Analysis of Revenue Potential from a Proposal for Machine Gambling in Pennsylvania

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September 8, 2003

Revenues from Pennsylvania Slot Machines

Purpose

This report has a single purpose: to assess whether a plan to place 35,500 slot machines at eleven locations within Pennsylvania can feasibly generate $1.0 billion dollars in annual tax revenue for the Commonwealth.

This analysis will consider a distribution of all the machines as outlined in a bill presented to the House of Representatives of the Pennsylvania General Assembly in 2003. The $1.0 billion dollar figure represents 34% of the gambling win from the machines. The win is the money remaining with the machines after players put money into the machines and prizes are paid out. The 34% tax is in addition to all other fees. The fees are not considered in this analysis. In this report the revenue assumptions presented by the House of Representatives are examined, as well as those presented by the Pennsylvania Economy League in its newsletter "Issues PA." The focus of this report will be upon assumptions regarding the placement of all the machines for a full year (fiscal year) of operation, e.g., fiscal 2006-2007.

It must be emphasized that this analysis is not a political analysis, and represents neither an endorsement of nor an argument against this or any other gambling proposal.

An Overview Bottom Line

This report concludes that it is reasonable and feasible to achieve the goal of machine win revenues of $3.0 billion dollars with tax revenues of $1.0 billion dollars for the state of Pennsylvania.

Machine Performance

A critical question in evaluating Pennsylvania slot proposals is the relevant revenue per machine per day that can be expected in the state, particularly as the number of machines changes. As will be discussed later in this paper, revenue per machine per day greater than $226 is needed to reach the $1 billion revenue target in Pennsylvania under various scenarios. To establish whether this target can be reached in the Commonwealth, it is useful to review performance in comparable jurisdictions, and also to view the situation globally.

a. Overview

The American Gaming Association, an organization of leading commercial casinos in the United States, reports that the northeast sector of the United States has less casino participation per person that other sectors of the United States. In the Northeast 17% of adults gambled, compared to 33% in the West. Yet this lower casino participation is not a result of less desire to gamble. Indeed surveys going back to the National Gambling Policy Commission of 1975 show east coasters as gambling more when all forms of gambling are taken into account. It is just that there is a vast under supply of casinos in the Northeast. This suggests that there is room for considerable market growth. That growth could be witnessed in sustained revenue for gaming machines even with much larger numbers of machines.

Chart A presents the daily revenues for machines in commercial American jurisdictions as well as Native American casinos in Connecticut and casinos in Ontario.

Chart A: Daily Per Machine Revenue

Location	Revenue Per Machine Per Day
Illinois	$442
Connecticut	$370
Niagara Falls, Ontario	$294*
Detroit-Windsor	$293*
Delaware	$278
Rhode Island	$253
Indiana	$248
Louisiana	$234
New Jersey	$232
West Virginia	$217
Iowa	$190
Missouri	$176
Mississippi	$150
Colorado	$123
Nevada	$90
South Dakota	$50**

* In these jurisdictions, the revenues are daily wins per gaming position. Each machine is one position.
** Deadwood casinos only.
Source: Jason Ader, Bear Stearns 2002-2003 North American Global Gaming Almanac.

For the 35,500 proposed machines of Pennsylvania to produce tax revenues of $1 billion dollars, at a tax rate of 34%, the machines would have to win $2.941 billion a year. Each single machine would have to produce a daily average win of $226. Of the jurisdictions with closely restricted locations for machines, only West Virginia has a lower per day win, at $217. The other lower producers as revealed on Chart A, are venues where there is not a cap on the number of casino or machine locations and applicants do not have to compete with one another for the right to have gambling facilities. While Iowa and Missouri do have self imposed limits (by state commissioners), Mississippi allows as many casinos as qualify as long as they locate facilities next to waters. Colorado and South Dakota have unlimited opportunities for casino licenses albeit they have to locate in selected towns. Only Nevada with "wide-open" licensing has more casinos than South Dakota and Colorado. The casinos in these three venues are also in remote areas widely removed from population centers in other states. This wide-open licensing, restricted by general zoning, and available only to qualified applicants (who undergo personal investigations for integrity), is accompanied in Nevada by a philosophy of oversupply of games.

