Assessing the impact of hold percentages on overall slot revenue
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AGEM engaged respected Las Vegas firm Applied Analysis to assist in the assessment of how slot holds and other factors affect overall slot revenues in select U.S. markets.

Overall Conclusions: Based on our primary research conducted in selected markets independent from this engagement, review of publicly adjust consumer spending data, and our understanding of the gaming sector (it appears broader economic conditions have played a meaningful role in the overall performance of the slot industry. During its out-of recession economic period, aggregate data further reported similar trends (in handle and win). On the other hand, the point at which the economic climate shifted from expansion to contraction, the slot industry followed suit. More specifically, total slot handle and win contracted for the first time in 2008 (the first full year of the Great Recession). This appears to be the inflection point for slot operators overall. While economic conditions appear to be a material factor in slot performance trends, there may be other factors impacting the industry's overall performance, most notably following the conclusion of the most recent recession. Consumer spending has improved in many right gaming markets throughout the United States in recent years, while gaming volumes continue to contract. These divergent trends, along with consumer spending a smaller share of their personal income on gaming activities in the post-recession period (July 2009 to present), suggest other factors may be impacting slot play.

Overall, the data assembled and analyzed suggest consumers' share of income spent on gaming activities began to plateau in the 2000s, which was also the time in which slot hold percentages began to report their most significant rate of increase. By 2008, the onset of the Great Recession appeared to be a triggering event shifting the spend profile of consumers. While it would not be unreasonable for slot win to decline during this timeframe (regardless of slot hold changes), it may have been equally reasonable to believe that slot win would have reported recovery earlier in 2008, and timeframe more consistent with broader consumer spending patterns. This recent shift in slot win has also been timed with a period where slot hold percentages have reached their all-time highs. While statistical correlations on a state-by-state basis vary due to any number of factors, the broader, aggregate trends would suggest a rising hold percentage has not translated into incremental slot revenue for operators during the post-recession era. In fact, they very well may be contributing to its decline.

"While statistical correlations on a state-by-state basis vary due to any number of factors, the broader, aggregate trends would suggest a rising hold percentage has not translated into incremental slot revenue for operators during the post-recession era. In fact, they very well may be contributing to its decline."

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AGEM Association of Gaming Equipment Manufacturers (AGEM) is a non-profit international trade association representing manufacturers and suppliers of electronic gaming devices, systems, table games, online technology key components and support products and services for the gaming industry.

AGEM represents the only association of gaming equipment suppliers in the world. Through political action, regulatory influence, trade show partnerships, educational alliances, information dissemination and good corporate citizenship, members of AGEM work together to obtain benefits for companies within the organization.

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AGEM represents top suppliers

AGEM membership includes companies that supply electronic gaming equipment and related products and services. AGEM is supported by a broad range of gaming equipment suppliers, who together provide the gaming industry with a strong level of support to education and responsible gaming initiatives. For more information, visit AGEM.org.

AGEM represents top suppliers
It’s been nearly 10 years since executives at a prominent Las Vegas gaming company discussed how best to jump start business in an attempt to turn good revenue into great revenue.

Looking back, it was a genius decision. But in those first few months after the company loosened all of their machines – boosting video reels from an average of 88 percent payback to 95 percent and increasing the poker pay tables from 8/5 to 9/6 – those executives were not sure they had made the correct decision.

“Those first few months after we made the changes at all of our locations were difficult because the players were cashing out their good fortune and simply going home,” one of the executives recalled. “But then something remarkable happened: Once those players realized this was not a short-term spike in good luck but rather a sustained reward for loyalty, they came back with more regularity and brought their friends with them. It was a bet on player loyalty, giving them good value for their entertainment dollar and we’ve been off to the races ever since.”

“As slot holds move higher, time on device declines as customers lose their money faster. We estimate that in 2004, a player could budget $100 to play slots and gamble for 3.2 hours on a $0.75 per spin bet. With higher holds, $100 may only last 2.6 hours, a 22% decrease. If we assume the average bet moves from $0.75 to $2.00 for the most popular games, the average time goes from 3.2 hours to 1 hour. We think operators have looked to offset the competition by increasing holds to boost margins. The proliferation of penny games on slot floors due to the introduction of ticket-in ticket-out technology is another driver.”

