



**A STUDY OF THE
SYSTEMATIC RISKS OF NEW JERSEY'S CASINOS:
PHASE I—THE MARKET SATURATION POINT AND NJ'S SHARE**

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EXECUTIVE SUMMARY

This is the first-phase report. In this phase of reporting, we examine the pattern of regional casino gross gaming revenues (GGR) in Atlantic City (AC) and its regional market alongside its relationship to aggregate regional personal income. To give a sense of competition to New Jersey's (NJ) casinos in the market place, we review the chronology of casino openings and closings both in NJ and nearby in other states. This enables us to ascertain their effects upon regionwide and AC net gaming revenues as well as on casino survival.

The main new finding in this report is that there has been relatively little variation over time in the ratio of regional GGR to aggregate regional personal income. Interestingly, this ratio tends to vary between 0.45 and 0.50%, which suggests that the area market for gaming has been saturated. And the main story of the past twelve years, which is rather well known, has been that the successful rise of casinos in eastern Pennsylvania has been at the expense of NJ's casinos, which had cornered the market prior to 1996. In 2018, NJ's casinos maintained only about 26.1% of all area GGR.

The current (2018) ratio of regional GGR to aggregate personal income is well below its 2013 peak (0.514%) and sits close to its long-term average (0.477%). This indicates either there could be modest room for expansion in the region or that distant markets—like Las Vegas, Monaco, and Macao—have slowly been absorbing more of what used to be a localized market base.

Recent data show that last year's opening of two new casinos in AC seems to have enhanced overall gross gaming revenues for NJ. This marked the first net gains in gross gaming revenue in AC since 2007! Unfortunately, these same two casinos seem to have benefited by cannibalizing from the existing set of AC casinos, all of which experienced GGR declines. Of course, these declines could also be partly attributed to the introduction of sports betting.

In the next phase of reporting, we will continue to investigate what drives changes in regional GGR, its relationship to regional income, and the implications for casino viability in AC. In particular, we will investigate the potential causes of variation over time in the ratio of regional GGR to aggregate regional personal income since this appears to be a critical parameter. We will also identify more precisely the sensitivity of gross gaming revenues at NJ casinos to casinos entering in New York City and in Philadelphia. We will also investigate the likely implications of adding one or more new casinos in AC.

GLOSSARY

CASINO TERMINOLOGY

Aggregate Limit is a casino's total payout liability for a given casino game.

Aggregate Winnings is the total amount of money won by casino players.

Bet is a wager on a casino game by a bettor.

Comp is a benefit received by a casino player from the House in the form of dining, beverage, and hotel rooms that typically is based on their wagering and time played. High rollers are often comped, in part because their drop is high.

Drop is the amount of money lost by players or casinos.

Gross Gaming Revenues (GGR) is the sum of all House net revenues that are attributable to gaming. This includes the handle, less aggregate winnings, any rakes and commissions, revenues from the use or exploitation of any trademarks attributable to gaming, revenues from the use or exploitation of any of the domain names from gaming, or other revenues from other gaming operations, less any value-added tax, gaming tax or other revenue-related tax arising in connection with House operations, as determined via international financial reporting standards.

Handle is the total amount of money wagered by casino players.

A **High Roller** is a big-time bettor as identified by a casino.

House refers to the venue, the casino property or online website where casino games are played. The owners/operators are also known as "the House."

Maximum Bet is the highest allowed wager at table games or maximum coins/spin at slots.

Rake is the payment that a casino or poker room takes for organizing and running the game.

OTHER TERMINOLOGY¹

Aggregate Personal Income is the total income of all persons within a specified area.

Marketplace in the context of this study refers to two different things, depending on the point of view—consumer demand or the supply of gaming services.

- **Supply side:** From a supply side, the marketplace is the set of casinos that compete with NJ casinos in AC for regional GGR. We included only those casinos labeled in material provided by the NJ Casino Control Commission (CCC) as being within 150 miles of New York City or Philadelphia. The number of casinos in the marketplace varies over the course of the period studied.

¹ Most of the terminology that follows derives from definitions provided by the United States Bureau of Economic Analysis. The exception is the definition of "Marketplace."

- **Demand side:** From a demand side, the marketplace is the set of possible casino players within about 150 miles of AC. Given that demand for gaming is best identified by personal income and that personal income is only regularly available at the county level, we used counties as our basis for identifying the demand side of the marketplace. The regional income data we use are from the United States Bureau of Economic Analysis for the region defined by the following metropolitan statistical areas (MSAs) for all of New Jersey, southeastern Pennsylvania, and southern New York State (see Figure 2 at the end of this report for a map of the included counties):
 - ✓ Allentown-Bethlehem-Easton, PA-NJ
 - ✓ Lancaster, PA
 - ✓ Reading, PA
 - ✓ Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
 - ✓ Atlantic City-Hammonton, NJ
 - ✓ Trenton, NJ
 - ✓ New York-Newark-Jersey City, NY-NJ-PA

Personal Income is defined by place of residence and is the sum of Net Earnings (adjusted for residence), Transfer Payments, and Dividends, Interest and Rent.