b. Atlantic City Comparables

The overall performance required by slot machines in Pennsylvania is already being matched today by

machines in Atlantic City. In Atlantic City thirteen casinos have 37,067 machines producing win revenues of $3.139 billion a year, or $232 per machine per day (the casinos take an additional $1.163 billion in table wins away from players).

c. Delaware

Delaware's three machine sites have annual gambling wins of $530 million from 5,200 machines, or $270 per day per machine. The main track--Delaware Park--within 50 miles of Philadelphia, has a high number of players from Pennsylvania. Its 2,000 machines produce daily wins of $362 each.

d. West Virginia

While four sites in West Virginia with 6,475 machines produce $513.7 million in annual revenues, or $217 per machine per day, the leading site within 50 miles of Pittsburgh does much better. Mountaineer Park, approximately 40 miles from Pittsburgh, produces a $183.7 million win from 2,046 machines, or $246 per machine per day.

e. Illinois

Illinois has a population that is very close to that in Pennsylvania. Illinois is also surrounded by states that offer machine gambling near Illinois borders--Indiana, Iowa, Missouri, and Wisconsin. Still Illinois machines achieve the greatest revenues of any of the machines in North America. They each win an average of $442 daily. Chicagoland (northern Illinois and northern Indiana) machines win $406 daily. The Philadelphia area will be allotted approximately the same number of machines as in Chicagoland. If the 15,000 Philadelphia machines performed the same as those in Illinois, they would produce annual wins of $2.4 billion. They would win $2.2 billion if they produced equivalent Chicagoland revenues. Statewide, 18,663 Pennsylvania machines would win the projected $3 billion if they could perform as well as those in Illinois. Again, Illinois has approximately the same population as Pennsylvania, and Illinois is faced with casino competition in every direction near its borders.

f. Rhode Island

In March 2003, Harrah's Entertainment Corp. made a study of the revenue potential for machine gaming expansion in Rhode Island. The report offered a disclaimer cautioning that it was not to be relied upon for actual revenue production. Currently two sites in Rhode Island have 2,478 machines, each producing (an average of) $253 per day in revenues. The Report found that by increasing the number of machines to 4,300, the daily revenue would remain about the same--increasing to $254 in their initial year of operation. However, by 2007, each machine would be winning an average of $318 every day.

g. Maryland

In 2003 the Maryland Public Policy Institute engaged Jeffrey Hooke and Thomas Frey to examine market designs for video slot machines in the "Old Line" state. While they concentrated upon means by which the state government could extract the greatest possible machine revenues, those numbers were generated from estimates of gaming machine wins.

While Maryland, like Pennsylvania, is certainly within easy automobile reach (1-4 hours) of casinos

machines in Delaware, West Virginia, and Atlantic City, they saw the state as a place with limited gaming.

They analyzed a proposed distribution of 12,000 machines, with 9,000 of these being placed in the Baltimore and Washington Metropolitan areas. They considered whether the machines would be at (or near) race tracks, or at locations removed from tracks.

When the machine sites were near tracks, each machine had an average win of $443 per day, with the Baltimore urban machines yielding $600 per day. For off track sites, the per machine per day revenues climbed to $490.

h. Pennsylvania is Likely to Meet or Exceed Required Levels of Machine Performance

