Optimum Number of Gaming Machines at the Hollywood Casino in Perryville, MD

Presentation to the Maryland
Lottery and Gaming Control Commission

December 16, 2014

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Questions Please!

(at any time)

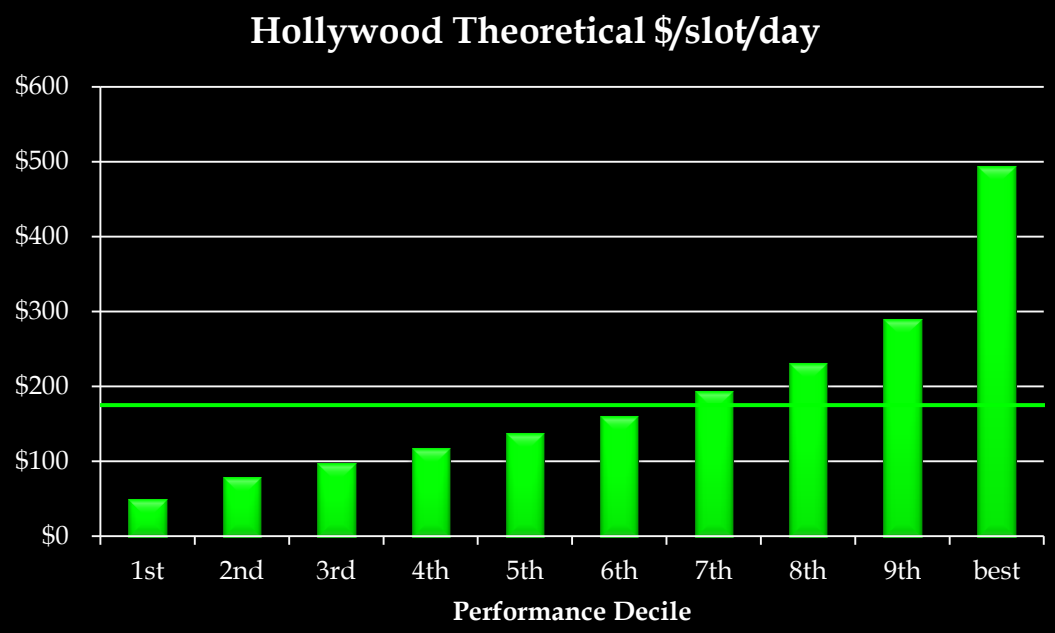
Overview

- Approach: Top-Down
- Limitations and Caveats
- Gravity-Model Projections
  - Number of Machines → Gaming Revenues
- Marginal Revenues vs. Marginal Costs
  - Long Term vs. Short Term
- Results (” ”)