- **Dividends** are a form of income received by individuals and by nonprofit institutions as well as those retained and reinvested by fiduciaries. Dividends are payments in cash or other assets, excluding the corporation's own stock, made by corporations located in the United States or abroad to noncorporate stockholders who are United States residents.
- **Interest** is income that is received by persons on a regular basis at a pre-specified rate for the use of money lent or for delaying the repayment of a debt. Estimates of personal interest income as produced by the United States Bureau of Economic Analysis consist of both monetary and imputed interest.
- **Net Earnings** are defined by place of work and are the sum of wage and salary disbursements, other labor income, and proprietors' income, but exclude personal contributions for social insurance.
 - ✓ *Wage and salary disbursements* measure the remuneration of employees; it includes the compensation of corporate officers; commissions, tips, and compensation plans, such as 401(k) plans; and receipts in kind, or pay-in-kind, that represent income to the recipient. They reflect the wages and salaries disbursed, but not necessarily earned, during the year.
 - ✓ *Other labor income* consists of employer contributions to privately administered pension and profit-sharing plans, private group health and life insurance plans, supplemental unemployment insurance benefit plans, and privately administered workers' compensation insurance; corporate directors' fees, and a miscellaneous component, that of jury and witness fees, the compensation of prison inmates, and marriage fees to justices of the peace.

- ✓ *Proprietors' income* is the income (including the income in-kind) of sole proprietorships and partnerships and of tax-exempt cooperatives. It includes the imputed net rental income of the owner-occupants of farm dwellings but excludes both the imputed rental income of the owner-occupants of non-farm dwellings and the monetary rental income that is received by persons who are not primarily engaged in the real estate business. It also excludes the dividends and the monetary interest that are received by proprietors of non-financial businesses. A sole proprietorship is an unincorporated business owned by a person.
- **Rent** is income gained from by letting others use real property. This includes the imputed net rental income of the owner-occupants of nonfarm dwellings; and the royalties received by persons from patents, copyrights, and the rights to natural resources. It excludes the rental income of persons who are primarily engaged in the real estate business and the imputed net rental income of owner-occupied farm dwellings.
- **Transfer Payments** consist of payments, which are not related to the provision of services or products, that are dispersed to individuals and to nonprofit institutions by federal, state, and local governments and by businesses.

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INTRODUCTION

Background

While New Jersey (NJ) voters rejected the legalization of gambling statewide in 1974, they soon after approved a referendum to legalize casinos; the referendum won by a slim margin and restricted casinos to Atlantic City (AC). At the time only Nevada had legal casino gaming within the United States (US). The hope was that gaming would enable the struggling AC to pull itself up by its bootstraps.

NJ opened the doors of its first legal casino in May 1978 when the owners of the Chalfonte-Haddon Hall Hotel finished converting into Resorts International. Other casinos were soon constructed along the Boardwalk. By the early 1990s, several other casino resorts were put in place—Caesars, Bally's, Harrah's, Playboy, the Golden Nugget, the Tropicana, the Trump Plaza, Showboat, and the Trump Taj Mahal. While these casinos changed hands during the 1980s and early 1990s, they remained otherwise largely intact. Indeed, in 1996 AC's gross gaming revenues (GGR) even surpassed those of Las Vegas's Strip (\$3,813,598,000 versus \$3,579,337,000).²

State government does not have the ability to mandate the employment of AC residents; as such, gaming could not quickly eliminate AC's many urban problems. It did assure development within the state, mandating casino-floor personnel be NJ residents and that the casinos make all possible effort to buy from in-state suppliers. Also, many Atlantic City casinos began to appear stylistically dated by 1996, the date that the present analysis begins. It is not that 1996 is a magic year, but rather that is the first year that casinos in AC encountered any competition from elsewhere in its marketplace. On December 29, 1995, the casino known as Dover Downs Slots, a state-of-the-art gaming facility, officially opened its doors with 500 video lottery (slot) machines under the supervision of the Delaware State Lottery. Since Dover Downs is 130 road-miles distant from AC, it is technically close to the outer frontier of the competitive market area that we apply to NJ's casinos. Still, it is within AC's marketplace and it is the first area competitor outside of AC. Moreover, other raceway casinos in Delaware and much closer to Philadelphia soon followed suit in 1996. From 1978-1995, casinos in AC maintained 100% of the region's gross gaming revenues. In 1996, that share drops to 97.8%. Thus, the year 1996 makes an ideal starting point for our analysis.

Data

The casino gross gaming revenue (GGR) data in the tables and graph provided below are derived from material provided by the NJ Casino Control Commission (CCC), supplemented by data from the websites of the casino regulating authorities for Pennsylvania, New York, and Delaware, as

² Data for Las Vegas's Strip obtained from https://gaming.unlv.edu/reports/NV_1984_present.pdf. Note the Strip is Las Vegas's largest gaming district; the other main districts are Downtown and the Boulder Strip, which had net gaming revenues in 1996 of \$679,033,000 and \$358,464,000, respectively.

well as data on Delaware casinos from the UNLV Center for Gaming Research.³ We roughly estimated the 2018 number for regional aggregate income, which is not yet available.

For purposes of comparison, Tables 4-6 provide summary information on Atlantic City casino/hotels for 2018, 2006 (the year of peak gaming revenue) and 1999, the earliest year for which a CCC annual report was available. The number of casinos has dropped from 12 to 9 since 1999 – and has been as low as 7 until the two new casinos were opened in 2018.

While the number of table games and the total gaming area (square footage) in 2018 is at about the same level as they were in 1999, the number of slots has been reduced by almost half. Win is down about 40% from 1999 and over 50% from its 2006 peak. There are almost 4,000 more hotel rooms in 2018 than in 1999, though the number has not changed much since 2006.

RESEARCH OBJECTIVES AND APPROACH

The prime objective across all phases of the study is to examine the systematic risks to New Jersey’s casinos over the next five years. Secondary goals of the study are:

- To identify a share of the regional gaming revenues that New Jersey might expect to sustain;
- To determine the impact of the expansion of casinos in New York City, Philadelphia, and Atlantic City; and
- To examine the effects of the advent of both online gaming and sports betting on the State’s casino economy.