The jurisdiction by jurisdiction data reveal that the Northeast does have heavy per unit gambling. However, the greatest revenues are in Illinois, where there are only ten locations, each of which has approximately 1,000 machines (no casino in Illinois can have over 1,200 positions). Other venues in the Northeast receive machine revenues from $232 to $370 per machine per day. The three adjacent venues to Pennsylvania receive from $217 to $278. The $217 figure is for West Virginia and includes tracks in very rural areas as well as the one track near Pittsburgh, the latter having revenues of $246 per machine per day. There is no reason to believe that machines in Pennsylvania, most of which will be in urban areas, and the preponderance of which will be in the two largest metropolitan areas, will achieve revenues lower than the range of the adjacent states. I expect that it is reasonable and feasible for each of the machines to produce wins averaging between $217 and $278 per day, with a great likelihood the revenues will be toward the upper ends of the range. Given the similarities between Pennsylvania and Illinois, it is not impossible that the $442 win per day per machine level in Illinois could be reached in the Commonwealth.

The annual revenues for 35,500 machines therefore will be between $2.812 billion and $3.602 billion. At a tax rate of 34%, the state will receive machine taxes of between $956 million and $1.225 billion per year. However, at Illinois' $442 per machine per day rate, these numbers could reach annual revenues of $5.727 billion and taxes of $1.947 billion.

Visitation

The necessary revenue per machine per day can only be met if people actually visit slots locations in Pennsylvania. This section discusses the likelihood that sufficient visitors will come to play slots in the Commonwealth.

a. Visitation Projections from 2001

Jason Ader is the leading market analyst for gaming securities in the United States. Each year he prepares market analyses and presents these in his Bear Stearns North American Gaming Almanac. His 2002-2003 edition projected results for a Pennsylvania proposal that was put in front of the General Assembly in 2001. That proposal called for 9,000 machines at five locations, with only one location each in the Philadelphia and Pittsburgh metropolitan areas. Ader determined that the five sites would draw 20.9 million visits in 2006, and that they would spend $1.022 billion (lose to the machines). He sees those visits retrieving $140 million from West Virginia machine facilities and up to $60 million from Delaware.

The proposal analyzed here seeks to have almost four times as many machines with two sites in Pittsburgh and four sites in Philadelphia, and with an additional site probably in one of these two metropolitan areas. Yet here we are being asked to justify only two times as many visits as projected by Ader, albeit three times the revenue.

To the extent that the projections of the Bear Stearns North American Gaming Almanac are reasonable and feasible, the notion that 35,500 machines can generate revenues in excess of $3 billion is more than reasonable and feasible.

b. Penetration and Visitation Rates, Mid-Atlantic Neighbors

The Pennsylvania machine sites will receive visitation numbers comparable to similarly located gaming sites.

Penetration rates and participation rates increase as gaming locations are near population centers. They also increase as the volume of gambling activity offered (supply) increases. This is a function of Say's Law ("Build It and They Will Come") as those having supply adjust their behaviors to attract and increase demand.

Chart B: Selected Gaming Visits in the Mid-Atlantic

Location	Annual Visits per Capita Adults 0-50 miles	Annual Visits per Capita Adults 50-100 miles
Atlantic City (NJ)	3.5	2.0
Delaware Park (DE)	1.5	
Mountaineer (WV)	3.7	2.0

The projected population surrounding Atlantic City shows 14 million adults within 100 miles, and additional 13.5 million (for a total of 27.5 million) within 150 miles. By comparison Philadelphia (the proposed location for four gambling sites with 15,000 machines - and a possible fifth site with 3,000 more machines) will have 20.0 million adults within 100 miles and 5.4 million within 50 miles. A 150 mile ring would show greater population near Philadelphia than Atlantic City. The state of Pennsylvania itself includes 8.8 million adults.

The Philadelphia region is closer to New York City than is Atlantic City, and Philadelphia itself is closer to both the Baltimore and Washington metropolitan areas. Philadelphia also serves as an entry point to many (perhaps most) travelers going from the west toward Atlantic City. Moreover the average Atlantic City visitor is a day traveler who spends less than six hours in the casinos. All these reasons suggest that Pennsylvania based machines--especially Philadelphia area machines--will do as well as machines in Atlantic City casinos, individually, and even collectively.

