in New Jersey could be \$740 million, with roughly \$350 million of that being attributable to iGaming. This cost, they argue, offsets the tax revenues from legal gambling in New Jersey.

SUMMARY OF FLAWS IN NERA STUDY

The NERA study contains a number of serious problems with data, assumptions, methodology, and computations. We discuss these issues in the context of two main subject areas: the economic

³ Meister Economic Consulting and Victor-Strategies (2019).

⁴ NERA (2023), p. 25.

impact of spending on iGaming relative to spending on brick-and-mortar casinos and other entertainment sectors; and the social costs of problem gambling attributable to iGaming.

While NERA attempts to estimate the economic impacts of the casino and iGaming sectors during the same time period as Meister Economic Consulting and Victor-Strategies (2019), NERA utilizes seriously limited data on the New Jersey iGaming industry, using data for only one of the numerous licensees and a completely different licensee in 2020 and 2021.⁵ While they may have used all publicly available data, their vastly incomplete data set does not lend itself to drawing reliable conclusions about the entire iGaming segment in New Jersey.

The NERA study employs a Keynesian-multiplier type model to estimate the impact of consumer spending at New Jersey iGaming sites. However, they rely on a single faulty assumption that all consumer spending on iGaming comes at the expense of spending at brick-and-mortar casinos and New Jersey retail, dining, and entertainment establishments. Since the other industries are more labor-intensive than the iGaming segment, NERA estimates a negative economic impact from iGaming, compared to the counterfactual of spending in these other entertainment segments of the economy. One key problem with this is that NERA assumes that *none* of the existing illegal online gambling is channeled to licensed iGaming sites within New Jersey, one of the key achievements of legalized online gaming, and that it would not return to illegal online gambling in the absence of legal iGaming options in the State. NERA does not point to any research in support of their assumption and this erroneous assumption results in NERA vastly underestimating the economic contribution of iGaming in New Jersey. In fact, previous research has shown that there is not significant substitution across segments of the gaming industry, nor across to other non-gaming industries.

On the frequently studied subject of the social costs of gambling (i.e., costs attributable to problem gamblers), NERA dedicates a single page of its report. In their report, NERA relies entirely on a 2023 report by the National Institute of Economic and Social Research (“NIESR”), which intended to examine the social costs of gambling in Great Britain.⁶ That report, as we discuss below, is riddled with problems so serious that the NERA social cost estimate is effectively arbitrary.

First, the NIESR report is not necessarily relevant to New Jersey, as these two jurisdictions are vastly different. NERA provides no evidence of the applicability of the NIESR findings to New Jersey. Even if the jurisdictions were comparable (which they are not), and iGaming were directly substituting away from brick-and-mortar casinos (which NERA provides no evidence of and in fact research shows has not been the case), the academic literature on harms associated with problem gambling suggests that the shift in consumer spending toward iGaming from brick-and-mortar casinos may *decrease* the harms associated with problem gambling.

Setting aside the dubious application of the NIESR findings to New Jersey, a primary source of other problems with the NIESR report is that the authors utilize an illogical conception of social cost.

⁵ *Ibid*, p. 16.

⁶ A. Bhattacharjee, P. Dolton, M. Mosely, and A. Pabst (2023), “The Fiscal Costs and Benefits of Problem Gambling: Toward Better Estimates,” London: National Institute of Economic and Social Research.

While they should be measuring the value of harms to society, their measure of social cost includes a variety of wealth transfers. If the transfers are properly removed, the estimated social costs in Great Britain in the NIESR report would decrease by nearly two-thirds from £1.4 billion to £509.3 million. This significant overestimation of the social costs of gambling in Great Britain leads to NERA's overestimation of the social costs of gambling in New Jersey. Beyond this, measuring the harms from gambling is fraught with potential problems, many of which are demonstrated in the NIESR report.

Another major problem with the NIESR social cost estimate is that the authors ignore the potential importance of comorbidity or co-existing disorders. Psychological research has shown that *most* problem gamblers also have other behavioral problems. The NERA social cost estimate ignores this issue entirely, simply attributing all of the harmful behaviors solely to problem gambling. The result of this is another cause of NERA's overestimation of the social costs attributable to problem gambling in New Jersey.

Among the other problems, the NERA social cost estimate is based on a relatively small data set from which reliable inferences cannot be made. In fact, 89% of NIESR's cost estimate is based on the use of certain public services by just nine survey respondents. Beyond this, there are a variety of assumptions used in the NIESR analysis, including a synthesized definition of problem gambling, which raise doubt about their overall conception of social costs. Countless computational errors further reduce the validity of the NERA social cost estimate.

This commentary was completed by Meister Economic Consulting, Victor-Strategies, and Regulus Partners on behalf of the iDevelopment & Economics Association (iDEA).

Table of Contents

| | |
|--|-----------|
| Executive Summary | i |
| 1. Assignment | 1 |
| 2. Findings of NERA Study | 2 |
| 3. Assessment of Findings of NERA Study | 3 |
| 3.1 The Economic Impact of Spending on iGaming..... | 3 |
| 3.1.1 Data Limitations..... | 3 |
| 3.1.2 Faulty Key Assumption..... | 4 |
| 3.1.3 Methodological Problems..... | 16 |
| 3.2 Social Costs of Gambling..... | 17 |
| 3.2.1 Background on Social Cost Research..... | 17 |
| 3.2.2 Defining "Social Cost"..... | 20 |
| 3.2.3 Problem Gambling and Comorbidity..... | 21 |
| 3.2.4 Specific Problems in the NIESR Report Used by NERA to Estimate Social Costs..... | 21 |
| 3.3 Conclusion..... | 27 |
| Appendix A: About the Authors | 28 |
| Appendix B: About Meister Economic Consulting | 32 |
| Appendix C: About Victor-Strategies | 36 |
| Appendix D: About Regulus Partners | 37 |

1. Assignment

In June 2017 and October 2019, Meister Economic Consulting and Victor-Strategies conducted groundbreaking studies to quantify the economic impacts that iGaming had produced in the State of New Jersey.⁷ A recent study, “Economic Assessment of iGambling in New Jersey,” conducted by NERA on behalf of the Campaign for Fairer Gambling (November 9, 2023) concluded that iGaming has been “detrimental to the New Jersey economy.”⁸ Meister Economic Consulting, Victor-Strategies, and Regulus Partners were commissioned by the iDevelopment and Economic Association (iDEA) to review and assess the data, assumptions, methodologies, and conclusions of the NERA study.

This report is organized as follows. Section 2 summarizes the findings of the NERA study. Section 3 provides an assessment of the NERA study findings. Background on the authors of this report, Meister Economic Consulting, Victor-Strategies, and Regulus Partners are set forth in Appendices A, B, C, and D respectively.

⁷ Meister Economic Consulting and Victor-Strategies (2017), “Economic Impact of New Jersey Online Gaming: Lessons Learned” on behalf of iDevelopment and Economic Association (iDEA); and Meister Economic Consulting and Victor-Strategies (2019), “Economic Impact of New Jersey Online Gaming: Further Lessons Learned” on behalf of iDevelopment and Economic Association (iDEA).

⁸ S. Christian and D. Broadie (2023), “Economic Assessment of iGambling in New Jersey,” on behalf of the Campaign for Fairer Gambling, San Francisco, CA: NERA Economic Consulting.

2. Findings of NERA Study

The purpose of the NERA report (2023) is to criticize the findings from the 2019 report by Meister Economic Consulting and Victor-Strategies commissioned the iDevelopment & Economics Association (“iDEA”).⁹ NERA focuses on employment in different industries, including both the brick-and-mortar casino and iGaming segments of the New Jersey gaming industry. The relative contributions of gaming segments are compared to those of other entertainment-related industries.

NERA analyzes employment and employee spending using a spending multiplier model in which workers spend 20% of their wages. They estimate the aggregate impact of \$1 in consumer spending to various industries and conclude that the iGaming segment of the New Jersey gaming industry contributes relatively little to the New Jersey economy. NERA draws this conclusion because the iGaming segment directly employs a smaller number of people, adjusted for revenues, than brick-and-mortar casinos or other industries. NERA translates fewer employees into lower total wages and subsequent spending by those employees.

To show the marginal impact of the brick-and-mortar and iGaming segments, NERA assumes that any and all money spent on gaming would have instead been spent at retail, dining, or other entertainment businesses in New Jersey. This enables them to compare the relative amounts of aggregate spending in various industries. For example, they claim:

“In 2022, New Jersey consumers spent \$2.4 billion gambling online. Alternate forms of recreation may have created \$202 million in new spending from this revenue, but we find that iGambling only created \$22 million in new spending ...”¹⁰

NERA’s estimated economic impacts from the brick-and-mortar and iGaming segments are shown in comparison to the original estimated economic impacts from Meister Economic Consulting and Victor-Strategies (2019). Given the two reports utilized starkly different methodologies, it is unsurprising that they have different conclusions. While Meister Economic Consulting and Victor-Strategies (2019) estimated economic impacts from iGaming on output, employment, wages, and taxes using the widely-accepted, Nobel-prize winning input/output method, NERA estimated economic effects based narrowly on a questionable wages-only approach.

The NERA report provides a very brief discussion of the social costs of gambling in Great Britain. These estimates are then used to suggest that, if problem gambling and government programs in New Jersey are like those in Britain, the annual social costs of gambling in New Jersey could be \$740 million, with roughly \$350 million of that being attributable to iGaming. This cost, they argue, offsets the tax revenues from legal gambling in New Jersey.

⁹ Meister Economic Consulting and Victor-Strategies (2019).

¹⁰ NERA (2023), p. 25.

3. Assessment of Findings of NERA Study

We find the overall conclusion of the NERA study to be fatally flawed. It is based on limited data, a variety of speculative and illogical assumptions, a faulty and biased methodology, and numerous computational errors. We discuss these issues in the context of two main subject areas:

- The economic impact of spending on iGaming relative to spending on brick-and-mortar casinos and other entertainment sectors; and
- The social costs of problem gambling attributable to iGaming.

3.1 THE ECONOMIC IMPACT OF SPENDING ON IGAMING

The 2019 Meister Economic Consulting and Victor-Strategies report criticized in the 2023 NERA report utilized standard input-output analysis to estimate the economic effects of online gambling in New Jersey. This modeling technique is widely used in economic analysis by governments, businesses, and consultants because it provides a coherent framework of how the expansion of an industry affects other industries, as manifest in various macroeconomic variables, such as economic output, employment, wages, and tax revenues. Wassily Leontief received a Nobel Prize in Economics in 1973 for developing the methodology.¹¹

Rather than offering a competing model of how the introduction of iGaming affects the New Jersey economy, NERA offers a wages-only model based on limited data, highly speculative and illogical assumptions, and a flawed methodology.

Key to understanding how iGaming affects the New Jersey economy is the economic impact of spending on iGaming. We first examine the data used in the NERA analysis (section 3.1.1), then analyze the key assumption that drives their results (section 3.1.2). Finally, in section 3.1.3, we discuss several other methodological problems in the NERA study.

3.1.1 Data Limitations

Analysis requires data. More importantly, reliable analysis requires reliable data. However, we observe that in at least one key instance NERA's analysis uses incomplete gaming data and inappropriately relies on them to draw inferences about the larger New Jersey iGaming segment. In their casino spending analysis, rather than use iGaming wages data for all operators, NERA only used data for one licensee in 2016 (Resorts Digital) and another licensee in 2020 and 2021 (Golden Nugget).¹² Consider that in 2016, there were 5 licensed providers of iGaming in New Jersey, operating 10 platforms with 15 different brands (or "skins").¹³ Wages at iGaming licensees may vary widely given their differences across many dimensions, including their operating platform, scope of offerings, number of skins, volume of business, and ratio of in-house to outsourced employees

¹¹ The Nobel Foundation website (<https://www.nobelprize.org/prizes/economic-sciences/1973/press-release/>).