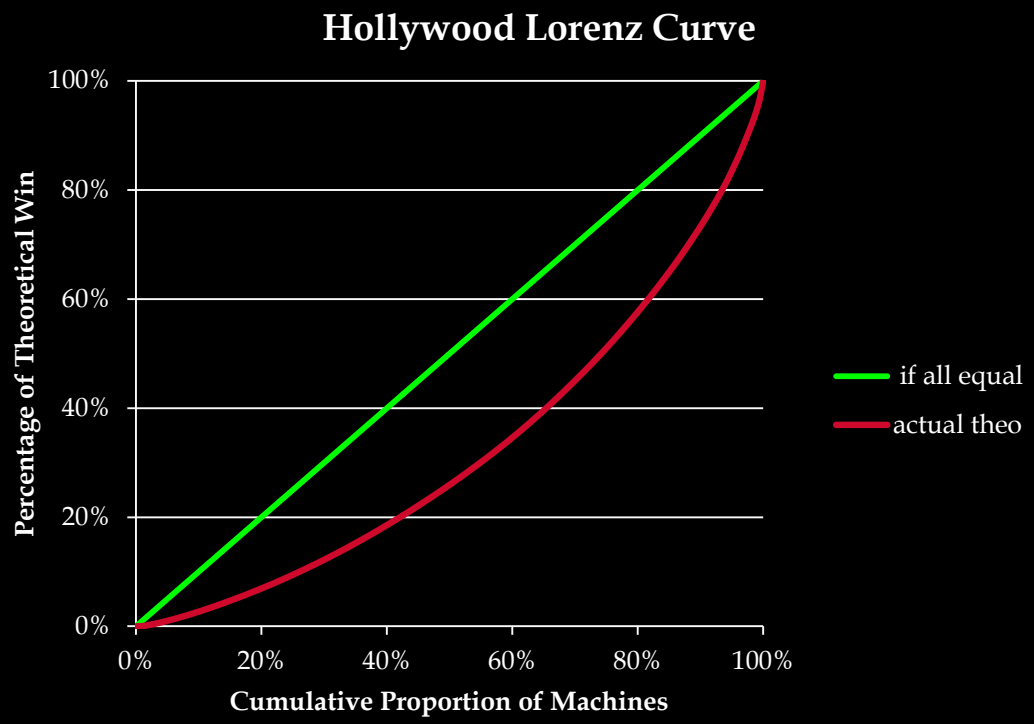
Top-Down Approach

- Looks at (each) facility as a whole
- Amenable to practical calculations
- HOWEVER, treats slots (for the most part) as interchangeable generic units (and they're not!)
- Why not bottoms-up?
  - Complex interactions among the "trees"
  - Data??

All Slots Not Created Equal



“Income” Inequality Among Slots



Other Caveats

- "Maximum" = "Maximum Sustainable"
  - Financial viability of licensees
  - Appropriate incentives to maximize overall revenue performance
- "Size" relationships fuzzy
- Usual academic economic assumptions (rational actors, long-term self-interest, we can analyze things "at equilibrium" etc.)