Similar points can be made for other slots venues attracting Pennsylvanians. For example, the Mountaineer racetrack in West Virginia estimates that 30% of its slots play is from Pennsylvania residents. It can be expected that many of these Pennsylvanians will gamble closer to home if given the opportunity.

c. Penetration and Visitation Rates, National

Of particular significance is the number of visits seen nationally, compared to what Pennsylvania is likely to experience. Chart C shows the level of gaming participation in key US markets.

Chart C: Gaming Participation Rates (numbers of visits per adult population)

Miles	0-50	50-100	100-150
New Jersey			
Atlantic City	3.5	2.0	0.9
Illinois			
Metropolis	2.8	1.0	0.2
Peoria	3.8	1.3	
Chicagoland	3.5	1.5	
Indiana			
Southeast	5.0	2.5	0.5
Iowa			
Council Bluffs	9.2	7.0	0.5
QuadCities	5.6	2.5	
Dubuque	6.8	3.3	
Des Moines	6.0	3.0	
Missouri			
Kansas City	6.5	3.0	2.0
St. Louis	7.2	4.5	2.5
Michigan			
Detroit-Windsor	4.2	1.8	0.6
Louisiana			
Shreveport	6.0	4.0	2.5
Lake Charles	6.0	4.0	2.0
New Orleans	8.0	3.5	
Baton Rouge	5.3		
Mississippi			
Gulf	8.5	6.5	4.0
Tunica	8.8	6.5	4.0
Vicksburg	8.8	5.0	

Source: J. Ader

d. Taking Exception

The "Issues PA" newsletter of the Pennsylvania Economy League uses a survey which was conducted by Harrah's casino corporation. Harrah's listed Pennsylvania as one of the ten leading "feeder" markets for American casinos, yet they projected that residents of the state (8.8 million adults) made 9.6 million visits to casinos. Only 3% of these visits were to Delaware, meaning at $75 a visit, Pennsylvanians spent only $21.6 million at the Delaware gaming sites. (This is only 4.1% of all the gambling at Delaware machines). Yet Ader sees one Philadelphia machine site retrieving as much as $60 million in play from

Delaware. Harrah's sees 4% of the visits going to West Virginia where Pennsylvania players would lay down $28.8 million, assuming a $75 per visit amount gambled and lost. (This is only 5.6% of the West Virginia machine gambling). Yet Ader sees one Pittsburgh site drawing $140 million away from West Virginia. The Harrah's numbers are clearly understated, as West Virginia's Charles Town reports over 15 percent of customers from Pennsylvania and its Mountaineer claims 30 percent Pennsylvania patronage." It is inconceivable that the Delaware visitation from Pennsylvania is as low as the Harrah's report would indicate.

It would be reasonable to also challenge the notion--discerned from the Harrah's survey--that Pennsylvania visits to Atlantic City constitute only 12.7% of the gambling there, considering that Philadelphia is the closest major metropolitan area near Atlantic City.

The 2001 Harrah's survey reported that Americans made 303.3 million visits to casinos in a single year. The "average" American adult made 1.5 annual casinos visits, while the Pennsylvanians made only 1.1 visits. The American Gaming Association finds that 27% of American adults visit casinos each year, while the Harrah's data suggest that Pennsylvania casino (including machines casinos) visits equal only 22% of the numbers of adults in the state--making the percentage of adults making visits considerably below 20% (assuming many make multiple visits).

The Harrah's data may also be understated because they do not include Pennsylvania residents who have not traveled to gamble in a casino in the last twelve months, but who may become slots players at nearby locations in Pennsylvania. A trip to a relatively nearby slots gaming establishment will be a more casual and affordable trip for most Pennsylvanians than a lengthy journey to Atlantic City or Las Vegas.