From “How Higher Slots Holds Have Damaged the Regional Gaming and Equipment Business,” The Buckingham Research Group, July 8, 2014
**Colorado**

- November 1990: Original law limits slot bets to $5
- November 2004: Central City Parkway Opens

**Connecticut**

- January 1993: Foxwoods reaches agreement with state to add slots
- September 2013: Flooding may affect gaming revenue
- October 2012: Hurricane Sandy impacts casino revenue

### Slot Hold Percentage

- **2004 vs. 2014:** ▲ 26.6%  
  ▲ 5.66% vs. 7.13%: ▲ 1.47 pts

### Slot Win (Billions)

- November 1990: $0.0
- February 1992: $0.9
- September 2013: $1.8

### Slot Revenue

- 2004 vs. 2014: ▼ 5.2%  
  ▼ $698M vs. $662M: ▼ $36M
- October 2012: $1,646M vs. $1,067M: ▼ $578M

### Slot Hold Percentage

- **2004 vs. 2014:** ▲ 35.1%  
  ▲ 8.15% vs. 8.17%: ▲ 0.2 pts
June 1994: Legislature legalizes slots at the state’s three horse racing tracks

December 1995: First machines go live

November 2002: Slot machines banned at race tracks

May 2004: Sports betting and table games legalized

November 2006: Isle of Capri racino opens in Broward County

November 2007: Seminole Tribe reaches agreement with state to offer Class III slots

April 2013: State cracks down on internet cafes and adult gaming centers

Delaware

Slot Hold Percentage

2004 vs. 2014: ▼ 36.4%
8.16% vs. 7.81%: ▼ .35 pts

Slot Hold Percentage

2004 vs. 2014: ▼ 4.32%
8.16% vs. 7.81%: ▼ .35 pts

2007 vs. 2014: ▲ 153.8%
$201M vs. $510M: ▲ $309M

Florida

Slot Hold Percentage

2006 vs. 2014: ▼ 9.2%
9.5% vs. 6.41%: ▼ 3.09 pts

Slot Hold Percentage

2007 vs. 2014: ▲ 153.8%
$201M vs. $510M: ▲ $309M

Slot Hold Percentage

2004 vs. 2014: ▼ 36.4%
$553M vs. $352M: ▼ $201M

2004 vs. 2014: ▼ 4.32%
$553M vs. $352M: ▼ $201M

8.0% 7.0% 6.0% 5.0% 4.0% 9.0% $0.7 $0.6 $0.5 $0.4 $0.3 $0.2 $0.1 $0.0

Slot Win (Billions)

9.0% 8.0% 7.0% 6.0% 5.0% 10.0% $0.9 $0.5 $0.4 $0.3 $0.2 $0.1 $0.0

Slot Win (Billions)

9.0% 8.0% 7.0% 6.0% 5.0% 10.0% $0.9 $0.5 $0.4 $0.3 $0.2 $0.1 $0.0

Slot Win (Billions)
June 1999: Lawmakers repeal requirement that riverboats must cruise
February 1990: Illinois becomes second state to legalize riverboat gambling
July 2002: Law changes to allow dockside riverboat gambling
October 2013: First video gaming terminals go live
July 2009: Video Gaming Act becomes law
May 2007: VLTs approved for two Indiana racetracks
December 1999: Decade ends with 10 casinos operating
July 1993: Lawmakers approve riverboat gambling

**Slot Hold Percentage**

**2004 vs. 2014:**
- **Illinois:** 41% vs. 6.81%; +2.03 pts
- **Indiana:** 22.4% vs. 9.30%; +1.71 pts

**Slot Revenue**

- **2004 vs. 2014:**
  - **Illinois:** $1,482M vs. $1,852M; +$370M
  - **Indiana:** $1,966M vs. $1,915M; +$51M

**Illinois Slot Hold Percentage**

- 9.0%
- 8.0%
- 7.0%
- 6.0%
- 5.0%
- 6.0%
- 5.0%
- 7.0%
- 8.0%
- 9.0%

**Illinois Slot Win (Billions)**

- '99: $2.0
- '00: $1.8
- '01: $1.6
- '02: $1.4
- '03: $1.2
- '04: $1.0
- '05: $0.8
- '06: $0.6
- '07: $0.4
- '08: $0.2
- '09: $0.0