¹² NERA (2023), p. 16.

¹³ L. Nower, K. Caler, D. Nikitin, and E. Peters (2018), "Internet Gaming in New Jersey," on behalf of the New Jersey Division of Gaming Enforcement, New Brunswick, NJ: Center for Gambling Studies at Rutgers University, pp. 1-2. Note that currently there are 9 licensees and 30 different skins active in the New Jersey iGaming market.

Furthermore, it appears that the employee wages data NERA did use for Resorts Digital and Golden Nugget were understated compared to what is reported in the companies' quarterly financial reports, thus resulting in an artificially low wage estimates.

Overall, because the NERA report relies on incomplete and unrepresentative employment and wage data, which is a key input to their entire analysis, their conclusions about the impact of iGaming are biased and unreliable.

Aside from NERA's use of incomplete data, there is a lack of transparency with regards to revenue and expenditure data used for New Jersey brick-and-mortar casinos.¹⁴ For the overall industry spending breakdown, we were unable to replicate their results, bringing into question the validity and accuracy of their data.

3.1.2 Faulty Key Assumption

Many empirical economic analyses require the use of assumptions to focus the analysis on the main variables of interest. Certain assumptions may also be necessary because of data limitations. We focus our discussion in this section on what we believe is a key assumption on which NERA's overall conclusions hinge:

All money spent on iGaming is diverted from other gaming sectors and discretionary recreational activities, which include retail goods, restaurant dining, and entertainment.¹⁵

This assumption ignores the very complicated relationship across different types of consumer products. More importantly, the assumption ignores the fact that the introduction of iGaming will channel some amount of *illegal* gambling to licensed online providers. We discuss each issue in turn below.

Relationships Between Gambling and Other Recreation

In a comprehensive review of more than 100 academic studies published between 1978 and 2018, Marionneau and Nikkinen (2020) concluded that destination gambling has mostly positive effects on restaurants, bars, clubs, hotels and tourism services, and retail and merchandise sectors.¹⁶ These findings are consistent with other evidence from the literature, such as Cotti (2008), who found that casinos lead to a net increase in employment in their host counties, and Walker and Jackson (1998), who found a positive Granger-causal effect from casinos and general state-level economic growth.¹⁷

¹⁴ NERA (2023), p. 16.

¹⁵ *Ibid*, pp. 11-13.

¹⁶ V. Marionneau and J. Nikkinen (2020), "Does Gambling Harm or Benefit Other Industries? A Systematic Review," *Journal of Gambling Issues* 44: 4-44.

¹⁷ C. Cotti (2008), "The Effects of Casinos on Local Labor Markets: A County Level Analysis," *Journal of Gambling Business and Economics* 2(2): 17-41; and D. Walker and J. Jackson (1998), "New Goods and Economic Growth: Evidence from Legalized Gambling," *Review of Regional Studies* 28(2): 47-69.

Relationships Across Gaming Segments

The relationships among different segments of the gambling industry are complicated. The issue is important to different firms in the industry, obviously, but also governments, which often consider legalized gaming as a source for new tax revenues. The goal of tax revenue maximization, of course, depends upon the inter-segment relationships, as well as the tax rates imposed across the gaming industry segments. Politicians are unlikely to know these different facets of the equation in advance of legalization or setting tax rates.

Even within a particular gaming segment, there can be dramatic changes in revenue sources. For example, it is well known that the share of revenue from the casino floor at Las Vegas casinos has been declining. Meltzer (2024) reports that non-gaming amenities like hotels, food and beverage, entertainment, and shopping accounted for *almost 75%* of revenues during the 2022-23 fiscal year.¹⁸ Obviously, Las Vegas casino revenues have been on a positive trend, so this statistic means that revenue growth in these complementary segments (hotels, food and beverage, etc.) is faster than casino revenue growth.¹⁹

The academic literature includes numerous studies that examine the relationships among the different segments of the gambling industry. One of the most comprehensive studies by Walker and Jackson (2008), published before online gambling and legal sports betting were widely available in the United States, used state-level revenue data from 1985 to 2000 to analyze commercial and tribal casinos, dog and horse racing, and lotteries.²⁰ They find a series of inconsistent relationships. Table 1 below illustrates the findings, showing whether increased revenue in one segment is associated with increased (+) or decreased (-) revenue in the segment at the top of the column. For example, lotteries and casinos negatively affect each other, but horse racing has a positive relationship with casinos and lotteries, and tribal casinos have a positive relationship with non-tribal casinos, dog racing, and horse racing. As the Walker and Jackson study shows, even two decades ago, the relationships among different gambling segments were complicated.

¹⁸ M. Meltzer (2024), "Non-gaming Amenities Record 73.4% of Vegas Strip Casino Revenue in a Year," *PlayUSA.com* (26 February).

¹⁹ American Gaming Association (2023). "State of the States 2023: The AGA Analysis of the Commercial Casino Industry," Washington, D.C., p. 7.

²⁰ D. Walker and J. Jackson (2008), "Do U.S. Gambling Industries Cannibalize Each Other?" *Public Finance Review* 36(3): 308-333.

Table 1
Summary of Intrastate Gaming-Segment Relationships (1985-2000)

| Variable | Casino | Dog Racing | Horse Racing | Lottery |
|------------------------------|--------|------------|--------------|---------|
| Casino | | - | + | - |
| Dog Racing | (-) | | - | + |
| Horse Racing | + | - | | + |
| Lottery | - | + | + | |
| Tribal Casino square footage | + | (+) | + | - |

Note: () indicates statistically insignificant at normal levels.

Source: Walker and Jackson (2008), p. 325, Table 7.

With technological advances, such as the smart phone, and legal changes, such as the 2018 U.S. Supreme Court decision that opened the door for state-level sports betting legalization,²¹ the complexity of inter-segment relationships has increased in recent years.

Philander and Fiedler (2012) used a cross-sectional analysis of U.S. state and Canadian provincial casino revenue in the post-UIGEA/pre-Black Friday period to show that iPoker and land-based casino gaming are complementary, suggesting that the presence of online poker increases the demand for offline gaming.²² The researchers found that a market with an additional \$1 million in casino revenue would receive an additional \$2,700 in online poker revenue. That means that the larger the online poker market, the larger the brick-and-mortar gaming market and vice versa. It also means that a reduced online poker market has a negative effect on the size of the brick-and-mortar gaming segment.

Philander, Abarbanel, and Repetti (2015) found that “[a] robust complementary (positive) relationship between online and offline gambling is found ... These particular findings suggest that economic concerns around the cannibalization of traditional gambling industries should be reconsidered and provide support for prior research showing that Internet based firms can be complementary to brick and mortar businesses.”²³

More recently, the study by Shaw and Williams (2024) found that online and brick-and-mortar channels are complementary because the two types of gambling cater to largely different clientele.

²¹ *Murphy v. National Collegiate Athletic Association* (2018).

²² K. Philander and I. Fiedler (2012), “Online Poker in North America: Empirical Evidence on its Complementary Effect on the Offline Gambling Market,” *Gaming Law Review and Economics* 16(7/8): 415-423.

²³ K. Philander, B. Abarbanel, and T. Repetti (2015), “Consumer Spending in the Gaming Industry: Evidence of Complementary Demand in Casino and Online Venues,” *International Gambling Studies* 15(2): 256-272.

For example, people who prefer to gamble online versus in-person tend to be younger and are more likely to be male.²⁴

There is other evidence in the literature about the relationships among different types of gambling that overlaps with the years analyzed in the NERA study. For example, the Great Britain Gambling Commission's (2023) quarterly telephone survey measures participation in a range of gaming activities in the country between 2018 and 2021.²⁵ As shown in Table 2, the data do not suggest any significant substitution from brick-and-mortar facilities to online gaming during COVID shut-downs in 2020 and 2021. Little or no increase in participation was observed for online slots, casinos, bingo, betting on horse and dog races, and sports betting. Overall, relatively few brick-and-mortar (or in-person) gamblers transferred to online equivalents when casinos, bingo clubs, betting shops, and arcades were shuttered in 2020 and 2021. The implication is that, while there are some structural similarities between online and in-person gambling, they represent distinct experiences and most gambling consumers do not perceive them to be good substitutes.

²⁴ C. Shaw and R. Williams (2024), "Characteristics that Differentiate Online from Land-Based Gamblers: Results from a Longitudinal Study of Gambling," *Journal of Gambling Issues* 53: 1-19.

²⁵ Great Britain Gambling Commission (2023), "Gambling Behaviour in 2022: Findings from the Quarterly Telephone Survey," Birmingham, England.

Table 2
Gambling Participation Rates in Great Britain

| | 2018 | 2019 | 2020 | 2021 |
|------------------------------------|------|------|------|------|
| Slots | | | | |
| Fruit or slot machines | 3.7% | 4.2% | 1.3% | 2.0% |
| <i>In pubs</i> | 1.8% | 2.2% | 0.5% | 1.0% |
| <i>In gaming centres / arcades</i> | 2.1% | 2.1% | 0.9% | 1.5% |
| <i>In casinos</i> | 0.9% | 0.6% | 0.1% | 0.2% |
| <i>In bingo halls</i> | 0.2% | 0.5% | 0.2% | 0.2% |
| Slots games - online | n/a | 1.2% | 1.5% | 0.9% |
| | | | | |
| Casino games | | | | |
| Casino games - in-person | 1.0% | 0.7% | 0.1% | 0.2% |
| Casino games - online | 0.9% | 1.1% | 1.1% | 0.6% |
| | | | | |
| Bingo games | | | | |
| Bingo - in-person | 1.8% | 2.4% | 1.2% | 1.3% |
| Bingo - online | 0.9% | 0.7% | 1.0% | 0.8% |
| | | | | |
| Betting | | | | |
| Horseraces - in-person | 2.5% | 2.0% | 1.0% | 1.0% |
| Horseraces - online | 2.1% | 2.4% | 2.3% | 2.5% |
| Dog races - in-person | 0.6% | 0.4% | 0.2% | 0.1% |
| Dog races - online | 0.4% | 0.4% | 0.4% | 0.1% |
| | | | | |
| Sports Betting | | | | |
| Sports betting - in-person | 3.0% | 1.8% | 1.4% | 0.9% |
| Sports betting - online | 4.6% | 5.5% | 4.3% | 4.5% |
| <i>Soccer - in-person</i> | 2.5% | 1.5% | 1.3% | 0.8% |
| <i>Soccer - online</i> | 3.8% | 4.8% | 3.9% | 4.1% |
| <i>Tennis - in person</i> | 0.1% | 0.1% | 0.0% | 0.0% |
| <i>Tennis - online</i> | 0.2% | 0.3% | 0.2% | 0.2% |
| <i>Other sports</i> | 0.8% | 0.6% | 0.5% | 0.2% |
| <i>Other sports - online</i> | 1.7% | 2.2% | 1.5% | 1.6% |

Source: Great Britain Gambling Commission (2023), "Gambling Behaviour in 2022: Findings from the Quarterly Telephone Survey."

A recent report by Eilers & Krejcik Gaming (2023) provides data and survey evidence that online and brick-and-mortar gambling in the U.S. are complementary.²⁶ For example, the data show gaming revenues are greater in states with both online and brick-and-mortar casinos versus states with only brick-and-mortar casinos. More importantly, revenue *growth* at brick-and-mortar casinos in states with iGaming was generally greater than revenue growth at brick-and-mortar casinos in states without iGaming.²⁷

Aside from industry data and analysis, the Eilers & Krejcik report discusses a survey of casino operators with both online and brick-and-mortar channels. Without exception, the operators reported brick-and-mortar casino revenues either remaining constant or increasing after the introduction of iGaming. This is important since the casino operators themselves have the strongest interest in maximizing their own profit. This means they would not be willing to offer online gambling if they did not believe it helped their bottom-line profit.