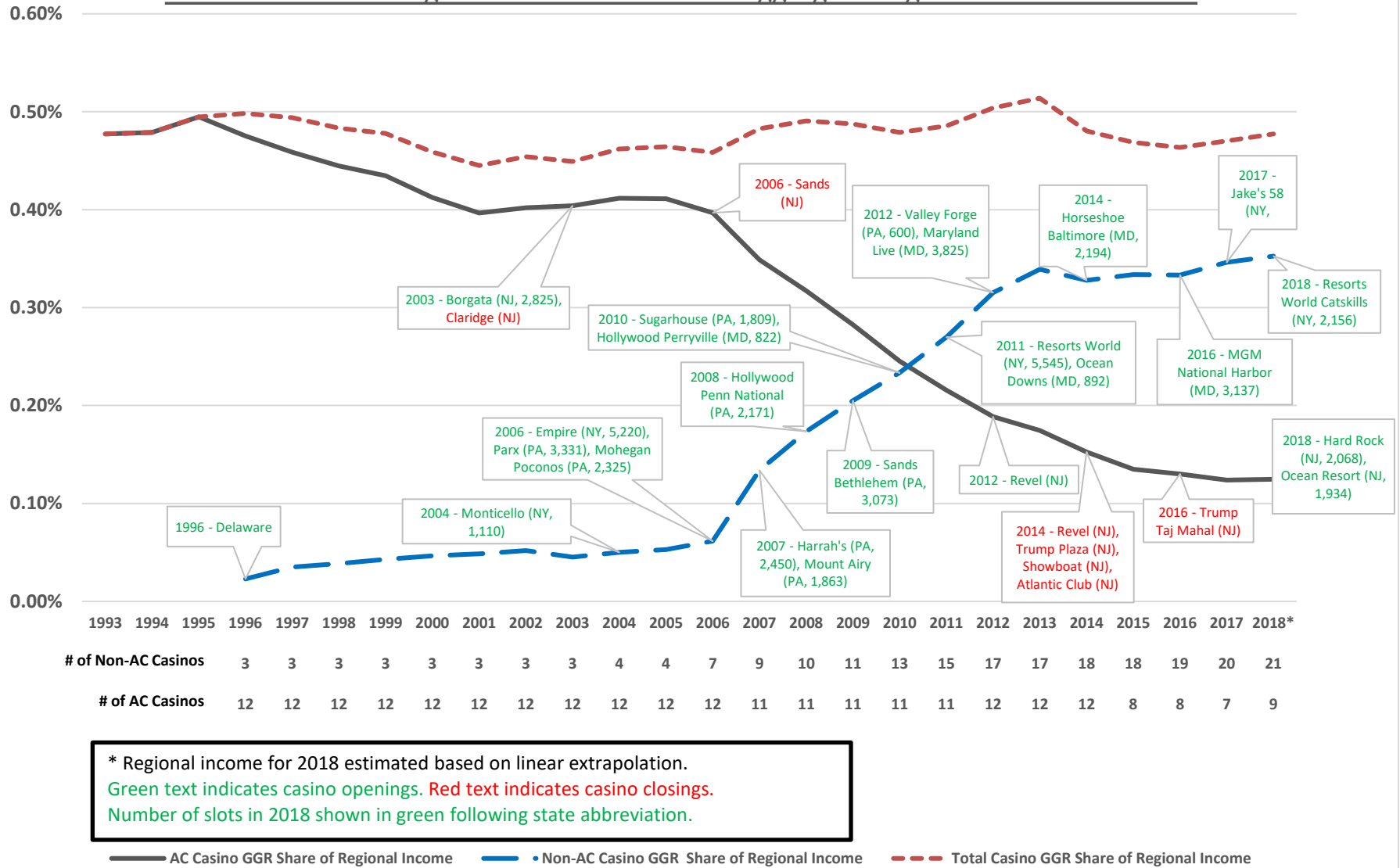
The present phase of the work relies strictly on annual data, the only periodicity of data that was available for rapid response. More data are becoming available to enable us to get a better response in later phases.

The analysis in the present report, therefore, is largely descriptive—a timeline of when casinos entered and left the market juxtaposed against an enumeration of their collective gross gaming revenues (GGR) and the region’s aggregate personal income (RAPI). In this regard, Figure 1 is the main set of evidence in the present report. It shows gross gaming revenues as a percentage of regional personal income for AC casinos, regional casinos outside NJ, and in total. Boxes indicate the opening (green text) and closing (red text) of individual casinos in and out of Atlantic City. The number of casinos inside and outside of Atlantic City is shown by year beneath the x-axis (year).

³ Pennsylvania Gaming Control Board Monthly Revenue Reports and Annual Reports can be found at <https://gamingcontrolboard.pa.gov/?p=196> and <https://gamingcontrolboard.pa.gov/?p=51>, respectively. New York State Gaming Commission Video Gaming Reports can be found at <https://www.gaming.ny.gov/gaming/index.php?ID=2>. Delaware Video Lottery Monthly Proceeds Reports are available at <https://www.delottery.com/More/Video-Lottery/Monthly-Net-Proceeds>. Data from the UNLV Center for Gaming Research are available at https://gaming.unlv.edu/abstract/de_main.html.

All dollar terms are nominal; that is, they are in the monetary terms of the time with which the data are identified. In other words, GGRs for 1998 are in dollar terms of 1998. They are neither inflated nor deflated. Tables at the back end of the report support Figure 1.