**Indiana Slot Hold Percentage**

- 9.0%
- 8.0%
- 7.0%
- 6.0%
- 5.0%
- 6.0%
- 5.0%
- 7.0%
- 8.0%
- 9.0%

**Indiana Slot Win (Billions)**

- '96: $3.0
- '97: $2.5
- '98: $2.0
- '99: $1.5
- '00: $1.0
- '01: $0.5
- '02: $0.0
- '03: $0.2
- '04: $0.4
- '05: $0.6
- '06: $0.8
- '07: $1.0
- '08: $1.2
- '09: $1.4
- '10: $1.6
- '11: $1.8
- '12: $2.0
- '13: $2.2
- '14: $2.4

**Indiana Slot Revenue**

- 1996: $11.0
- 1997: $11.5
- 1998: $12.0
- 1999: $12.5
- 2000: $13.0
- 2001: $13.5
- 2002: $14.0
- 2003: $14.5
- 2004: $15.0
- 2005: $15.5
- 2006: $16.0
- 2007: $16.5
- 2008: $17.0
- 2009: $17.5
- 2010: $18.0
- 2011: $18.5
- 2012: $19.0
- 2013: $19.5
- 2014: $20.0
Summary of Domestic Slot Performances

Key Facts and Points of Interest

During the past decade (since 2004), 10 out of 12 states (83%) reported slot hold percentage increases (OH, LA, PA, FL excluded):

Biggest Gainer: IA (+2.32 pts.)
Biggest Decliner: DE (-0.35 pts.)

Slot win varied by state in 2014:

Largest State: NV ($6.7 Billion)
Smallest State: SD ($93 Million)
Total Win: $22.4 Billion

“Let’s stop trying to underestimate the player and simply give them what they want, a quality experience. Slot hold percentages in some jurisdictions have hit a tipping point and gamers no longer find entertainment value in the gaming experience. Casinos can change, collectively or individually, and reverse declines in revenues, or they can accept that their best days are behind them.”

Killing the Gaming Experience by Steven M. Gallaway, GGB (Global Gaming Business magazine), July 2014

“So players are beginning to slowly understand that their gaming experience is getting shorter and shorter. It appears that many may think the only alternative is to slow down. Or not play at all. The product is fantastic, but the price isn’t.”

Buddy Frank, VP of Slot Operations, Pechanga Resort and Casino, Casino Enterprise Management magazine, March 2015

“... reducing the return to player on gaming machines isn’t a guaranteed way to increase player expenditure. In fact, in most instances it will invoke the opposite response where players will spend less and revenues will decline. ... An analysis of clubs across New South Wales reveals that on a per machine basis those clubs with the lowest return to player rates and highest venue hold percentages generate the least revenue.”

Daniel Mitchell, ClubsNSW Senior Policy Officer, Gambling

“If slot hold is raised and patrons at a minimum think it was, does the operator run the risk of chasing them to the competitors, turn them off to the entertainment experience provided or have them ‘self-ban’ from the casino? This risk is exactly why this debate is so important.”

Louis Riss, Chief Financial Officer, Metavallo

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Louis Riss, Chief Financial Officer, Metavallo
July 1989: Becomes first state to legalize riverboat gaming

March 1994: Bet and loss limits eliminated and can stay open 24 hours

April 2001: Mississippi River flooding forces closure of three riverboats

December 2008: Diamond Joe becomes first land-based casino

February 2006: Harrah’s New Orleans reopens for first time since Katrina

August 2005: Hurricane Katrina

July 1991: Legislature legalizes opening of 15 riverboat casinos

June 1993: State grants three Indian tribes gaming licenses

June 1998: State grants 15 new riverboat licenses

February 2006: Harrah’s New Orleans reopens for first time since Katrina

SLOT HOLD PERCENTAGE DATA ONLY AVAILABLE FROM 2008 – 2014

SLOT WIN DATA NOT AVAILABLE
Nevada

Slot Hold Percentage

2004 vs. 2014: ▲11.8% 5.72% vs. 6.40% ▲0.68 pts

New Jersey

Slot Hold Percentage

2004 vs. 2014: ▲9.5% 8.19% vs. 8.96% ▲0.77 pts

November 1989: Mirage opens, ushering in megaresort era

March 2006: California voters pass Proposition 48, shifting focus to legalized gaming on Indian reservations

April 2011: MGM Mirage acquires Mandalay Resort Group from Harrah’s Entertainment Inc.