Recent data from New Jersey also demonstrates a lack of cannibalization between iGaming and brick-and-mortar casinos. In fact, a recently-released study by Analysis Group (2024) provides evidence of a complementary relationship between iGaming and brick-and-mortar casinos in New Jersey.²⁸ Analysis Group finds iGaming had a positive impact on brick-and-mortar casino revenues of around 12%. Analysis Group also found similar results for other states they studied.

The demographic information emerging from New Jersey shows a stark contrast between the characteristics of players at New Jersey iGaming websites as compared to players at New Jersey land-based casinos. In surveys conducted by the Center for Gambling Studies at Rutgers University (2023), iGaming customers were generally younger than the average casino patron.²⁹ They note that “one-third of gamblers age 18 to 24 gambled online only, nearly five times as many as in the [2016] survey and more than any other age group.” iGaming players generally visit an online casino more frequently than land-based players visit casinos, but they wager far less per visit. Traditional casino customers usually reflect an older demographic with more disposable income and available time to visit the casino. iGaming offers the prospect of engaging a previously underserved demographic who are currently not visiting Atlantic City casinos due primarily to time constraints.

Note that the previously cited studies by Eilers & Krejcik (2023) and Analysis Group (2024) are consistent with other public accounts by New Jersey gaming operators that iGaming has not cannibalized brick-and-mortar casinos. In fact, they argue that the net result of the introduction of iGaming has been just the opposite, serving to grow the existing customer database and adding incremental revenue to brick-and-mortar casino earnings. For example:

²⁶ A. Krejcik, K. Philander, D. Singer, M. Kaufman, and C. Krafcik (2023), “Comparing Online and Land-Based Casino Gaming: How the Growing Online Segment Impacts Land-Based Performance,” on behalf of iDEA Growth. Irvine, CA: Eilers & Krejcik Gaming.

²⁷ *Ibid*, p. 26.

²⁸ M. Ferri and L. O’Laughlin (2024), “The Potential Economic Impact of Legalizing iGaming on Casino Revenues in Five States,” on behalf of the Sports Betting Alliance. Washington, D.C.: Analysis Group.

²⁹ L. Nower, J. Stanmyre, and V. Anthony (2023), “The Prevalence of Online and Land-Based Gambling in New Jersey,” on behalf of the New Jersey Division of Gaming Enforcement, New Brunswick, NJ: Center for Gambling Studies at Rutgers University, p. 2. (<https://www.nj.gov/oag/ge/2023news/PrevalenceReport2023Final.pdf>).

- In a 2014 press release to shareholders, Keith Smith, President and Chief Executive Officer of Boyd Gaming, was quoted as saying, "When matching our online and land-based databases, we found that 60% of online casino customers had not been to Borgata in over a year, and over 75% had made fewer than two trips to Borgata in the past year. And on a combined basis, online and land-based poker revenue at Borgata was up more than 40% from our land-based play in December 2012. Clearly, online gaming is complementary to our land-based business, not competitive."³⁰
- In the summer of 2015, Michael Cohen, Senior Vice President and General Counsel for Caesars Interactive Entertainment, stated in testimony before the Pennsylvania Senate Committee on Community, Economic, and Recreational Development that: "During the first 19 months of online gaming operations in New Jersey, over 70% of Caesars players were not players at Caesars brick and mortar casinos, demonstrating that the online player is a new player. Furthermore, 15% of Caesars online players who are also Caesars brick and mortar customers had been inactive casino players that reactivated (by visiting a casino) after signing up online, showing the ability of the online channel to reinvigorate brick and mortar gaming. Caesars New Jersey experience is that online gaming is attracting a younger player; as over 60% of players online are between 21 and 39. For offline casinos, that same age group makes up fewer than 30% of the players. These are new players that may also be attracted to the offline casinos."³¹
- One of the Atlantic City operators confidentially interviewed in Meister Economic Consulting and Victor-Strategies (2017) described a recently concluded internal study of their customer base, which showed that 80% of all iGaming registrations are customers new to the brand.³²
- In March 2017, management for Golden Nugget testified in Pennsylvania legislative hearings that 89% of online registrations were not previously rated in their player loyalty database.³³ An additional 3% were 12-month inactive players. This means that 92% are new or reactivated players, and only the residual 8% of online players are current brick-and-mortar casino customers. Furthermore, for these 8% of online players, they increased their brick-and-mortar casino spending by an average of 15% after re-engaging with the brand as online customers.
- At the March 2017 Pennsylvania hearings, Caesars Interactive Entertainment reported that 80% of its online registrants are new players who had never previously visited the land-

³⁰ Borgata (2014), "Boyd Gaming Provides Update on Borgata Online Gaming Operations," press release, January 14, (<https://www.theborgata.com/press/press-releases/current/boyd-gaming-online-results>).

³¹ M. Cohen (2015), Testimony before the Pennsylvania Senate Committee on Community, Economic, and Recreational Development, June 10.

³² Meister Economic Consulting and Victor-Strategies (2017).

³³ S. Ruddock (2017), "PA Lawmakers Should Understand This: Online Gambling Customers are Not Like Land-Based Patrons," US Poker.com, March 15 (<http://www.uspoker.com/blog/online-gambling-customers-pa/16752/>).

based casino and another 8% are inactive players at one of the company's three Atlantic City casinos.³⁴

Illegal Gambling and "Channeling"

The analysis of legal gambling segments in the United States is made possible because of publicly available data. All states require providers of gambling services to report revenues, pay taxes, and comply with a variety of regulations. The casino industry publishes a large amount of revenue data (e.g., American Gaming Association website, including its annual *State of the States* report series).³⁵ Obviously, it is much more difficult to gain a clear picture of the performance of unregulated and illegal gambling firms and segments. Since these firms are operating outside of the law, many do not comply with any regulations, reporting requirements, or pay taxes on their revenues. Given this, we must look for performance data elsewhere.

Survey evidence from Analysis Group (2024) suggests that the majority of people who admit to illegal online gaming would consider iGaming in the future.³⁶ One advantage of state-regulated iGaming over illegal providers is that customers may prefer to patronize established brands with which they are familiar. There is also legal recourse in the event the customer experiences any "irregularities" with the online games. The same cannot be said of illegal or offshore gambling providers.

Innovation Group (2022) highlights the high proportion of U.S. customers that gamble at illegal channels.³⁷ The authors surveyed almost 5,000 U.S. residents. Among them, around 1,500 (approximately 30%) indicated having played slot machine or table games during the past year. Among those who had gambled, 52% indicated they gambled only at legal venues; 30% indicated they gambled with illegal vendors only; and 18% indicated they played in both legal and illegal channels.³⁸ This means roughly *half of gamblers indicate they play (at least some of the time) illegally.*

In a report about sports betting by the American Gaming Association (2023), around 1,000 Americans were surveyed about their betting habits.³⁹ It was reported that 51% of survey respondents who do a majority of their sports betting using illegal or unlicensed means believed that their betting was completely or mostly legal.⁴⁰ In addition, the AGA reports that 77% of online sports bets in the United States are through government regulated operators; it was only 44% in 2019.⁴¹ This trend suggests that, when a legal option becomes available, people tend to switch away from illegal venues to legal ones.

³⁴ Cohen (2015).

³⁵ American Gaming Association website (www.americangaming.org).

³⁶ Analysis Group (2024), pp. 87-88.

³⁷ Innovation Group (2022), "Sizing the Illegal and Unregulated Gaming Markets in the United States," on behalf of the American Gaming Association. Las Vegas, NV.

³⁸ *Ibid*, pp. 8-9.

³⁹ American Gaming Association (2023), "Assessing Shifts in the Sports Betting Market 5 Years Post-PASPA," Washington, D.C. (http://www.americangaming.org/wp-content/uploads/2023/05/AGA_PASPA_LSBResearch.pdf).

⁴⁰ *Ibid*, p. 9.

⁴¹ *Ibid*, p. 5.

In specific examples, data from GeoComply, a leading provider of online gaming geolocation services, shows the prevalence of illegal sports betting. Figure 1 presents GeoComply (2023) location evidence for 1.72 million attempts to place bets from within Mississippi with legal Tennessee and Louisiana sportsbooks from August 27, 2023 through October 22, 2023 at the onset of the 2023 college football season.⁴²

Figure 1

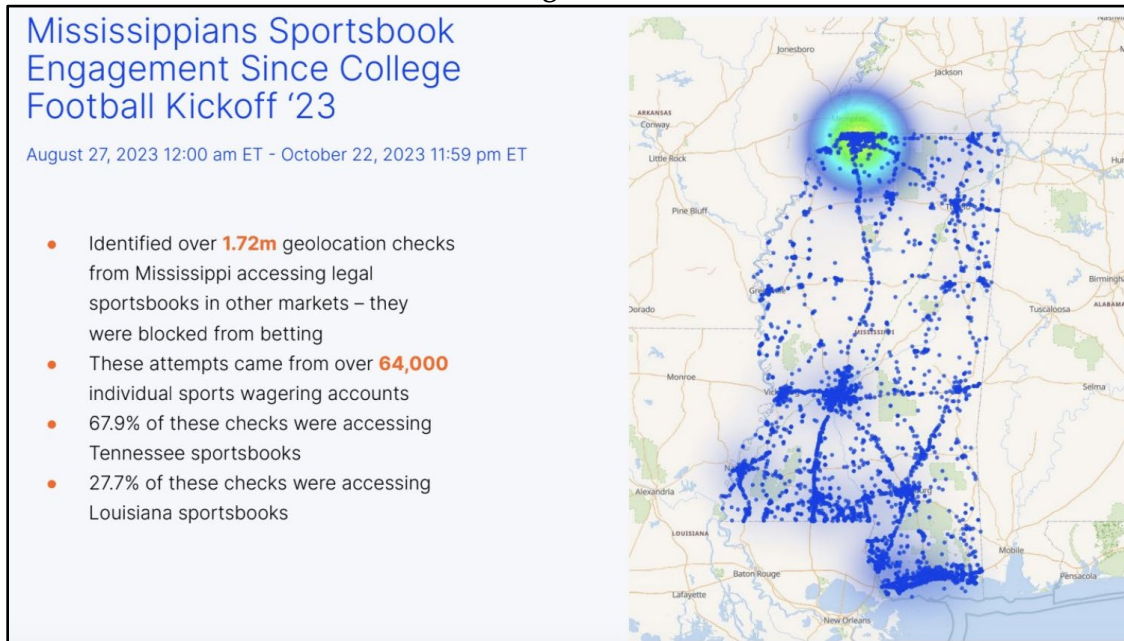
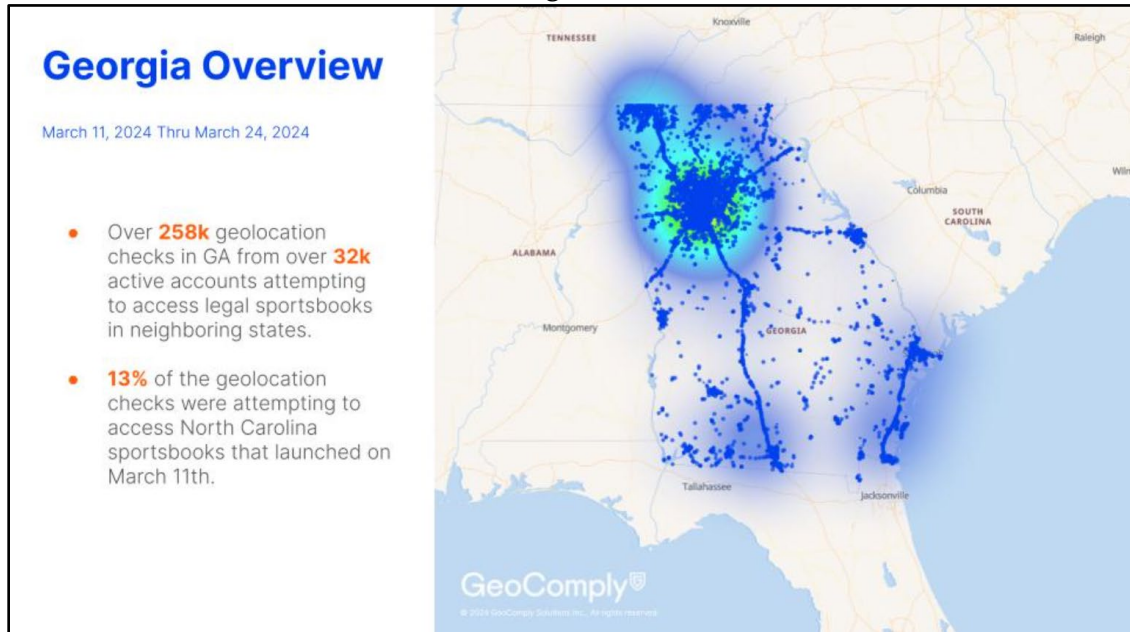