Harrah's also does not count out-of-state residents who may travel to Pennsylvania to play (a number that may be substantial given the proximity of non-gaming states and the relative accessability of potential Pennsylvania gaming sites to certain residents of neighboring states with gaming). Finally, the Harrah's survey defined "casino gamblers" as those "respondents who indicated that they had gambled in a *casino* during the 12 months prior to being interviewed" (emphasis added). While this would seem to exclude non-casino locations like Delaware or West Virginia, respondents from Pennsylvania did cite these states as destinations. Therefore, it is possible that the Harrah's data is understated because some respondents only cited only their visits to traditional "casinos" in their response, and did not report trips to slots-only locations. Some respondents who had exclusively visited slots-only locations might have excluded themselves from the definition entirely.

As a top feeder market very near (within 50 or 100 miles) machine gambling sites in three other states, the current Pennsylvania gaming visits must far exceed those indicated in the Harrah's survey.

The placement of gaming sites near populations generates even greater numbers of visits, the suggestion being that the introduction of 35,500 new gaming machines in Pennsylvania, with the vast majority of these being in the two very large metropolitan areas, will generate sufficient number of visits to yield target revenues for machines and for machine taxes.

Spending

The final piece of the equation is how much gamblers will spend. It has been suggested that gamblers cannot or will not gamble enough in Pennsylvania slot machines to reach the $1 billion revenue target.

However, a close look at the data show that this goal is very likely to be reached.

a. Amount Spent per Visit

The Pennsylvania Economy League (PEL) suggests that each visitor will spend $75 per visit. This is reasonable. It represents a number experienced with daily visits to Las Vegas and Atlantic City. However, it is well below the Illinois number which is $97.

Even at the PEL levels, though, the Commonwealth's $3.0 billion revenue goal is achievable. At $75 per visit, the participation of Pennsylvania's 8.8 million adults would have to be just 4.55 – a figure attained in every jurisdiction in Chart C (above) except Illinois. Based on discussions to date, most Pennsylvania adults would be within 50 miles of a facility, and almost all would be within 100 miles.

The numbers could also be met with visits to Philadelphia facilities alone:

Chart D: Requisite Philadelphia-Area Gaming Visits

Adult Population	0-50 miles	50-100 miles
Philadelphia	5.4 million	14.6 million
Necessary participation for 40 million visits	3.1	1.6

Even if participation rates were lower than those for every jurisdiction besides Illinois in Chart C, there would be over 40 million visits to Philadelphia facilities alone, generating over $3.0 billion in winnings per year at PEL's $75 figure.

b. Total Amount Wagered

The PEL study suggested that "if all tax proceeds from slots were used for property tax relief, gamblers would have to wager about $24.4 billion annually in slots to reach a statewide revenue goal of $830 million…If $1 billion is expected to come from slots alone, gamblers would have to wager about $30 billion - and lose $3 billion."

As noted above, revenues of $3 billion are quite likely given Pennsylvania's demographics. However, it is also important to understand why the $30 billion figure is not appropriate. This requires and understanding of the casino accounting terms of *handle*, *drop* and *hold*. The handle refers to the total amount wagered at a game or games in a specific period of time. This amount includes prize money that is won and then bet again. The handle for a slot machine would constitute all of the coins put into the machine in a period of time without regard to coins coming out as prizes. Drop is the money the gambler brings to the game and plays. For example, if a slots player brings $100 and plays the machines for several hours, both winning and losing, the drop is $100. The hold is the amount of money the house wins from the player over a period of time. For instance, if the slots player arrives with $100 and leaves with $20 after playing for some time, the casino hold is $80.

These illustrations show simply why a statewide annual hold of $3 billion is achievable. Slots players often arrive with a specific drop and play until it is gone, winning and losing. Often, over time, the

casino hold is equal to or nearly equal to the drop. As a result, the handle often cannot be calculated, and is in fact irrelevant, because an annual statewide hold of $3 billion can result from a drop that is not much larger. As discussed above, even if PEL's suggested hold figure of $75 per visitor is used, participation rates indicate that the Commonwealth's tax goal of $1 billion will be achieved. The number of times the visitors' drop is cycled to result in that $75 hold is of little consequence.