Gravity Models – Recap

- Location
- Location
- Size
- Everything Else

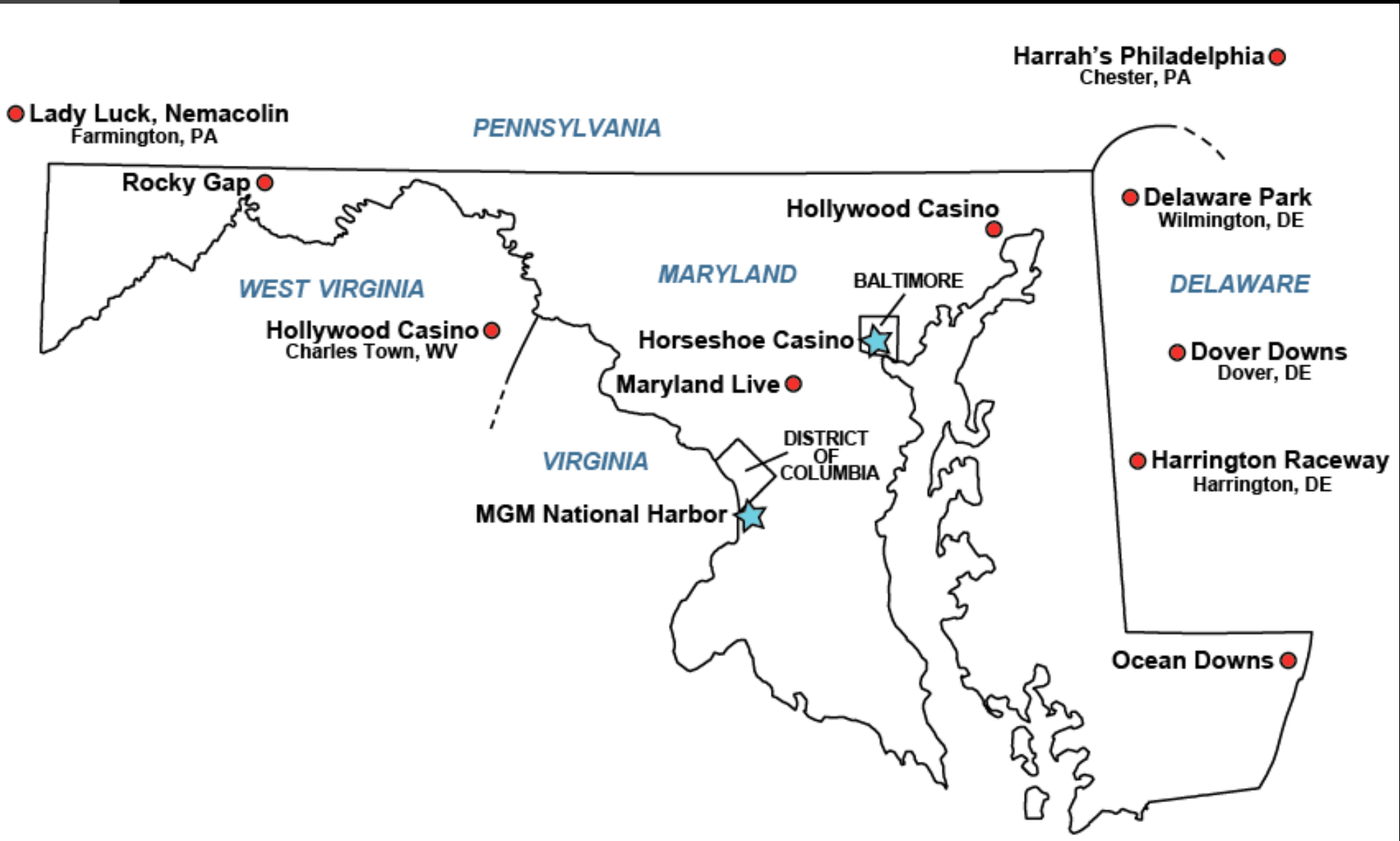
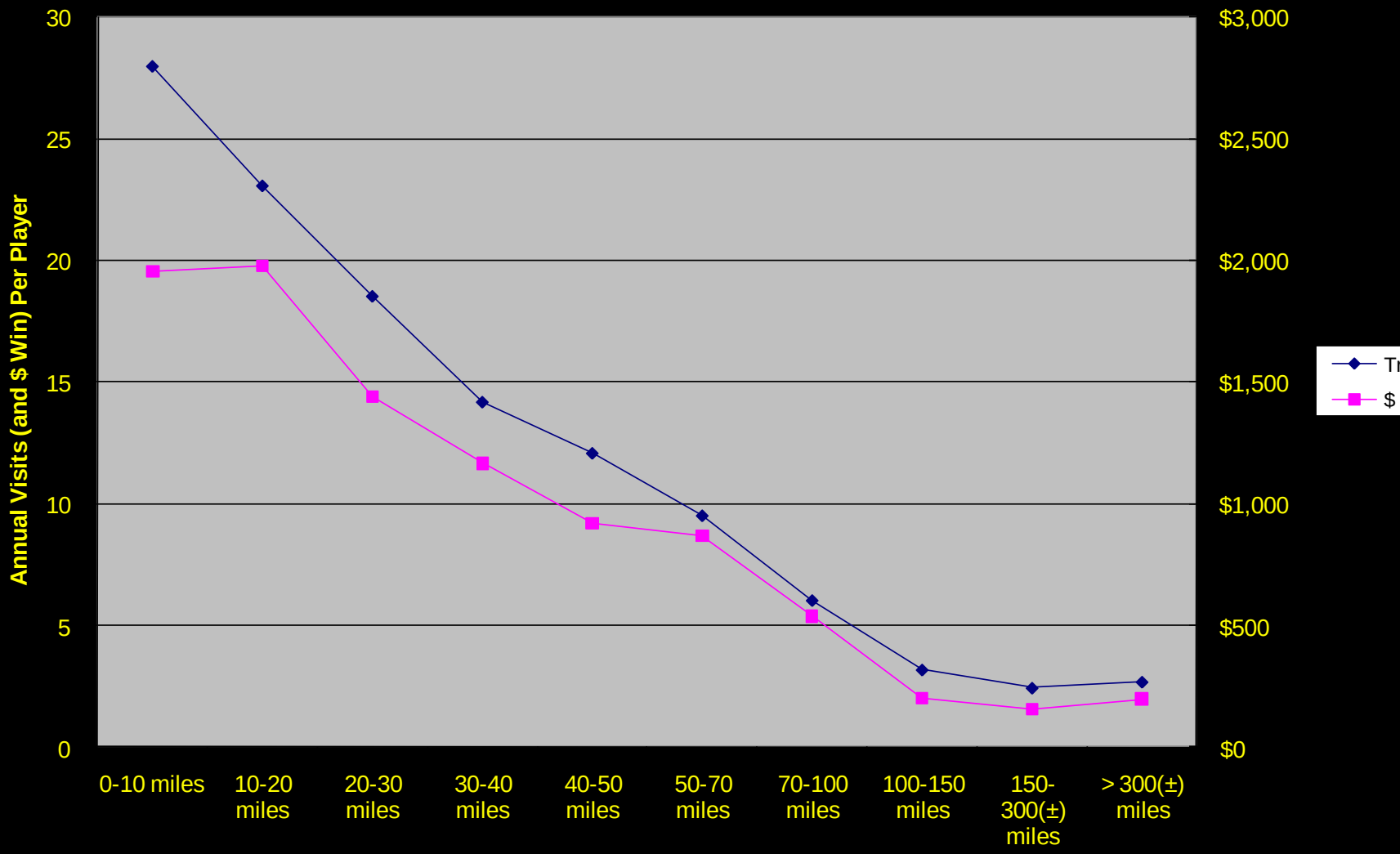