Figure 2 presents GeoComply (2024) location evidence for 258,000 attempts to place bets from within Georgia on neighboring states' legal sportsbooks from the launch of the North Carolina sports betting on March 11, 2024 through the Sunday night NCAA games on March 24, 2024.⁴³

⁴² Twitter page of John Pappas, Founder & CEO of Corridor Consulting and Senior Advisor at GeoComply, October 24, 2023 (https://twitter.com/yanni_dc/status/1773046320690807123).

⁴³ Twitter page of John Pappas, Founder & CEO of Corridor Consulting and Senior Advisor at GeoComply, March 27, 2024 (https://twitter.com/yanni_dc/status/1716857899840864568).

Figure 2



Similarly, according to the Rutgers (2023) study, many sports bettors in New Jersey used illegal sites prior to online sports betting being legalized in the state in 2018.⁴⁴ Nearly 40% of sports bettors were wagering before its legalization in the state, including with friends (40%), co-workers (29%), family members (25%), non-New Jersey websites (23%), or bookies (22%). Furthermore, almost 50% of the survey respondents indicated their wagering increased after legalization.

These findings from Analysis Group (2024), Innovation Group (2022), the American Gaming Association (2023), GeoComply (2023, 2024), and Rutgers (2023) strongly undermine NERA's assumption that all iGaming revenue is substituted away from existing brick-and-mortar casinos and other entertainment industries. In fact, once iGaming was introduced in New Jersey, some portion of its revenue almost certainly came from illegal gambling channels.

As noted earlier, technological advances have made online gambling more easily available around the world. The fact that it is easy for people to gamble illegally online further obfuscates the relationships among different segments of the gambling industry. It is well known that technology moves faster than government does, which means that the ability of entrepreneurs to develop new opportunities for gambling will always outpace governments' ability to regulate them. Several recent press reports are consistent with this perception. For example, in Great Britain, there is the concern that small betting size limits (5£ and 2£) for online slot machines might push gamblers to illegal sites.⁴⁵ Similarly in the United States, the CEO of FanDuel has suggested that black market

⁴⁴ Rutgers (2023), p. 44.

⁴⁵ Compliance+More (2024), "U.K. Slots Ban 'Will Drive Black Market'" San Francisco, CA: +More Media (27 February).

gambling will harm legal online sports betting.⁴⁶ It is obviously in the interests of governments and legal gaming service providers that revenues at illegal gambling providers be curtailed.

Several recent papers, including Haucap (2017),⁴⁷ have been published on the topic of the “channeling rate” for a market or country. The channeling rate refers to the proportion of bets placed with locally licensed providers. Borch (2022) provides a general overview of this literature, with a focus on Norway’s experience.⁴⁸

Governments are interested in channeling consumers’ spending to licensed providers both for the protection of consumers from unscrupulous providers, and to increase government tax revenues from gambling. For example, Jarvinen-Tassopoulos et al. (2024), discuss gambling in Finland, finding that channeling online gamblers to government-licensed providers will likely reduce the potential harms from gambling.⁴⁹ Other research supports this same conclusion.

In a new study in the United States, Philander and Wimmer (2024) find that online poker players are willing to pay a premium to play on government-licensed online poker websites.⁵⁰ However, they note, the demand for online poker falls as the likelihood of being taxed on winnings increases. This finding is consistent with other research that suggests that gamblers are more likely to use licensed sites the lower are taxes and the regulatory burden imposed on licensed providers.

Implications of Licensed iGaming on the Harms from Problem Gambling

In previous sections, we discussed the relationships among different segments of the gambling industry. A key take-away has been that iGaming revenues in New Jersey have come, in some amount, from illegal gambling channels. If iGaming were substituting away from brick-and-mortar casinos, the academic literature on harms associated with problem gambling suggests that the shift in consumer spending toward iGaming may *decrease* the harms associated with problem gambling. This is in direct contrast to the claims in the NERA report.

The NERA report suggests that the availability of iGaming in New Jersey is likely to lead to higher problem gambling rates. This seems to be defended by the claim that iGaming is marketed more aggressively than traditional casinos. NERA (p. 51) explains:

⁴⁶ K. Sayre (2022), “FanDuel CEO Amy Howe Says Black Market Gambling Poses Threat to Online Sports Betting,” *Wall Street Journal* (19 May).

⁴⁷ J. Haucap (2017), “A Comparison of Different European Approaches to Gambling Regulation with Respect to their Channeling Effect,” *European Gaming & Betting Association* 25 (September), pp. 3-4.

⁴⁸ Borch, A. (2022), “Channelling Gambling: The Case of Norway,” in J. Nikkinen, V. Marionneau, and M. Egerer (eds.), *The Global Gambling Industry: Structures, Tactics, and Networks of Impact*, Wiesbaden, Germany, Springer Gabler: 235-254.

⁴⁹ J. Jarvinen-Tassopoulos, V. Marionneau, and M. Egerer (2024), “Strengthening Channeling Policy: The Finnish Approach to Protecting Domestic Online Gambling Market” *Frontiers in Sociology* 8: 1-10.

⁵⁰ K. Philander and B. Wimmer (2024), “Playing by the Rules: Government Regulation and Consumer Trust in the Online Poker Industry,” *UNLV Working Paper* (https://osf.io/dbtxw/?view_only=cfc1149c76134b90a20585b0f3230cf3).

“...a large proportion of [iGaming] expenditure goes to fund advertising spots on the internet, television, billboards, etc., which itself feeds higher rates of gambling, leading to higher rates of harmful gambling behavior.”

Although intuition might suggest that advertising leads to more gambling, which in turn leads to more problem gamblers, NERA offers no evidence to support this claim.⁵¹ In fact, the literature review in Gainsbury (2015) concludes that “internet gambling in itself is not harmful.”⁵² Indeed, several studies have concluded that online gambling may be *less harmful* than other gambling channels.

For example, Blaszczynski et al. (2016) find that online gamblers experience *less* harm than brick-and-mortar or “mixed” gamblers (i.e., people who gamble both online and in-person).⁵³ In their study of Finnish gamblers, Lind et al. (2022) found that, despite gambling more and spending more, Finnish online gamblers do not have significantly different harms from land-based gamblers.⁵⁴ They also noted that at-risk alcohol users were more likely to be brick-and-mortar gamblers (41.5%) than online gamblers (15.6%).⁵⁵ As found in other studies, the Finnish online gamblers in Lind et al. (2022) study tend to be younger and higher income than brick-and-mortar gamblers.

Similar findings have been found in other jurisdictions. The study by Philander and MacKay (2014) used gambling data from Great Britain and Canada and found that, after controlling for a variety of relevant variables, participation in online gambling is *negatively* related to problem gambling severity.⁵⁶

While these studies were not of New Jersey residents, the evidence suggests that a substitution from brick-and-mortar gambling toward online gambling in New Jersey may lead to reduced harms and social costs (see Section 3.2 for a discussion of NERA's estimate of the New Jersey social costs of gambling).

⁵¹ Other authors have suggested that online gambling may be more addictive because it removes barriers to gambling because it is more convenient than brick-and-mortar casinos, it can be done any time of day, and online gambling could offer better payout rates because of the relatively low operating costs for that segment. For a discussion, see R. St-Pierre, D. Walker, J. Derevensky, and R. Gupta (2014), “How Availability and Accessibility of Gambling Venues Influence Problem Gambling: A Review of the Literature,” *Gaming Law Review and Economics* 18(2): 150-172.

⁵² S. Gainsbury (2015), “Online Gambling Addiction: The Relationship Between Internet Gambling and Disordered Gambling,” *Current Addiction Reports* 2: 185-193 (p. 190).

⁵³ A. Blaszczynski, A. Russell, S. Gainsbury, N. Hing (2016), “Mental Health and Online, Land-Based, and Mixed Gamblers,” *Journal of Gambling Studies* 32: 261-275.

⁵⁴ Lind, K. et al. (2022). “Socio-Demographics, Gambling Participation, Gambling Settings, and Addictive Behaviors Associated with Gambling Modes: A Population-Based Study.” *Journal of Gambling Studies* 38(4): 1111-1126 (p. 1122).

⁵⁵ *Ibid*, p. 1119.

⁵⁶ K. Philander and T. MacKay (2014), “Online Gambling Participation and Problem Gambling Severity: Is there a Causal Relationship?” *International Gambling Studies* 14(2): 214-224.

The prevalence of problem gambling ("PG") in the United States has been estimated to range between 0.5% and 2.0% of the public.⁵⁷ It might be assumed that with the increasing accessibility of gambling in the United States, the prevalence of PG might increase. Yet, it has remained roughly constant, and might have even decreased.⁵⁸

The "regional exposure model" of public toxins and "social adaptation theory" help explain this. As the availability of gambling increases, say due to a new brick-and-mortar casino or the legalization of online gambling, consumers are effectively "exposed" to a new potentially harmful product. Therefore, we should expect a short-term increase in the prevalence of problem gambling.⁵⁹ However, research also shows that people eventually adjust to changes in their environment. For example, the novelty of a new casino wears off. The result is that the increase in problem gambling due to exposure eventually diminishes due to adaptation.

This theory has support from a recent Canadian study by Philander (2019). When there was an increase in the availability of gambling, participation and problem gambling both increased. However, all four Canadian provinces in which casinos expanded saw population-wide *decreases* in problem gambling prevalence.⁶⁰

Again on the issue of harms from problem gambling, the NERA authors have made assertions that are inconsistent with the evidence from previous research.

3.1.3 Methodological Problems

The Meister Economic Consulting and Victor-Strategies study (2019) that NERA criticizes utilized input-output modeling, in part because it effectively accounts for *economy-wide* impacts of an industry expansion. NERA's methodological approach, in contrast, focuses on relative labor-intensity (i.e., an industry's labor cost as a proportion of total revenues).⁶¹

To capture the effect of employee spending, NERA develops a simple Keynesian economic model that tracks the proportion of income (wages) a person spends. This is called the "marginal propensity to consume." NERA uses this to project overall economic activity created when a business pays its workers, who subsequently buy other products. Those secondary industries pay

⁵⁷ N. Petry, F. Stinson, and B. Grant (2005), "Comorbidity of DSM-IV Pathological Gambling and Other Psychiatric Disorders: Results from the National Epidemiological Surveys on Alcohol and Related Conditions," *Journal of Clinical Psychiatry* 66(5): 564-574.