Figure 1
Casino Gross Gaming Revenues as a Share of Aggregate Regional Personal Income



STUDY FINDINGS

The orange dotted line in Figure 1 shows total regional GGR as a share of RAPI. This value oscillates between 0.445% and 0.514% over the period from 1993 to 2018. The unweighted average of this share over the period is 0.477%, which coincidentally is also the estimated value for the latest year shown—2018. The fact that gross gaming revenue's overall share does not vary all that much suggests that the market has been saturated with casinos at least since AC first received regional competition. It attained highs in 1996 and in 2013. It fell to its nadir from 2001 to 2003.

Before the State of Delaware effectively entered the regional casino market in 1996, growth in regional GGR was strong, outpacing the rate of growth in regional aggregate income. It, thus, rose as a share of RAPI from 0.477% in 1993 to 0.498% in 1996. AC had a particularly strong year in 1995 with 9.5% GGR growth (\$325 million) – about three times the growth of the prior year.

Competition from Delaware Raceways Begins

Over the subsequent four years, from 1996 to 2000, the height of the tech expansion, RAPI and GGR grew strongly. RAPI grew at a faster pace over the period, with the casino revenue share declining from 0.498% in 1996 to 0.459% in 2000. As the Delaware casinos entered the market, AC casinos do appear to have suffered some initial hit to growth in their GGR, as the gain of \$325 million in 1995 dropped to \$66 million (1.8%) in 1996 and \$92.5 million (2.4%) in 1997. Meanwhile, Delaware's new facilities grew by \$184.4 million in 1996 (total revenue in their first year of operation) and another \$114.5 million (62%) in 1997.

From 1998 to 2000, AC regained its pace of growth, averaging about \$131.5 million (3.3%) in GGR growth annually over the three years. Delaware's growth remained strong as well on its relatively small base, averaging \$62 million (17.5%) per year, clearly scraping away slowly on AC's market share. Overall regional GGR growth averaged 4.6% annually from 1996-2000.

In 2001, as the tech bubble burst, RAPI dropped from its nearly 9% growth rate in 2000 to a far more modest 4% annually, and regional GGR growth dropped to 0.9% from 4.6% the prior year. The regional GGR share of RAPI collapsed to 0.445%. AC's casinos took a much stronger hit from the tech recession than did their counterparts in Delaware, perhaps reflecting a difference in clientele. AC's GGR increased by only \$2.3 million in 2001, while Delaware casinos saw their GGR growth drop from 17.6% in 2000 to 8.6% that same year.

In 2002, area GGR experienced a bump up in its share of RAPI despite a relatively weak 2.4% growth rate. Income growth was clearly much slower (0.4%), basically stalling. Both RAPI and casino GGR growth rates were weak again in 2003, though RAPI growth was faster, leading to a further decline in the regional GGR/RAPI ratio.

In 2003, Delaware casinos also experienced an anomalous 11.3% decline in revenues. It is not clear precisely what factors were responsible for this decline; however, it has been suggested that the implementation of a smoking ban that took effect in Delaware casinos in December 2002

was responsible.⁴ The decline was also contemporaneous with the opening of the Borgata in Atlantic City in July 2003. At this point, AC casinos still brought in approximately 90% of the regional casino revenue.

New York and Pennsylvania Start to Compete

Racino gaming was introduced at Monticello, New York, in 2004, followed by the opening of Empire City in Yonkers, New York in 2005. Both Parx casino/racino at the Philadelphia Park racetrack in Bensalem, Pennsylvania, and Mohegan Sun Poconos in Wilkes-Barre, Pennsylvania, entered the market at the end of 2006. The Mohegan Sun is an interesting case since it is more than 170 miles away from AC and, thus, technically not within market reach of NJ's casinos; but it has the potential to take a bite from AC's GGR since they share demand—the set of household in the Lehigh Valley and in northern NJ. It is no coincidence, then, that AC's share of GGR in the region declined slightly (2.5 percentage points) over this period, while the region's GGR share of RAPI increased slightly as both income and gaming revenue experienced relatively strong growth.

There are clear kinks in the lines for AC (downward) and non-AC (upward) GGR shares starting in 2007. This is the first year that the Parx, Mohegan Sun, and Empire operated for a full twelve months, plus Harrah's Philadelphia opened at the start of the year and the Mount Airy Casino Resort by the end of it. The result was that regional GGR *outside of Atlantic City* jumped by \$1.1 billion (133%), from \$810 million to \$1.9 billion. This growth was driven by revenue increases of \$786 million in Pennsylvania⁵ and \$332 million in New York.⁶ Interestingly, Delaware experienced a simultaneous decline of \$39 million in GGR, suggesting that some of its gaming activity was lost to proximate Pennsylvania casinos.⁷ The opening and full operation of the Pennsylvania and New York casinos had a clear, immediate impact on casino GGR in AC. The GGR for NJ's casinos declined by nearly \$300 million (5.7%) in 2007, as new nearby alternatives for gamblers in Philadelphia and New York City, who previously made the trip to AC. As a consequence, it appears that AC's share of regional gaming revenues plummeted from 86.6% to 72.3%.

Interestingly, the new casinos revealed the existence of some previously unmet or pent-up demand for gaming within the region; total regional GGR grew by 13% (nearly \$800 million), contrasted against strong RAPI growth of 7.3%. This pace was more than twice the 2006 growth rate of 6.4% for GGR when incomes had grown by a nearly equivalent 7.7%. As a result, regional GGR's share of RAPI rose from 0.458% in 2006 to 0.483% in 2007 –its highest share since 1998.

⁴ See Pakko, Michael R., "Smoke-Free Law *Did* Affect Revenue from Gaming in Delaware," Federal Reserve Bank of St. Louis Working Paper 2005-028B, June 2005 (<https://s3.amazonaws.com/real.stlouisfed.org/wp/2005/2005-028.pdf>).