December 2014: Year ends with 152,300 slots in operation, the most of any state

May 1978: Atlantic City opens its first casino, Resorts Atlantic City

July 2003: Upscale Borgata opens

February 2013: Online gambling legalized

April 2005: MGM Mirage acquires Mandalay Resort Group and Harrah’s Entertainment buys Caesars Entertainment

May 2014: Revel, Showboat, Trump Plaza and Atlantic Club all close

2004 vs. 2014: ▼5.0% $7,099M vs. $6,747M ▼$352M

2004 vs. 2014: ▼47.3% $3,557M vs. $1,875M ▼$1,682M
Summary of Domestic Slot Performances

Key Facts and Points of Interest

During the past 5 years (since 2009), 11 out of 14 states (79%) reported slot win declines (OH, LA excluded):
- Biggest Gainer: FL (+64.9%)
- Biggest Decliner: DE (-37.6%)

During the past decade (since 2004), 7 out of 12 states (58%) reported slot win declines (OH, LA, PA, FL excluded):
- Biggest Gainer: SD (+32.5%)
- Biggest Decliner: NJ (-47.3%)

“Slot win across the country has been slowly decreasing over the past few years, and analysts have all kinds of reasons to explain why... the economy, cost of living, lack of pay raises, etc. I believe that parallels can be drawn to the tightening of hold percentages across all games to the decline in slot revenues. The fix is simple. To provide maximum entertainment value to the players and maximum revenue profitability to the owners, do the following. Loosen the games. Give more time on device. Let players win.”

Charlie Lombardo, slot consultant and longtime gaming industry executive, Casino enterprise Management magazine, March 2015

“The dramatic increase in hold over a short time in the history of gaming has had a negative effect on the player experience, and I believe we are killing the business one customer at a time... The odds of having a good time are getting more like the lottery than the slot machine that made the industry what it was.”

Bruce Rowe, President, Renaissance Casino Solutions, Casino Enterprise Management magazine, March 2015

“The hold percentage of slot floors in U.S. casinos may have reached a tipping point, and consumers may no longer find sufficient value in the gaming entertainment experience. Slot hold is essentially a form of pricing, and, as with all goods and services, there is a certain degree of price elasticity. Prices may be judiciously increased without pushback from consumers. There is a point, though, where pricing becomes inelastic, and at that point consumers decide there is no longer enough value in the product to justify the higher price. That is what appears to be happening to slot machine gaming.”

“The Tipping Point – Rising slot hold percentages are driving players away, and revenue down by Andrew Klebanow, partner at Global Market Advisors, GGB (Global Gaming Business magazine), November 2014
Ohio

2009: Legislature and voters approve VLTs and casino licensing
May 2012: Ohio’s first casino, Horseshoe Cleveland, opens

Pennsylvania

2006: Legislature legalizes gambling and authorizes up to 14 facilities at a 55% tax rate
July 2006: Mohegan Sun at Pocono Downs first to open
November 2006: Smoking restrictions enforced
January 2010: State authorizes operation of table games

Slot Hold Percentage

<table>
<thead>
<tr>
<th>Year</th>
<th>Slot Hold Percentage</th>
<th>Slot Win (Billions)</th>
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<tbody>
<tr>
<td>'12</td>
<td>9.0%</td>
<td>$1.4</td>
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<tr>
<td>'13</td>
<td>8.0%</td>
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<tr>
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<td>7.0%</td>
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<td>'15</td>
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<tr>
<td>'18</td>
<td>5.0%</td>
<td>$0.2</td>
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2013 vs. 2014: 8.4%

Slot Revenue

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<th>Slot Revenue</th>
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</thead>
<tbody>
<tr>
<td>2013</td>
<td>$819M</td>
</tr>
<tr>
<td>2014</td>
<td>$1,184M</td>
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</table>