⁵⁸ J. Welte, G. Barnes, M. Tidwell, J. Hoffman, and W. Wieczorek (2015), "Gambling and Problem Gambling in the United States: Changes between 1999 and 2013," *Journal of Gambling Studies* 31: 695-715. Also see St-Pierre et al. (2014).

⁵⁹ H. Shaffer, R. LaBrie, and D. LaPlante (2004), "Laying the Foundation for Quantifying Regional Exposure to Social Phenomena: Considering the Case of Legalized Gambling as a Public Health Toxin," *Psychology of Addictive Behaviors* 18: 40-48.

⁶⁰ K. Philander (2019), "Regional Impacts of Casino Availability on Gambling Problems: Evidence from the Canadian Community Health Survey," *Tourism Management* 71: 173-178.

⁶¹ This conception of economic output is reminiscent of the Marxist theory of labor. Indeed, more *inefficient* firms look more favorable in this light. That is, if two firms each produce the same model car, the NERA model would conclude that the firm with higher labor costs has more of a positive impact on the economy, despite the obvious fact that it is more wasteful.

their own workers, those workers spend a proportion of their income on products, and the cycle continues.

Interestingly, according to the NERA model, wages are the only driver of economic development. This is illustrated in NERA's Figures 3.1, 3.2, and 3.3. The model ignores non-wage expenses and the firm's profits. Yet this money does not simply disappear from existence; eventually it is spent *somewhere* by *someone*. Yet, the NERA model simply assumes this away.⁶² This is important because if a business owner earns a profit, it may be used to expand or otherwise improve the business in an effort to attract more customers, for example. Clearly, this activity has economic value, and by ignoring it, NERA understates the economic contributions from spending on iGaming.

3.2 SOCIAL COSTS OF GAMBLING

While the NERA report focuses on economic benefits, such as employment and tax revenues, associated with internet gambling in New Jersey, it also addresses the complex, controversial, and difficult-to-measure subject of the social costs of gambling. Yet, NERA dedicates only a single page to its discussion on the topic.⁶³ Furthermore, it relies on a single, discredited British report ("NIESR") to then claim that the estimated social costs associated with iGaming in New Jersey – \$350 million per year – roughly offsets the economic benefits from the segment.⁶⁴

NERA's short discussion of social costs, particularly the claim that, "the research on the social harm of gambling is more developed in the United Kingdom, where online betting and gambling has been a significant market for a longer time" (p. 46), and their acceptance of a monetary estimate of social costs with literally no effort to analyze its merit, makes it clear that the NERA authors have no understanding whatsoever of the social costs of gambling.

The social cost of gambling became a widely debated issue in the United States during the 1990s, a time at which politicians in various states began contemplating casino legalization as a tool for economic development.⁶⁵ Apparently, NERA and its sources for its social cost estimate were unaware of the existing literature. The result is that NERA posits a meaningless social cost estimate (\$350 million per year) because it is based on a discredited methodology.

3.2.1 Background on Social Cost Research

Beginning around 1990, various U.S. state legislatures began debating the merits of legalized casinos as a tool for economic development.⁶⁶ Data on the economic effects of casinos, such as employment and projected revenues were provided by casino developers, and politicians could use these data to

⁶² The NERA report treatment of marketing and advertising expenditures (NERA, Section 6) is similarly puzzling.

⁶³ NERA (2023), p. 46.

⁶⁴ A. Bhattacharjee, P. Dolton, M. Mosely, and A. Pabst (2023), "The Fiscal Costs and Benefits of Problem Gambling: Toward Better Estimates," London: National Institute of Economic and Social Research.

⁶⁵ Research was also coming out of Canada, Australia, and Great Britain. But most of the methodological debate was the result of papers published about casino expansion in the United States.

⁶⁶ A full description of how the casino market developed in the United States is beyond the scope of this report. For a discussion, see D. Walker (2013), *Casinomics: The Socioeconomic Impacts of the Casino Industry*. New York: Springer.

estimate the potential tax revenues from casinos. However, data on the potential negative social impacts of casino gambling, usually called “social costs,” were scarce. Politicians sought monetary estimates of the potential negative impacts of casinos to compare to the potential benefits. The main problem then – and now – is that many of the negative social impacts associated with gambling defy measurement. On this point, most researchers agree. In fact, perhaps the best researchers can do is to simply identify the harms associated with problem gambling.

Studies estimating the potential social costs of gambling began appearing in the literature in the early 1990s. The majority of the cost categories identified in the literature were attributable to PG behavior.⁶⁷ Most studies used the same formula to generate social cost estimates. They utilized PG prevalence estimates from the psychology literature. Then they identified any negative social impacts they believed to be related to PG behavior, and attempted to estimate their monetary value. The social cost estimate is then calculated as:

$$\text{Social Costs} = \text{Population} * \text{PG Prevalence Rate} * \text{Estimated Social Cost per PG Per Year}$$

Note that this is essentially the formula used by the NIESR report authors (e.g., Table 8, p. 29).

It became clear that there were serious methodological problems in social cost research during the 1990s when different studies examining the same phenomenon produced such a wide range of social cost estimates: from \$1,000 to over \$50,000 per PG per year.^{68,69}

In 1999, Walker and Barnett published a paper critical of these social cost studies.⁷⁰ They provided a list of some of the items typically categorized as social costs, and a discussion of the definition of social cost. Walker (2013) also lists them:⁷¹

- Income lost from missed work;
- Decreased productivity on the job;
- Depression and physical illness related to stress;
- Increased suicide attempts;
- Bailout costs;

⁶⁷ Research suggests that around 1-2% of the adult population exhibits a gambling problem. This means that a person gambles to such an extent that it negatively impacts their financial stability, their personal life, or their professional life. The terminology psychologists use to refer to PGs has evolved over time. The current term is “gambling disorder,” but a number of other terms have been used previously, including gambling addiction, compulsive gambling, and pathological gambling. There are also different *degrees* of the problem. For example, “probable pathological gambling” or “at-risk problem gambler.”

⁶⁸ Interestingly, many of the same methodological problems seen in research from the 1990s are evident three decades later in the NIESR report used to produce NERA’s social cost estimate. One interesting feature of these papers is that they typically claim that their monetary estimates are drastic underestimates of the true social costs of gambling. They never acknowledge the possibility of *overestimating* social costs. (For example, see NIESR Section 3.8.)

⁶⁹ These methodological problems were amplified by the fact that some researchers never acknowledge that gambling might be enjoyable to some people. In fact, some researchers have suggested that gambling is just a “transfer of money.” Such views may be the result of objections to gambling on moral grounds.

⁷⁰ D. Walker and A. Barnett (1999), “The Social Costs of Gambling: An Economic Perspective,” *Journal of Gambling Studies* 15(3): 181-212.

⁷¹ Walker (2013), p. 155.

- Unrecovered loans to pathological gamblers;
- Unpaid debts and bankruptcies;
- Higher insurance premiums resulting from pathological gambler-caused fraud;
- Corruption of public officials;
- Strain on public services;
- Industry cannibalization; and
- Divorces caused by gambling.

There are literally dozens of papers from the 1990s that discuss these, and other negative impacts potentially associated with problem gambling.

Walker and Barnett (1999) argued that the monetary estimates in previous studies were so wide-ranging because researchers had failed to define “social cost” prior to estimating their value.⁷² Each researcher used an *ad hoc* methodology, including any negative impact they deemed attributable to gambling. This lack of a methodological foundation left the door open for advocates to over- or under-estimate the true social costs, depending on “common sense” or their own personal biases about the merits of gambling.

To be clear, we agree that problem gambling is associated with certain social harms and negative impacts. In fact, much of the gambling research since the 2000s has moved toward the identification of such harms, as well as how to minimize them. The problem comes when researchers attempt to assign monetary estimates to these harms. The NIESR report provides a good example of the potential problems with such analyses.

The NIESR report (p. 5) cites a study by Wardle et al. (2018) as its methodological foundation, without any analysis of its merit.⁷³ Although Wardle et al. claim, “To date, there have been no attempts to quantify the costs of gambling-related harms to society in Britain...” (p. 18), there have, in fact, been several useful studies that explore methodologies for analyzing the social costs of gambling in Britain. For example, May-Chahal et al. (2007) provided a detailed discussion of many of the same issues examined in the Wardle et al. report.⁷⁴ Crane (2008) explained in detail the methodology from the Australian Productivity Commission report (1999) and its social cost estimates and applies them to estimate the likely social impacts of casino expansion in Great Britain after the new Gambling Act law was passed by Parliament in April 2005.^{75,76}

Aside from these studies focusing on Great Britain, the gambling literature includes dozens of papers that examine the potential harms and social costs associated with problem gambling. While

⁷² Walker and Barnett (1999), p. 190.

⁷³ H. Wardle, G. Reith, D. Best, D. McDaid, and S. Platt (2018), “Measuring Gambling-Related Harms: A Framework for Action.” Birmingham, England: Gambling Commission.

⁷⁴ C. May-Chahal, R. Volberg, D. Forrest, P. Bunkle, I. Paylor, P. Collins, and A. Wilson (2007), “Scoping Study for a UK Gambling Act, 2005 Impact Assessment Framework,” London: Department for Culture Media and Sport.

⁷⁵ Y. Crane (2008), “What are the Costs and Benefits of Gambling in the United Kingdom?,” in T. Coryn, C. Fijnaut, and A. Littler (eds.), *Economic Aspects of Gambling Regulation: EU and US Perspectives*, Leiden, The Netherlands: Martinus Nijhoff Publishers, pp. 119-178.

⁷⁶ Australian Productivity Commission (1999), *Australia's Gambling Industries*. Report no. 10, Canberra, Australia: AusInfo.

there are certainly differences across countries, with respect to government services, welfare payment provisions, and healthcare administration, the past literature provides important discussion and debate about social cost methodology.

Wardle et al. (2018) seem to ignore most of the peer-reviewed published academic literature, apparently opting to create a new methodology for identifying and measuring the social costs of gambling, which notably was not peer-reviewed and published in an academic journal. The result is, unfortunately, a framework fraught with well-known methodological problems. Any monetary estimate based upon it will be seriously flawed. Nevertheless, Wardle et al. (pp. 18-19) identify a number of harms that may be associated with PG, which they suggest may be the “most promising” for monetary measurement. The NIESR authors (p. 15) create four categories of effects that have a “fiscal implication:” healthcare spending; welfare support; housing needs; and incidence of crime. Next, we discuss how these categories of costs reconcile with the concept of “social cost.”

3.2.2 Defining “Social Cost”

The neoclassical economics literature attaches a very specific meaning to the term “social cost.” It refers to a reduction in the overall wealth in society.⁷⁷ The implication of this is that transfers of wealth within society are not social costs because there is no change in the overall wealth in society.

To illustrate, consider when a person pays a tax. The tax is a cost to that person, but this cost is offset by the benefit or gain to the government receiving the tax revenue. The redistribution of wealth among members of society is not a social cost because the aggregate level of wealth does not change; the costs offset the gains. Therefore, from an economics perspective, government transfers for homelessness or general welfare cannot be considered to be “social costs.”⁷⁸

This conception of social cost has a long history in the literature. In a famous economics paper, Tullock (1967) explains that the social cost attributable to theft is *not* the monetary value of what is stolen.⁷⁹ That amount is a wealth transfer, does not cease to exist, and is therefore not a social cost. The social costs of theft are best understood as the resources used by thieves to engage in theft (e.g., a facemask and crowbar), and by potential victims who try to avoid theft, say by using locks on doors. In other words, the social cost of theft includes resources used to engage in and prevent theft. The implication is that resources used in trying to treat PG would be included as social costs of gambling.