⁵ Within Pennsylvania, the \$817.3 million jump in gaming revenue was accounted for primarily by Harrah's (\$308.2 million) and Parx (\$306 million), followed by Mohegan Poconos (\$176.3 million) and Mount Airy (\$26.9 million), which opened only at the end of the year.

⁶ In New York, there may have been some cannibalization of Monticello's revenue by the fully operational Empire casino. Empire captured \$394.3 million in revenue, while Monticello's revenue dropped from \$76.5 million in 2006 to \$64.3 million in 2007.

⁷ This decline was mostly felt by Delaware Park, which saw its revenues decline by \$34 million, or 11%.

Enter the Great Recession

In 2008, as the Great Recession began, both regional income and casino revenue growth sputtered, declining to 1.6% and 3.3%, respectively. This resulted in a further slight increase in the GGR /RAPI ratio. AC's share of regional GGR continued to erode in 2008, dropping by \$376 million (-7.6%), while revenue for casinos outside AC grew by \$599 million (31.7%), driven in part by the addition of the Mount Airy and Hollywood Penn National Casinos in Pennsylvania. Thus, AC's share of regional GGR plummeted even further to 64.6%. The decline can hardly be attributed to the entry of Hollywood Penn National, which is located just east of Harrisburg, Pennsylvania, which is at the extreme western edge of the gaming region in this analysis. Indeed, both Hollywood and Mount Airy, which is equally distant from AC but competing more directly with Mohegan Sun Poconos, each had revenues of about \$200 million, but Parx, Harrah's, and even Mohegan continued to grow.

The full effects of the recession hit the market in 2009. Total regional GGR roughly returned to 2007 totals. This is the first year in our analysis (which starts in 1993) in which regional GGR actually declined; regional GGR fell 3.2%, compared to a 2.6% decline in RAPI. Notably, it seems that the entire brunt of the decline was absorbed by AC casinos, all of which saw declines ranging from 6% (Borgata) to 23% (Atlantic Club and Trump Plaza), with a total decline of \$602 million (-13.2%). All Delaware casinos also experienced declines, totaling about \$27 million. The Sands casino housed in a former Bethlehem steel plant opened in May 2009 with \$176 million in GGR over just eight months.

In 2010 there was a small uptick in total regional GGR but at a rate (2.2%) slower than that of recovering RAPI (4.1%). The regional gain of \$150 million was comprised of \$529 million in GGR growth outside of AC, along with a further decline (\$379 million) for AC casinos. So, NJ's share of regional GGR dropped to 51%. It undoubtedly helped that the Sugarhouse Casino opened in Philadelphia in September 2010 with \$59 million in GGR over the last four months of the year.

From Recession to Recovery

From 2011-2013, regional gaming revenue grew faster than regional income. This combination of forces pushed GGR's share of RAPI from 0.486% in 2011 to 0.514% in 2013—its highest value to date. The years 2011 and 2012 were particularly good years for both RAPI and regional GGR growth, as RAPI respectively grew at 5.8% and 5.3% and GGR at 7.3% and then 9.3% in 2012, adding \$691 million that year. The GGR gains were driven by activity generated at new casinos. Resorts World Casino in Queens, which opened in late 2011, immediately became the region's largest casino in terms of GGR. It had revenues of \$718 million in 2012, likely poaching somewhat from Empire, which experienced a decline in GGR of \$57 million. But it also cut further into AC casino GGR. (In 2018, GGR for Resorts World Casino in Queens approached \$1 billion.)

In Philadelphia, Sugarhouse had revenues of \$310 million in 2012, and three distant casinos opened in Maryland between 2010 and 2012 with combined revenues of \$378 million in 2012. Strong growth of the Sands Bethlehem – from \$372 million in 2010 to \$563 in 2012, grabbed GGR

growth from other Pennsylvania casinos such as Parx, Sugarhouse, and Harrah's. But it was not enough to yield declines in GGR for these three Philadelphia-area casinos. Still, small drops in GGR were experienced at Mohegan Sun Pocono and Hollywood.

Ultimately, the regional market appeared to find new capacity, even as the new and growing casinos in Pennsylvania and New York continued to gnaw at AC casino GGR, which continued to decline. Their share of regional GGR dropped moderately to 37.4% in 2012 and 34% in 2013. Losses continued to be felt by almost every individual casino in AC. The opening of the Revel casino in 2012 and some growth in its revenues in 2013 may have helped stem the tide of losses to AC's market share. But more likely than not, Revel only poached GGR from other AC casinos, as the facility struggled to find footing and closed by 2014 due to weak performance.

The year 2013 did result in a significant slowdown in both regional casinos' GGR and RAPI growth. Non-AC GGR growth slowed from 23% in 2012 to 9% in 2013. The majority of Pennsylvania casinos experienced GGR declines (though small), as did all three Delaware casinos (in 2012 as well), perhaps as a result of mounting intra-state competition. At the same time, the broader regional GGR picture was buoyed somewhat by the opening of Maryland Live in 2012, which captured \$586 million in GGR in 2013, also perhaps claiming some share of the PA casino market despite being relatively distant.

Income Growth Returns to Its Old Ways, But...!

After 2013 growth in RAPI enhanced and stabilized. But the 2013-2016 period marked something of a shift for the region—RAPI growth was not accompanied by GGR growth. It is not clear why this occurred, and will be a core subject of study in our next phase of reporting. Perhaps this shift was due to over-saturation of the market since regional GGR's share of RAPI reached its historical peak of 0.514% in 2013 as intra-state competition in New Jersey, New York, and Pennsylvania mounted. In any case, regional GGR declined by 2.1% in 2014, despite decent annual RAPI growth of 4.7%. This was the first GGR decline since 2009 and the first time to occur within our study period even while RAPI grew. Regional GGR as a share of RAPI fell back to its long-run average of 0.48%. AC casinos continued to shoulder the brunt of these declines, with GGRs dropping by \$243 million in 2014 and \$205 million in 2015.