2013 vs. 2014: 44.6%

Pennsylvania

2007: Legislature legalizes gambling and authorizes up to 14 facilities at a 55% tax rate
July 2004: Pennsylvania first to open
July 2008: Smoking restrictions enforced

Slot Hold Percentage

<table>
<thead>
<tr>
<th>Year</th>
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<th>Slot Win (Billions)</th>
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<td>'06</td>
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<td>$1.6</td>
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<tr>
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<tr>
<td>'14</td>
<td>5.0%</td>
<td>$0.0</td>
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2006 vs. 2014: 18.2%

Slot Revenue

<table>
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<th>Year</th>
<th>Slot Revenue</th>
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<tr>
<td>2007</td>
<td>$1,013M</td>
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<td>2014</td>
<td>$1,132M</td>
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<td>2015</td>
<td>$119M</td>
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</table>
June 1992: State lawmakers legalize video lottery terminals

September 1992: Lincoln Park, which became Twin River Casino, opens with 189 machines

March 2015: Twin River announces intent to purchase Newport Grand slot facility

September 2013: Twin River adds table games after local approval

November 1988: Gambling in South Dakota legalized with a $5 betting maximum on slots, blackjack and poker

October 1990: The first of nine Indian casinos approved by the state opens

November 2000: Initiative to raise betting limit in Deadwood casinos to $100 passes

November 2006: Initiative to ease licensing limits in Deadwood, such as country clubs and bars, fails

November 2014: Voters approve a constitutional amendment allowing new casino games in Deadwood, such as country clubs and bars

November 2014: Voters approve a constitutional amendment allowing new casino games in Deadwood, such as country clubs and bars

2004 vs. 2014: ▲ 17.4% 7.80% vs. 9.16%; ▲ 1.36 pts

2004 vs. 2014: ▲ 43.6% $386M vs. $554M; ▲ $168M

2005 vs. 2014: ▼ 0.3% 8.66% vs. 8.65%; ▼ 0.01 pts

2004 vs. 2014: ▲ 32.5% $70M vs. $93M; ▲ $23M
“As a longtime slot player, I can tell you that years ago the slots were so much fun. The Flamingo in Las Vegas was the king of slots on the Strip. But gradually the good paying slots have disappeared and the new slots have gotten tighter and tighter. Tunica was the same way. The casinos have gotten greedier and that has driven me away. I go much, much less now. Years ago, I would play for hours and hours and have so much fun, but now, the money is going quickly and you have nothing to show for it. Casinos need to loosen their slots up and players will come back.”

Ann Loida of Eureka, Mo., in a letter to GGB (Global Gaming Business magazine), December 2014

“…Loida’s letter has real credibility, and we can see the results of this by the flat or declining slot revenues in almost all jurisdictions. And what is our response, often, to those falling numbers? Raise the casino win percentage so you can make your monthly numbers. And that becomes a vicious cycle. The more and quicker the players lose, the less money and time they play. That has to impact your bottom line.”

GGB (Global Gaming Business magazine) Publisher Roger Gros, December 2014

“We think one of the major causes of lackluster regional revenues is higher slot holds. The higher hold ruins the customer experience because their money is lost faster. Every state we examined had higher holds in 2013 compared with 2004.”

From: Higher Hold Rates Have Damaged the Regional Gaming and Equipment Business, The Buckingham Research Group, July 8, 2014

“…no operator wants their slot floor to be thought of as a place in which it is exceedingly difficult to win. The concern here is that brand damage (in terms of gaming value) would eventually result from identified increases in the house edge.”

Estimating the Ability of Gamblers to Detect Differences in the Payback Percentages of Reel Slot Machines: A Closer Look at the Slot Player Experience, UNLV Gaming Research, Volume 15, Issue 1

“To achieve long-term sustainable success, casinos and slot manufacturers must offer a content and entertainment experience that attracts newcomers, engages casual players, keeps the core players happy, and provides financial gains for the casinos.”

Keeping Players In The Game™ – Breaking The Cycle, Alon Englman, WMS/Scientific Games
Strength in Numbers.
Join AGEM today and work together with the world’s leading gaming suppliers.

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