In the context of the NIESR report, then, while health and crime costs are indeed social costs, housing and welfare costs should be excluded from social costs because they are transfers. If the transfers are properly removed, the estimated social costs in Great Britain in the NIESR report

⁷⁷ Walker and Barnett (1999), p. 185

⁷⁸ A related problem is that the generosity of such programs is the product of policy. If politicians doubled homelessness support overnight, then this component of the social costs of gambling would double overnight as well, even though homelessness would not have doubled overnight.

⁷⁹ G. Tullock (1967), “The Welfare Costs of Tariffs, Monopolies, and Theft,” *Western Economic Journal* 5(3): 224-232.

would decrease by nearly two-thirds from £1.4 billion to £509.3 million, assuming their monetary estimates of costs are done correctly – which we note later are not.⁸⁰

Even if we were interested in any measurable negative impact from casinos, regardless of whether they are socially costly, there is another issue which raises even more doubt about the validity of the NIESR estimate.

3.2.3 Problem Gambling and Comorbidity

The greatest hurdle in measuring the negative impacts of gambling is the issue of comorbidity. It is well known in the gambling research field that the majority of PGs have other psychological disorders. For example, in their comprehensive review of 10 studies, Lorains et al. (2011) summarize that “problem and pathological gamblers had high rates of other comorbid disorders,” including a substance use disorder (58%), a mood disorder (38%), and an anxiety disorder (37%).⁸¹ The study by Petry, Stinson, and Grant (2005) also estimated that many pathological gamblers also had an alcohol use disorder (73%), drug use disorder (38%), mood disorder (50%), anxiety disorder (41%), and obsessive-compulsive personality disorder (29%).⁸² The study by Kessler et al. (2008), which relied on over 9,000 survey respondents, indicated pathological gamblers often had mood disorders (56%), anxiety disorders (60%), impulse control disorders (42%), and substance use disorders (76%). Almost two-thirds of pathological gamblers had *three or more disorders*.⁸³

Despite this, most social cost studies – including NIESR – do not account for comorbidity, effectively assuming the negative social impacts of problem gambling behavior is due only to gambling. While Wardle et al. (2018) do acknowledge the comorbidity issue, the NIESR report does not appear to have made any attempt to deal with it. As a consequence, the NIESR result and in turn the NERA result are almost certainly overestimates of the social costs of gambling. This is because the antisocial behaviors of problem gamblers are not likely due *solely* to their gambling problem – but also to other co-occurring psychological problems.

3.2.4 Specific Problems in the NIESR Report Used by NERA to Estimate Social Costs

In the previous sections, we have outlined how researchers’ understanding of “social costs” have developed in the gambling literature. This is in stark contrast is the NIESR report used by NERA to estimate “fiscal social costs of problem gambling” in New Jersey “roughly equal to the added tax contribution from the [iGaming] industry,” or \$350 million per year. This report also uses

⁸⁰ NIESR (2023), p. 29, Table 8. While the NIESR estimate is listed as £1.4 billion, the column “Average” national estimate sums to £1.326 billion. Removing transfers (Housing/homelessness support and Welfare/Universal Credit) lowers the estimate to £509.3 million.

⁸¹ F. Lorains, S. Cowlshaw, and S. Thomas (2011), “Prevalence of Comorbid Disorders in Problem and Pathological Gambling: Systematic Review and Meta-Analysis of Population Surveys,” *Addiction* 106: 490-498.

⁸² N. Petry, F. Stinson, and B. Grant (2005), “Comorbidity of DSM-IV Pathological Gambling and Other Psychiatric Disorders: Results from the National Epidemiological Surveys on Alcohol and Related Conditions,” *Journal of Clinical Psychiatry* 66(5): 564-574.

⁸³ R. Kessler, I. Hwang, R. LaBrie, M. Petukhova, N. Sampson, K. Winters, and H. Shaffer (2008), “DSM-IV Pathological Gambling in the National Comorbidity Survey Replication,” *Psychological Medicine* 38: 1351-1360.

questionable data, assumptions, and methodology, and has numerous computational errors. We discuss these in turn.

In its report, NIESR claims that *“the total fiscal cost associated with problem gambling [in Britain] is approximately between £1.1 billion and £1.7 billion per year,”* with a central estimate of £1.4 billion.⁸⁴ The range reflects uncertainty over the population prevalence of problem gambling, which it assumes to lie between 300,000 and 470,000 people with a central estimate of 380,000. The calculation comprises fiscal cost estimates to the government for welfare support (Universal Credit payments), healthcare (general practitioner (GP) consultations and hospital treatment), housing needs (homelessness), and criminal activity (police call-outs and court appearances). Assumptions used in calculating these costs are drawn primarily from the National Health Service (“NHS”) Adult Psychiatric Morbidity Survey 2007,⁸⁵ and the Office for National Statistics (“ONS”) Wealth and Assets Survey 2019.⁸⁶

The report alludes to the presence of other fiscal costs not included due to the lack of reliable data. It also cites a £3.5 billion fiscal benefit of gambling arising from tax revenue accruing to the British Government’s Ministry of Finance. NIESR observes that both costs and benefits are likely to be under-reported. Of the central cost estimate of £1.4 billion, £1.25 billion (or 89%) is allocated to two items – Universal Credit payments (57%) and hospital inpatient costs (32%).

Data Problems

The NIESR (2023) report social cost estimate is based on comparisons of the use of public services by a very small number of problem gamblers in Britain by using data from two surveys.⁸⁷ Specifically, 57% of the cost estimate is derived from the ONS (2019), while the remaining 43% is derived from the NHS (2009).

The use of these two data sources, in and of itself, is not a problem. However, the ONS survey contained no information whatsoever that could reliably be used to identify “problem gamblers” or “at risk gamblers” according to any recognized system of classification.

NHS (2009) did identify “problem gamblers” and “at risk gamblers” using self-reported responses to criteria established in the DSM-IV.⁸⁸ The survey estimated that 0.7% of respondents were likely to be “problem gamblers” (DSM-IV: 3+) and 2.5% were likely to be “at risk gamblers” (DSM-IV: 1-2). This indicates that approximately 50 of the survey respondents were “problem gamblers” and approximately 180 were “at risk gamblers.” The numbers who actually used the services identified in the NIESR report were, however, much smaller. According to analysis by Cowlshaw and Kessler

⁸⁴ NIESR (2023), p. 7. Estimates based on results from NHS Health Surveys between 2015 and 2018. Classifications of “problem gambling” are made in relation to either the PGSI or DSM-IV criteria (or both).

⁸⁵ S. McManus, H. Meltzer, T. Brugha, P. Bebbington, and R. Jenkins (2009), “Adult Psychiatric Morbidity in England, 2007: Results of a Household Survey.” Leeds, England: National Health Service.

⁸⁶ Office for National Statistics (2019), “Wealth in Great Britain Round 6: 2016-2018.” London.

(<https://www.ons.gov.uk/releases/wealthingreatbritainwave62016to2018>)

⁸⁷ The largest component of the cost estimate (57%) was based on no survey data of “problem gamblers” whatsoever. A further 32% was based on data relating to six people classified as problem gamblers.

⁸⁸ American Psychiatric Association (1994), “Diagnostic and Statistical Manual of Mental Disorders, 4th ed.,” Washington, D.C.

(2016), just six “problem gamblers” and three “at risk gamblers” used hospital inpatient services in the period of analysis.⁸⁹ This means that 32% (£446.7 million of the total estimate of £1.4 billion) of NIESR’s overall cost estimate was based on a comparison of one group of six people with another consisting of just three; and that 89% of NIESR’s cost estimate is based on the use of certain public services by just nine survey respondents classified as either “at risk gamblers” or “problem gamblers.”^{90,91}

The validity of scientific research depends on a number of important elements, and data is one of the most important. Meaningful and reliable conclusions cannot be drawn from such small sample sizes.

Problematic Assumptions

A majority of the NIESR central cost estimate (£800.3 million or 57% of the total) is based on the claim that “problem gamblers” are more likely than “at risk gamblers” to claim Universal Credit (welfare payments).⁹² This estimate is based on data from ONS (2019).

The NIESR report lacks transparency by not providing the mathematical calculation for this estimate, raising questions. There are also serious problems in the underlying framework.

First, ONS (2019) does not contain any information that might reasonably be used to identify “problem gambling” or “at risk gambling” according to any recognized criteria (e.g. the PGSI or DSM-IV). It does however contain three questions that refer to gambling (*emphasis added*):⁹³

- 1) Whether the respondent “has received a payment of £500 or more” in the past two years from “a win on the football pools, national lottery or other form of gambling.”
- 2) Whether the respondent has entered into insolvency proceedings in the past year primarily “as a result of gambling or other speculation.”
- 3) Whether the respondent’s household financial situation has become worse (compared with two years ago) “as a result of losses from gambling or other speculation.”

In the absence of any information that could be used to reliably identify “problem gambling” or “at risk gambling,” NIESR invented the following classifications:

⁸⁹ S. Cowlshaw and D. Kessler (2016), “Problem Gambling in the UK: Implications for Health, Psychosocial Adjustment and Health Care Utilization,” *European Addiction Research* 22(2): 90-98. (p. 95, Table 4).

⁹⁰ NIESR cost estimates for psychological care appear to be based only on 11 survey participants.

⁹¹ This is because the estimate of welfare payments was based on ONS (2019), which identified no “problem gamblers” or “at risk gamblers” at all, according to any established system of classification.

⁹² NIESR (2023), pp. 25-26.

⁹³ The ONS (2019) survey also asked whether the respondent’s household financial situation had improved as a result of a “lump sum payment (e.g. inheritance, gambling, redundancy, insurance or compensation claim payments),” but NIESR did not use the results from this question in its analysis.

- Problem gambling: anyone who had entered insolvency or whose household situation had become worse as a result of gambling or other speculation.
- At risk gambling: anyone who had *won* £500 from gambling in the prior two years and was also economically inactive due to ill health.

This is a particularly troubling aspect of the NIESR report. The development of standardized screening questions for the identification of problem or at risk gambling is an important scientific process involving careful consideration and robust validation. NIESR's decision to invent its own system appears to have been entirely spurious and we question whether any results obtained in this way can have any research value whatsoever.

A very small number of respondents to ONS (2019) selected these items when taking the survey (lower than population prevalence rates for "problem" and "at risk" gambling). NIESR therefore created synthetic proxies of the original proxies for "problem" gambling (i.e., using data unconnected with gambling). It seems likely therefore that a number of respondents classified as "problem" or "at risk" gamblers may not even have been gamblers in the past year at all. There are three reasons for this:

- 1) For a majority of those identified as "problem gamblers," ONS (2019) offered no information whatsoever in relation to their gambling with the exception that they had explicitly *denied* entering insolvency or experiencing worse household finances as consequence of gambling or other speculation.
- 2) Some of those respondents who had entered insolvency or whose financial situation had worsened may have selected this item in the survey in relation to "*other speculation*" and not gambling (and some may have been referring to gambling by another household member).
- 3) Some of the respondents whose financial situation had worsened – or who had won £500 or more – may have been referring to gambling more than one year prior (the question asks about the prior two years whereas gambling behavior was assessed on a past-year basis).

NIESR did not validate these classifications, which seem highly speculative at best. In particular, we note that the criteria for classifying a respondent as an "at risk gambler" (winning money and being economically inactive due to ill health) appears unfairly discriminatory against people with health issues.