What makes 2014 so unique is that the declining GGR base of AC casinos was not offset by even larger gains across casinos elsewhere in the region. Five of the eight Pennsylvania casinos in the region also experienced revenue declines, and the GGR gains of those three exceptions were relatively small. As a consequence, Pennsylvania casinos netted an aggregate decline of \$82 million in GGR. All three Delaware casinos also experienced GGR declines, albeit for the third year running. Aggregate growth for the three New York casinos dropped from \$172.5 million in 2013 to \$16.5 million in 2014. In aggregate, growth of GGR at non-AC casinos slowed to 1.2% (\$67.7 million) in 2014; still, AC's share of regional GGR edged downward from 34% to 31.8%.

AC's Regional Share of GGR Stabilizes

Notably, 2013 and 2014 marked a slowing in the rate at which AC's share of regional GGR declined. Following 2007, when Pennsylvania entered the casino market, AC's share of regional GGR dropped 14.3 percentage points (2007-2008) and, subsequently dropped by somewhere between 6.7 and 7.6 percentage points for each year from 2008 to 2012. But in 2013 that rate of decline in share slowed to 3.4 percentage points (despite strong growth in non-AC regional casinos, AC's revenues declined by less than \$200 million that year for the first time in six years) and in 2014 to just 2.2 percentage points.

About \$138 million of the \$242 million in AC GGR declines in 2014 were attributable to the closure of the Atlantic Club. Closure of the Trump Plaza, Showboat and Revel, accounted for most of the rest. But in 2015 GGR growth recovered for casinos outside AC, so declines in AC GGR dampened overall regional GGR growth, such that GGR's share of RAPI dipped to 0.047%.

The year 2016 marked another turning point for AC casinos, as the precipitous decline in GGR that began in 2007 finally subsided. This is perhaps due to a "fortuitous" combination of the exit of several declining casinos from the regional market in 2014 and fewer new market entrants competing in proximity. From 2007 to 2015, annual aggregate GGR declines for AC casinos averaged \$311.5 million, while their share of regional GGR declined from 86.6% in 2006 to 28% in 2016, even as regional GGR grew by \$2.5 billion! But in 2016, AC casinos experienced a decline of only \$8.2 million in GGR, and their share of regional GGR declined by a comparatively meager 0.7 percentage points versus the prior year.

Indeed, 2017-2018 yielded strong GGR growth for the region, exceeding the rate of RAPI growth and bringing the ratio of regional GGR/RAPI ratio back above 0.47%—but still below its long-term average of 0.477%. This possibly indicates room for new market entrants. But regional GGR growth was rather strong over the two years, adding nearly \$600 million (6.9%) in 2017 and over \$455 million (5%) in 2018 (see Table 1).

Perhaps most notable is that AC casinos finally reversed their declining trend and enjoyed ever-so-slight GGR gains (\$7.4 million) in 2017. Each of the seven remaining casinos absorbing activity from the Trump Taj Mahal, which closed in 2016 after its GGR declined by \$300 million from 2008 to 2015.

AC again experienced GGR gains in 2018. Its GGR rose by over \$97 million vis-à-vis 2017. But it is notable that the additions of the Hard Rock and Ocean Resort casinos for only the second half of the year effectively have cannibalized potential growth from existing casinos; all but one of which experienced GGR declines which in aggregate have amounted to \$156 million. Moreover, this trend appears to be continuing, as year-to-date casino win through June 2019 indicates lower revenues than year-to-date 2018 for every AC casino but the Hard Rock and Ocean Resort.

THE NEXT PHASE

The current phase of reporting relied on annual data on the region's casinos to give an overview of the general state of the regional casino gaming market and the general posture with respect to risk of New Jersey's (NJ's) casinos within that market. Future phases of reporting will examine risks to NJ's casinos in more detail. The next report will focus on risks to NJ's casinos that might arise from fluctuations in the regional and national economies as well as the magnitude of their sensitivity to nearby competition.

With a focus on sensitivity of the regional gaming market to gyrations and long waves in the state and national economies, we will attempt to examine what motivates change in the regional GGR/RAPI ratio. That is, after collating the casino data so that it aligns with our quarterly forecasting database, we will attempt to tie it to variables in the R/ECON™ forecast. In particular, we intend to find out the extent to which the success of NJ's casinos is tied to the success of NJ's economy. And while neither has existed long, we hope to identify parallel sensitivities with respect to sports and online betting.

Each casino outside of Atlantic City (AC) has its own market catchment area. Because of its unusual agglomeration of casinos, AC has traditionally lured customers from a much broader region than does its competition, at least that is the thinking of pundits in the field of gaming. We will test these hypotheses in the next phase but measuring travel times from casinos to counties in the regional gaming market. Using what is called a "gravity model," we will attempt to identify the reach of the 2018 market area for each non-NJ casino in the regional market as well as that for the set of all NJ casinos. This will enable us to derive elasticities of the sensitivity of NJ casinos to new hypothetical market entrants at various distances from AC as well as in AC itself.

Data permitting, we also intend to report briefly and quickly upon the several years of financial reports for all NJ casinos between 2008 through 2014. The point of this inquiry will be to see if there is an easy way to identify failing casinos prior to their closure.