Aside from all the problems with the NIESR estimates themselves, NERA's reliance on them would be questionable in any case. Its calculation is based on the extrapolation of a costs to gambling expenditure (Gross Gambling Yield) ratio for Great Britain. This ratio is then applied to the New Jersey market. NERA (2023, p. 46) describes this as follows:

"This results in a total social cost of gambling in the UK of £1.4 billion per year, compared to annual GGY of £9.9 billion. Applying this same ratio to the \$5.2 billion in annual GGY in

New Jersey suggests that there could be \$740 million in social costs associated with gambling, of which \$350 million may be associated with iGambling in particular.”

There are a number of problems with this approach.

First, as even NERA acknowledges, New Jersey is not Great Britain. The two jurisdictions fund welfare payments and healthcare costs in different ways. There is no reason therefore to believe that a cost to expenditure ratio in Great Britain (even a reliable one) would be applicable to New Jersey.

Second, NERA derives its ratio by comparing the social costs of gambling identified by NIESR to all non-lottery gambling expenditures in Great Britain. NIESR's cost estimate, however (as we describe above) was based on the difference in the use of certain public services by “problem gamblers” on the one hand and “at risk gamblers” on the other. It is unclear therefore why the ratio extrapolated by NERA would be based on the expenditures of *all* gamblers in the market (and not simply spending by “problem gamblers” and “at risk gamblers”). This misapplication leads to overestimation of social costs.

Third, NERA elects to exclude from its calculation expenditures on lottery games (which constitute around 28% of total spending in Britain's gambling market).⁹⁴ No explanation is offered for this, but it has a material impact on its estimate of social costs in New Jersey by skewing the ratio of costs to expenditure, and this leads to an overestimation of the alleged social costs in New Jersey.

Fourth, NERA's calculation appears to assume that all online gambling expenditure in New Jersey are incremental and that there has been no channelization from the illegal market (or that there were no social costs associated with expenditure on online gambling prior to market legalization).⁹⁵ The failure to account for these facts leads to an overestimation of social costs.

Finally, NIESR's report contains a number of factually incorrect and misleading statements (some of which are discussed later in this report).⁹⁶

Methodological Problems

Of the total cost estimate of £1.4 billion a year, 89% is attributed to excess use by “problem gamblers” of (i) welfare payments (57%) and (ii) hospital inpatient services (32%). Importantly, NIESR calculates its figures by comparing the use of such services between “problem gamblers” and “at risk” gamblers – rather than by comparison with the general population. NIESR justifies this approach as follows:

⁹⁴ UK Gambling Commission (2023), “Industry Statistics - November 2023 - Superseded,” (<https://www.gamblingcommission.gov.uk/statistics-and-research/publication/industry-statistics-november-2023>).

⁹⁵ Alternatively (and equally implausibly) it assumes that Great Britain has an unlicensed gambling market of comparable size (relative to the licensed market) to New Jersey's prior to legalization.

⁹⁶ Regulus Partners (2023), “Towards Confusion? A Structured Critique of NIESR's ‘Fiscal Costs and Benefits of Problem Gambling’,” London, pp. 34-38.

“it makes more sense to compare at-risk gambling to problem gambling because the people experiencing at-risk gambling exhibit a behavioural profile which is more like that of people experiencing problem gambling than the general population. Therefore there is a higher statistical confidence that the difference is attributed to gambling.”⁹⁷

It seems to us absolutely nonsensical to suggest that the costs of “problem gambling” should be calculated by reference to differences in usage of public services between a person who scores two (out of ten) on the DSM-IV and someone who scores three. What NIESR appears to have attempted is a calculation of the marginal costs associated with being a DSM-IV “problem gambler” compared with being a DSM-IV “at risk gambler,” which it then applies to a population prevalence estimate of “problem gambling” in Great Britain according to DSM-IV and PGSI criteria. We highlight the following issues in particular with this approach:

- Longitudinal studies reveal a degree of fluidity between “at risk” and “problem gambling” classifications with individuals moving in and out of these classifications (such that within a year an individual may be at different times both an “at risk” and “problem” gambler);⁹⁸
- A meaningful proportion of DSM-IV “problem gamblers” (30%) are also classified as PGSI “at risk gamblers” within the same survey.⁹⁹ NIESR therefore applies costs attributed to DSM-IV “problem gamblers” to people who are not DSM-IV “problem gamblers” but are in fact members of the supposed control group of “at risk gamblers;” and
- This introduces a circular logic to NIESR’s calculations whereby costs are calculated by reference to binary differences (“problem” or “at risk” gambling) in usage of public services by an individual who may simultaneously be classified as both a DSM-IV “problem gambler” and a PGSI “at risk gambler.”

Finally, we note that, contrary to claims made by NIESR, the use of “at risk gamblers” as a comparator group when assessing differences in use of hospital inpatient services does indeed result in artificially increased estimates. This is because, in NHS (2009), DSM-IV “at risk” gamblers were *less likely* to have been hospital patients than the general population.¹⁰⁰ Analysis by Cowlshaw and Kessler (2016) confirmed that health care usage was higher among people with “no problems” (2.5% usage of psychological care and 3.0% of hospital inpatients) compared to the “at-risk gambling” sample (1.4% usage of psychological care and 1.9% of hospital inpatients).¹⁰¹ One wonders if this is the reason NIESR chose to erroneously compare the harms incurred by problem gamblers relative to at-risk gamblers, rather than the overwhelming number of people with no problems.

⁹⁷ NIESR (2023), p. 20.

⁹⁸ Clearly this has implications for the attribution of costs related to, for example, past-year use of healthcare services.

⁹⁹ Regulus Partners (2020), “Gambling in Great Britain in the 21st Century: A Statistical Review - Part 1,” London.

¹⁰⁰ NIESR’s interim project report, shared with the Gambling Commission in 2022 (released under the Freedom of Information Act), accorded a fiscal benefit to “at risk gambling” on this basis.

¹⁰¹ Cowlshaw and Kessler (2016), p. 95.

Computational Issues

Nearly every single component of NIESR's cost calculations is shrouded by issues of a lack of transparency, inconsistency, and/or mathematical errors. We do not provide a listing of these issues here, but interested readers can find a detailed (41-page) discussion in Regulus Partners (2023). Given all the issues with the NIESR report, it should not be relied upon in any way.

3.3 CONCLUSION

The NERA study attempts to address the impacts of spending on and the potential social costs of iGaming in New Jersey. We find the overall conclusions of the NERA study in both of these areas to be fatally flawed. The NERA study is based on incomplete data, a variety of speculative and illogical assumptions, a faulty and biased methodology, and numerous computational errors. Therefore, the study cannot be relied upon to provide reliable conclusions.

In estimating the economic impacts of iGaming in New Jersey, the NERA study used very limited industry data (only two licensees and three years), which are unlikely to be representative of the industry. Their analysis also incorrectly assumes that all iGaming revenues come from brick-and-mortar casinos and other entertainment sectors, ignoring the potential channeling of revenues from illegal venues to New Jersey iGaming. As a result, the NERA study underestimates the positive impacts of iGaming in New Jersey.

While the NERA report briefly addresses the potential social costs of gambling, it relies on data from a seriously flawed British study for its estimate. The result is an overestimate of social costs because the NERA estimate counts wealth transfers as social costs. Beyond this, the NERA estimate completely ignores the fact of comorbidity, whereby most problem gamblers have other psychological problems. The cost estimate thus includes costs that are attributable to other psychological disorders.

Appendix A: About the Authors

Alan P. Meister, Ph.D.

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

Of particular note have been the following consulting and scholarly projects in New Jersey:

- Dr. Meister co-authored with Mr. Eugene Johnson a study that provided an in-depth review of New Jersey online gaming and quantified the contribution of online gaming to the New Jersey state economy.
- Dr. Meister co-authored with Dr. Clyde Barrow a peer-reviewed academic paper on market saturation in the gaming industry. The paper examined various gaming markets, including Atlantic City, and developed various metrics for measuring market concentration and determining whether markets were saturated.

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

Prior to joining Nathan Associates, Dr. Meister was a teaching assistant for five years at the University of California, Irvine, where he assisted with teaching courses on probability, statistics, econometrics, and survey design. In addition, he worked for a market research firm that implemented surveys for the motion picture industry.

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

Douglas Walker, Ph.D.

Dr. Walker is an Academic Affiliate with Meister Economic Consulting and a Professor of Economics at the College of Charleston. He is a leading expert on gambling economics. In addition to teaching and conducting research, he has served as a consultant on gaming-related issues for a variety of government, industry, and research organizations, including the Canadian Gaming Association, the American Gaming Association, the Alberta Gaming Research Institute, the Canadian Centre on Substance Abuse, the National Center for Responsible Gaming, the Casino Association of Indiana, the Nevada Resort Association, the States of Florida, Kansas, Maryland, Massachusetts, and Missouri, the Dutch State Lottery, and the French Embassy Department of Economic Affairs.

Dr. Walker has been a key contributor to research on the social impacts and costs of gambling, particularly methodological issues related to the identification and measurement of social costs. He has also conducted extensive research on the economic impacts of casinos, including the impacts on economic growth, state government revenues, retail property values, and economic recovery from natural disasters.

Dr. Walker has written extensively on the economics of casino gambling. He has published two books, *The Economics of Casino Gambling* and *Casinonomics: The Socioeconomic Impacts of Gambling*. He has published more than 50 book chapters and written peer-reviewed academic articles in journals such as *American Journal of Economics and Sociology*, *Contemporary Economic Policy*, *International Gambling Studies*, *Journal of Gambling Studies*, *Journal of Gambling Business and Economics*, *Gaming Law Review: Economics, Regulation, Compliance, and Policy*, *Journal of Health Economics*, *Journal of Real Estate Finance and Economics*, *Public Choice*, *Public Finance Review*, *Review of Regional Studies*, and the *Southern Economic Journal*. Dr. Walker has presented his gaming research at numerous academic and industry conferences, including the Canadian Gaming Summit and the International Conference on Gambling and Risk-Taking, as well as conferences hosted by the Alberta Gaming Research Institute, the British Columbia Lottery Corporation, the Canadian Centre on Substance Abuse, the National Center for Responsible Gaming, the European Association for the Study of Gambling, and the Responsible Gambling Council. He has also presented his research at the University of Alberta, the Center for the Study of Political Economy at Hampden-Sydney College, the Macao Polytechnic Institute, and the University of Nevada, Reno.

Previously, Dr. Walker was a Visiting Professor in the Department of Psychiatry at Harvard Medical School and at the Division on Addiction at Cambridge Health Alliance. He was also a Research Fellow at the UNLV International Center for Gaming Regulation.

Dr. Walker holds a Ph.D. in Economics from Auburn University and a B.S. in Business Administration from Kansas State University.

E. Eugene Johnson, MBA

Gene Johnson is Executive Vice President of Victor-Strategies. He has over 35 years of unique experience in the gaming industry that bridges casino management, customer behavior, and new technologies. He began working in Atlantic City casinos in 1989 and gained experience in the areas of information technology, quality assurance, player and market research, strategic planning and analysis, and casino marketing, all framed through the lens of a customer perspective.

In 1997, he founded EE Johnson Research, a marketing research and consulting firm focusing on the casino industry. This specialized practice provided clients with advisory services and customized research on gambling motivation and behavior. Over his career, Mr. Johnson has conducted extensive qualitative and quantitative research with gamblers of all types, including casino, poker, and bingo players, charitable gamers, online gamblers, and sports bettors. EEJ Research was also a pioneer in online research, leveraging the Internet to evaluate consumer insights and test new concepts. Clients included a diverse range of businesses inside and outside the gaming industry. Non-gaming commercial clients include some of the largest and best-know companies in the world while gaming clients included some of the first online gaming operators.

In 2012, Mr. Johnson became a senior executive with the casino consulting firm Spectrum Gaming Group. In 2016, he founded Gaming Knowledge Partners to better serve casino gaming clients through the collective experience of an expert network of strategic partners offering a rich knowledge base in feasibility, operations, casino marketing, and property management.

Later in 2016 Mr. Johnson co-founded Victor-Strategies with partners Rob Miller and Victor Rocha. Victor-Strategies lives at the intersection of tribal and commercial gaming providing expert advisory services and critical business insights. Victor Rocha is the founder of Pechanga.net, the education chair for the Indian Gaming Association, and a respected voice in Indian Country. Together we provide governments and industry leaders with the policy and business strategies, data, and expertise essential for informed decision making and effective operations.

Mr. Johnson has frequently been involved in the analysis of online gaming behavior. He has consulted with gaming companies, trade associations, and governments to quantify market potential and evaluate consumer preferences in markets across the country. In New Jersey, Mr. Johnson co-authored with Dr. Alan Meister an economic impact study that created an in-depth review of New Jersey online gaming and quantified the contribution of online gaming to the New Jersey state economy. Since the overturn of PASPA in 2018, Victor-Strategies has interviewed more than 25,000 Americans regarding their attitudes and behavior with sports betting.

Mr. Johnson holds a BA from Washington College in Maryland and an MBA from the University of Phoenix. Mr. Johnson has testified before the U.S. Senate, the Federal Trade Commission, and before multiple state and tribal governments. He has written articles featured in many industry publications and speaks regularly at major gaming industry conferences on a wide range of subjects.

Dan Waugh

Dan Waugh is partner at Regulus Partners, where he advises clients on gambling harm prevention strategies and regulatory risk. Regulus Partners is a specialist research firm focused on the gambling and sports industries.

Mr. Waugh has worked in the gaming and hospitality industry since 2000, having previously held senior positions in strategy and finance at Whitbread PLC and The Rank Group plc, and has also served on the board of the trade group, The Bingo Association. He was founding chair of the charity, YGAM (Young Gamblers and Gamers Education Trust), and has worked extensively with charitable organizations involved in gambling harm prevention work.

Mr. Waugh has provided evidence to select committees in the British Parliament on gambling market regulation and written a number of journal papers on the legislative history of gaming and betting in Great Britain. He holds a BA from the University of Leeds.

Appendix B: About Meister Economic Consulting

Meister Economic Consulting is an economic consulting firm that specializes in the application of economic research and analysis to litigation, regulatory, public policy, business development and operations, and economic development matters. We have a reputation for objective, insightful, comprehensive, high-quality research and analysis. Our work is grounded in sound economic and financial theory, guided by extensive industry knowledge, supported by relevant data and market research, and customized to the circumstances of each matter. Despite the complexity of our work, we convey data, analyses, and results in straightforward, simplified terms so that they can be easily understood. For these reasons, we are routinely called upon to analyze complex issues and assist clients in high-stakes and controversial matters, and our work is widely accepted and well respected by governments, regulators, courts, the media, and the public.

We have conducted research and analysis in a variety of contexts, including:

- Business planning and operations
- Economic development
- Public and government relations
- Public policy matters
- Regulatory proceedings
- Litigation, arbitration, and mediation

We provide a wide range of consulting services, including:

- Industry and market studies
- Economic impact analysis
- Feasibility studies
- Public policy analysis
- Market research
- Statistical analysis
- Survey research, design, and analysis
- Strategic advisory services
- Damage analysis
- Expert testimony in litigation and regulatory matters
- Assistance with public relations and government relations efforts

Meister Economic Consulting also brings significant industry experience and expertise to cases, projects, and studies. We have particular expertise analyzing the gaming industry. We also have experience with antitrust matters.

GAMING INDUSTRY

Meister Economic Consulting has extensive experience analyzing the gaming industry. We have conducted economic and financial research and analysis to help gaming operators, suppliers, developers, investors, associations, governments, and regulatory agencies assess business and market opportunities and navigate economic, regulatory, legal, and legislative challenges.

Meister Economic Consulting provides a variety of services to the gaming industry, including:

- Market assessments
- Analysis of market entry and competition

- Economic and fiscal impact studies to quantify the effects of existing and planned gaming facilities on competitors, surrounding communities, and the economy
- Feasibility studies
- Gaming facility performance assessments
- Public policy analysis
- Evaluations of game performance
- Skill vs. chance game assessments
- Survey design, implementation, and data analysis
- Expert research and analysis in litigation matters, including cases involving claims of alleged breach of contract, breach of fiduciary duty, breach of good faith and fair dealing, anticompetitive conduct, unfair competition, and tortious interference with current and prospective business
- Analysis of competition, market power, and harm to competition in antitrust litigation matters

We have conducted research and analysis of all segments of the gaming industry:

- Commercial casinos
- Racetrack casinos
- Indian gaming
- Lotteries
- Pari-mutuel wagering
- Charitable gaming
- Card rooms
- Convenience gambling
- Internet gaming

We have studied the gaming industry at national, state, regional, and local levels and in all 48 states in which it exists. We have analyzed the introduction of planned gaming facilities, as well as the development and operation of existing gaming facilities. This includes the integration and development of non-gaming amenities at gaming facilities. Our experience and expertise transcend the U.S. gaming market, as we also research and analyze international gaming.

In addition to consulting, we regularly conduct independent scholarly research and analysis of the gaming industry, publishing articles and studies, and presenting at academic, professional, and industry conferences. Our consulting and scholarly research and analyses have been relied on by the gaming industry, tribal and non-tribal governments, the investment community, academics, and our competitors.

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

ECONOMIC IMPACT ANALYSIS

Household, business, and government spending and investment can have significant impacts on the economy. These impacts include not only the direct effect of spending and investment, but also

secondary effects—frequently referred to as ripple or multiplier effects. It is important for decision makers in the public and private sectors to understand the scope and magnitude of these effects when formulating policies, proposing projects, or preparing economic development plans. Meister Economic Consulting has extensive experience identifying and measuring such effects through economic impact analysis.

Meister Economic Consulting uses economic impact analysis to estimate the effects of projects, businesses, institutions, industries, events, and public policies on economies at all levels—national, state, regional, and local. We identify and measure the net impact of changes in economic activity, as well as the overall contribution of economic activity to an economy. We analyze the impact of one-time capital investments or construction projects, as well as the annual, ongoing operational impacts of projects.

Our experts assist clients with communicating the findings of our economic impact analyses—we produce reports that our clients can disseminate to stakeholders, policymakers, the media, and the general public; and we provide testimony before governing bodies and regulators.

Meister Economic Consulting draws on extensive training and experience to develop economic impact analyses. We customize our economic impact models to meet the needs of each project and to take into account the unique characteristics of the geographic area and economic activity being studied. Our economic impact studies are rooted in economic theory and use state-of-the-art software. In conducting studies, we start by modeling the relevant economy and economic activity. We then use economic impact analysis to capture the secondary effects that result from the initial economic activity. Because our studies capture the economic dependencies between households, industries, and governments, we can identify segments of an economy that stand to be most affected by the initial economic activity. In our analyses, we assess the economic value of a particular activity to a community, businesses, and the government through several key measures of impact:

- Output (i.e., value of sales)
- Jobs
- Wages
- Taxes

Economic impact analysis can be used to quantify the effects of a wide variety of entities, activities, and policies, including the following:

PUBLIC POLICY ANALYSIS

Governments at all levels—federal, state, local, and tribal—routinely determine public policy on a wide array of economic and social issues that have widespread effects on society, including individuals, businesses, industries, and governments themselves. Meister Economic Consulting helps inform and shape public policy through the use of economic and financial research, analysis, and testimony.

Meister Economic Consulting assists businesses, industry associations, and governments in understanding the economic impacts of existing and proposed public policies and policy reforms. Our analyses help government clients formulate sound policy and help businesses and associations influence policy, respond to changes in policy, and propose new policies.

Our public policy work includes:

- Policy studies
- Economic assessment of regulations
- Economic impact analysis
- Assistance with economic policy formulation
- Cost-benefit analysis
- Market and industry research
- Survey research, design, and analysis
- Evaluation of other experts' public policy studies and analysis
- Public testimony before legislative bodies and government agencies
- Expert witness testimony in regulatory proceedings

Meister Economic Consulting researches and analyzes the introduction of and changes in various types of public policies, including:

- Legislation
- Regulations
- Taxes
- Ballot propositions
- Government programs and services
- Budget management
- Investment
- Subsidies
- Infrastructure development
- Trade
- Policing practices

Meister Economic Consulting's clients employ our research, analysis, and testimony in a variety of contexts, including legislative hearings, regulatory proceedings, public hearings, public relations, government relations, and political and media campaigns. Our experts have provided public policy research, analysis, and testimony to various government bodies and agencies.

Appendix C: About Victor-Strategies

Victor-Strategies is a unique professional firm providing expert advisory services and critical business insights to the gaming industry, with a particular focus on new gaming technologies. We are dedicated to providing governments and industry leaders with the strategies, tools, data, and expertise essential for informed decision-making and effective operations. The firm's partners collectively bring many years of experience in the gaming industry spanning both commercial and tribal gaming, as well as land-based and online operations. Our principals are thought leaders in the gaming industry and committed to delivering maximum value to our clients. Our clients include gaming enterprises, trade associations, tribal and state governments, gaming regulators, iGaming, sports betting, and social gaming companies, gaming equipment suppliers, state lotteries, academic institutions, and research firms.

Victor-Strategies delivers unparalleled knowledge in the realms of casino gaming, interactive wagering, and emerging new gaming products. Victor-Strategies also advises clients on public policy, business strategy, gaming operations, and economic diversification. In addition, Victor-Strategies regularly conducts consumer research on behalf of clients that includes player behavior and preferences, competitive brand perceptions, customer satisfaction measurement and tracking, marketing promotions effectiveness, and consumer attitudes towards new gaming products and services. Since the overturn of PASPA in 2018, Victor-Strategies has interviewed more than 25,000 Americans regarding their attitudes and behavior with sports betting. Our qualitative and quantitative research capabilities enable clients to make fact-based decisions in crucial strategic and operational directions.

Our products and services include:

- Market research
- Feasibility studies
- Consumer behavior and preferences
- Marketing research
- Customer satisfaction assessment
- Advertising awareness & benchmarking
- Competitive analysis
- Policy analysis
- Strategic planning
- Legislative testimony
- Quantitative survey research
- Qualitative insights research
- Player profitability analysis
- Vendor due diligence

Our consultants have extensive experience with both online and land-based gaming. We have conducted numerous research studies, profiled the competitive landscape, analyzed consumer attitudes, behavior, and demographics, and provided confidential advisory services to iGaming operators since 1999. Our consultants have been intimately involved in the development, rollout, and ongoing analysis of iGaming in New Jersey and have worked closely with many of the principal operators and suppliers in the state. Our consultants have also analyzed the market potential and feasibility of new gaming developments in dozens of markets across the U.S. and beyond.

Victor-Strategies partners work together with a widespread network of gaming industry experts to provide our clients with the policy and business strategies, data, and wisdom essential for informed decision making and effective operations.

Appendix D: About Regulus Partners

Regulus Partners is a global strategic advisory business focused on the gaming, betting, sports, and leisure sectors. We bring a data-driven and research-based approach to understanding markets and addressing challenges. These include strategic development, M&A, risk management, consumer wellbeing and harm prevention. We work with a wide variety of organizations, including governments, regulators, licensed operators, technology suppliers, and charities. Our partners have, collectively, more than 50 years of experience in the leisure, hospitality, gaming, and sports markets.