Table 1: Regional Gross Gaming Revenue and Share of Regional Income: AC and non-AC

Year	AC Gaming Revenue	Gross (Win)	Non-AC Gaming Revenue (Win)	Total Regional Gross Gaming Revenue (Win)	Regional Income	AC Casino GGR Share of Regional Income	Non-AC Casino GGR Share of Regional Income	Total Casino GGR Share of Regional Income
1993	3,301,360,000			3,301,360,000	691,638,300,000	0.477%		0.477%
1994	3,422,534,000			3,422,534,000	714,871,600,000	0.479%		0.479%
1995	3,747,578,000			3,747,578,000	757,373,100,000	0.495%		0.495%
1996	3,813,598,000		184,378,411	3,997,976,411	802,234,500,000	0.475%	0.023%	0.498%
1997	3,906,140,000		298,905,100	4,205,045,100	851,360,000,000	0.459%	0.035%	0.494%
1998	4,032,998,000		350,821,200	4,383,819,200	907,132,300,000	0.445%	0.039%	0.483%
1999	4,164,199,000		412,493,300	4,576,692,300	957,972,200,000	0.435%	0.043%	0.478%
2000	4,300,734,397		485,104,300	4,785,838,697	1,043,015,600,000	0.412%	0.047%	0.459%
2001	4,303,078,299		526,639,900	4,829,718,199	1,085,087,400,000	0.397%	0.049%	0.445%
2002	4,381,579,187		565,909,900	4,947,489,087	1,089,654,300,000	0.402%	0.052%	0.454%
2003	4,488,334,419		501,999,700	4,990,334,119	1,111,018,300,000	0.404%	0.045%	0.449%
2004	4,806,800,604		585,603,466	5,392,404,070	1,167,247,100,000	0.412%	0.050%	0.462%
2005	5,018,276,523		647,504,990	5,665,781,513	1,220,338,400,000	0.411%	0.053%	0.464%
2006	5,217,713,795		809,745,207	6,027,459,002	1,314,900,000,000	0.397%	0.062%	0.458%
2007	4,920,786,970		1,888,311,745	6,809,098,715	1,410,466,800,000	0.349%	0.134%	0.483%
2008	4,544,960,791		2,487,367,942	7,032,328,733	1,432,955,900,000	0.317%	0.174%	0.491%
2009	3,943,171,237		2,861,716,669	6,804,887,906	1,395,540,200,000	0.283%	0.205%	0.488%
2010	3,564,330,358		3,390,790,354	6,955,120,712	1,452,312,500,000	0.245%	0.233%	0.479%
2011	3,315,939,476		4,146,019,549	7,461,959,025	1,536,570,300,000	0.216%	0.270%	0.486%
2012	3,050,700,679		5,102,264,255	8,152,964,934	1,617,684,500,000	0.189%	0.315%	0.504%
2013	2,862,068,918		5,556,623,181	8,418,692,099	1,638,447,600,000	0.175%	0.339%	0.514%
2014	2,619,250,906		5,624,342,717	8,243,593,623	1,715,482,400,000	0.153%	0.328%	0.481%
2015	2,414,237,376		5,974,416,692	8,388,654,068	1,790,198,800,000	0.135%	0.334%	0.469%
2016	2,406,012,101		6,156,928,065	8,562,940,166	1,847,448,800,000	0.130%	0.333%	0.464%
2017	2,413,407,612		6,742,576,235	9,155,983,847	1,947,560,200,000	0.124%	0.346%	0.470%
2018	2,510,754,211		7,099,901,254	9,610,655,465	2,013,543,400,000*	0.125%	0.353%	0.477%

*Denotes estimated value for 2018 only.

Table 2: Change in Gross Gaming Revenue: AC and Non-AC with AC Share of Total Win

Year	AC Gross Gaming Revenue (Win)			Non-AC Gross Gaming Revenue (Win)			AC Share of Total Win
	Total	Absolute Change	Pct. Change	Total	Absolute Change	Pct. Change	
1993	3,301,360,000						
1994	3,422,534,000	121,174,000	3.7%				
1995	3,747,578,000	325,044,000	9.5%				
1996	3,813,598,000	66,020,000	1.8%	184,378,411	184,378,411	-	95.4%
1997	3,906,140,000	92,542,000	2.4%	298,905,100	114,526,689	62.1%	92.9%
1998	4,032,998,000	126,858,000	3.2%	350,821,200	51,916,100	17.4%	92.0%
1999	4,164,199,000	131,201,000	3.3%	412,493,300	61,672,100	17.6%	91.0%
2000	4,300,734,397	136,535,397	3.3%	485,104,300	72,611,000	17.6%	89.9%
2001	4,303,078,299	2,343,902	0.1%	526,639,900	41,535,600	8.6%	89.1%
2002	4,381,579,187	78,500,888	1.8%	565,909,900	39,270,000	7.5%	88.6%
2003	4,488,334,419	106,755,232	2.4%	501,999,700	-63,910,200	-11.3%	89.9%
2004	4,806,800,604	318,466,185	7.1%	585,603,466	83,603,766	16.7%	89.1%
2005	5,018,276,523	211,475,919	4.4%	647,504,990	61,901,524	10.6%	88.6%
2006	5,217,713,795	199,437,272	4.0%	809,745,207	162,240,217	25.1%	86.6%
2007	4,920,786,970	(296,926,825)	-5.7%	1,888,311,745	1,078,566,538	133.2%	72.3%
2008	4,544,960,791	(375,826,179)	-7.6%	2,487,367,942	599,056,197	31.7%	64.6%
2009	3,943,171,237	(601,789,554)	-13.2%	2,861,716,669	374,348,727	15.0%	57.9%
2010	3,564,330,358	(378,840,879)	-9.6%	3,390,790,354	529,073,685	18.5%	51.2%
2011	3,315,939,476	(248,390,882)	-7.0%	4,146,019,549	755,229,195	22.3%	44.4%
2012	3,050,700,679	(265,238,797)	-8.0%	5,102,264,255	956,244,706	23.1%	37.4%
2013	2,862,068,918	(188,631,761)	-6.2%	5,556,623,181	454,358,926	8.9%	34.0%
2014	2,619,250,906	(242,818,012)	-8.5%	5,624,342,717	67,719,536	1.2%	31.8%
2015	2,414,237,376	(205,013,530)	-7.8%	5,974,416,692	350,073,975	6.2%	28.8%
2016	2,406,012,101	(8,225,275)	-0.3%	6,156,928,065	182,511,373	3.1%	28.1%
2017	2,413,407,612	7,395,511	0.3%	6,742,576,235	585,648,170	9.5%	26.4%
2018	2,510,754,211	97,346,599	4.0%	7,099,901,254	357,325,019	5.3%	26.1%

**Table 3
Regional Gross Gaming Revenue and
Personal Income Growth Rates, 1994-2018**

Year	GGR	Personal Income
1994	3.7%	3.4%
1995	9.5%	5.9%
1996	6.7%	5.9%
1997	5.2%	6.1%
1998	4.3%	6.6%
1999	4.4%	5.6%
2000	4.6%	8.9%
2001	0.9%	4.0%
2002	2.4%	0.4%
2003	0.9%	2.0%
2004	8.1%	5.1%
2005	5.1%	4.5%
2006	6.4%	7.7%
2007	13.0%	7.3%
2008	3.3%	1.6%
2009	-3.2%	-2.6%
2010	2.2%	4.1%
2011	7.3%	5.8%
2012	9.3%	5.3%
2013	3.3%	1.3%
2014	-2.1%	4.7%
2015	1.8%	4.4%
2016	2.1%	3.2%
2017	6.9%	5.4%
2018	5.0%	3.4%*

*Denotes estimated value for 2018 only.

Table 4**2018 Atlantic City Casino Statistics**

	Gaming Tables	Poker Tables	Slots	Gaming Area (Sq. Ft.)	Hotel Rooms	Casino (\$)	Win
Bally's AC	122	42	1,776	127,247	1,214	190,387,935	
Borgata	183	77	2,825	160,391	2,767	710,754,654	
Caesars AC	131	0	1,894	115,924	1,141	281,331,483	
Golden Nugget	81	9	1,460	78,464	717	221,342,863	
Hard Rock	152	0	2,068	119,901	1,971	161,626,907	
Harrah's AC	133	37	2,101	156,284	2,587	332,180,985	
Ocean Resort	117	8	1,934	131,083	1,399	90,021,732	
Resorts	68	0	1,425	79,009	942	183,591,882	
Tropicana	107	18	2,464	127,866	2,366	339,515,770	
Total	1,094	191	17,947	1,096,169	15,104	2,510,754,211	

Source: The 2018 Annual Report of the New Jersey Casino Control Commission.

Table 5**2006 Atlantic City Casino Statistics**

	Gaming Tables	Poker Tables	Slots	Gaming Area (Sq. Ft.)	Hotel Rooms	Casino (\$)	Win
AC Hilton	104	19	2227	69422	809	330,083,000	
Bally's AC	176	30	5,385	178,815	1,745	677,290,000	
Borgata	178	85	4068	136794	1971	739,289,000	
Caesars AC	135	24	3,162	110,895	1,139	555,243,000	
Harrah's AC	84	24	3,708	147,077	1,630	508,980,000	
Resorts	83	8	2,700	81,964	879	282,896,000	
*Sands	79	14	2,153	56,994	620	147,976,000	
Showboat	89	24	3,410	120,062	1,331	429,514,000	
Tropicana	162	48	3,888	138,868	2,129	459,150,000	
Trump Marina	73	-	2,023	64,271	728	257,166,000	
Trump Plaza	91	-	2,281	95,582	906	300,894,000	
Trump Taj Mahal	134	71	3,768	112,922	1,250	529,233,000	
Total	1,388	347	38,773	1,313,666	15,137	5,217,714,000	

* Sands closed in November 2006. Sands casino win is for 2006; other Sands data are for 2005.

Source: The 2006 Annual Report of the New Jersey Casino Control Commission.

Table 6							
1999 Atlantic City Casino Statistics							
	Gaming Tables	Poker Tables	Slots	Gaming Area (Sq. Ft.)	Hotel Rooms	Casino (\$)	Win
AC Hilton	95		1820	59832	804	291,980,000	
Bally's AC	141	15	4,009	120,284	1,246	494,764,000	
Caesars AC	126	6	3,566	110,540	1,148	461,357,000	
Claridge	64		1,753	58,932	507	165,913,000	
Harrah's AC	71	8	2,826	86,131	1,174	382,826,000	
Resorts	75		2,183	67,655	644	222,123,000	
Sands	88	12	2,001	57,968	532	230,057,000	
Showboat	75		3,744	83,901	800	359,974,000	
Tropicana	119	43	3,709	117,453	1,624	398,487,000	
Trump Marina	79		2,232	73,734	728	272,809,000	
Trump Plaza	94		2,393	85,912	904	358,828,000	
Trump Taj Mahal	143	67	4,482	120,829	1,250	525,080,000	
Total	1,170	151	34,718	1,043,171	11,361	4,164,198,000	
<i>Source: The 2000 Annual Report of the New Jersey Casino Control Commission.</i>							

Figure 2
Regional Casino Marketplace