Harrah's Philadelphia
Chester, PA
Lady Luck, Nemacolin
Farmington, PA
PENNSYLVANIA
Rocky Gap
Hollywood Casino
Delaware Park
Wilmington, DE
MARYLAND
BALTIMORE
WEST VIRGINIA
DELAWARE
Hollywood Casino
Charles Town, WV
Horseshoe Casino
Dover Downs
Dover, DE
Maryland Live
DISTRICT
OF
COLUMBIA
VIRGINIA
Harrington Raceway
Harrington, DE
MGM National Harbor
Ocean Downs

Exhibit A-11: Rates of Visitation (and Win) vs. Distance at Casino Z



More Slots, More Spending

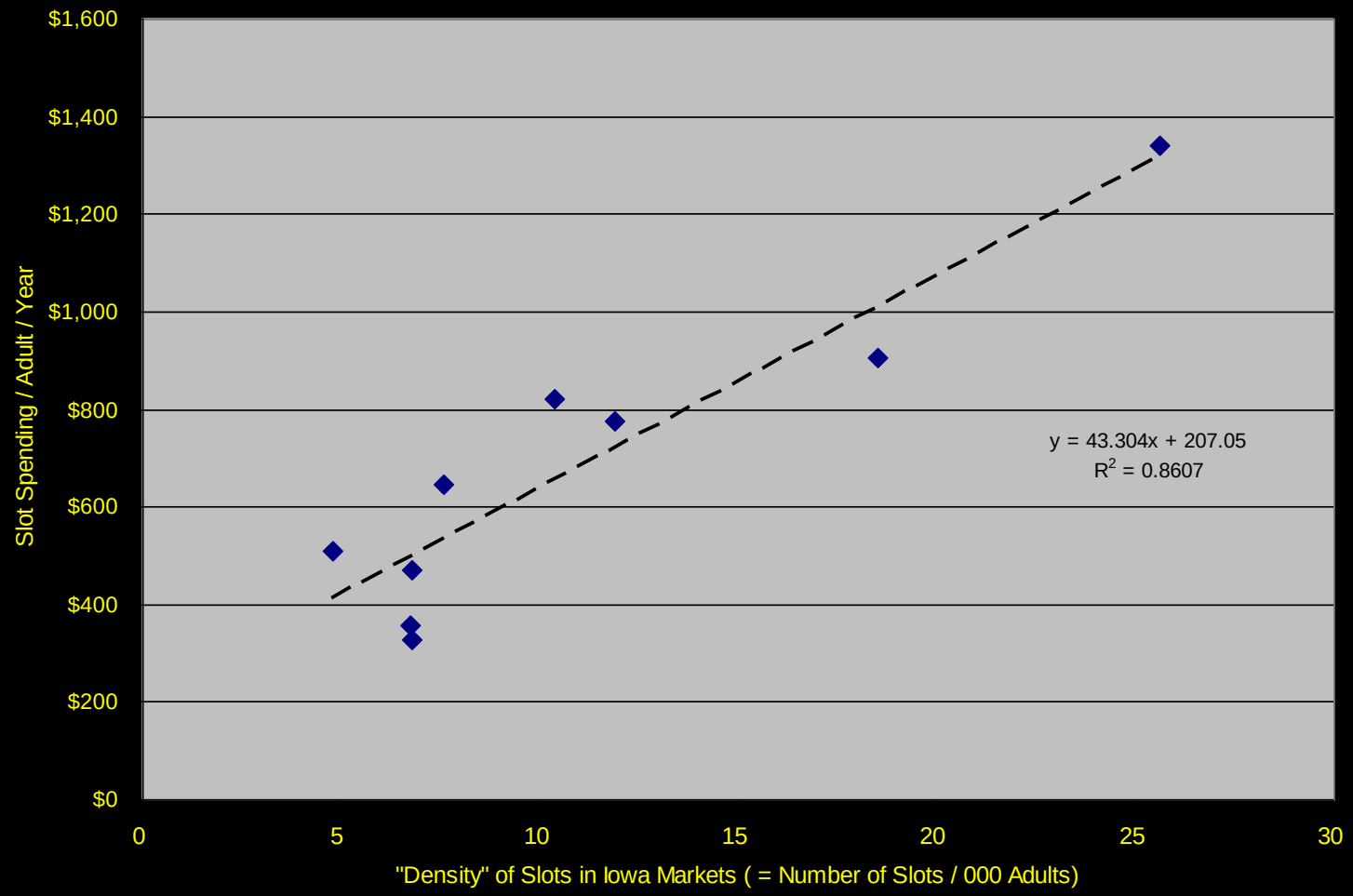
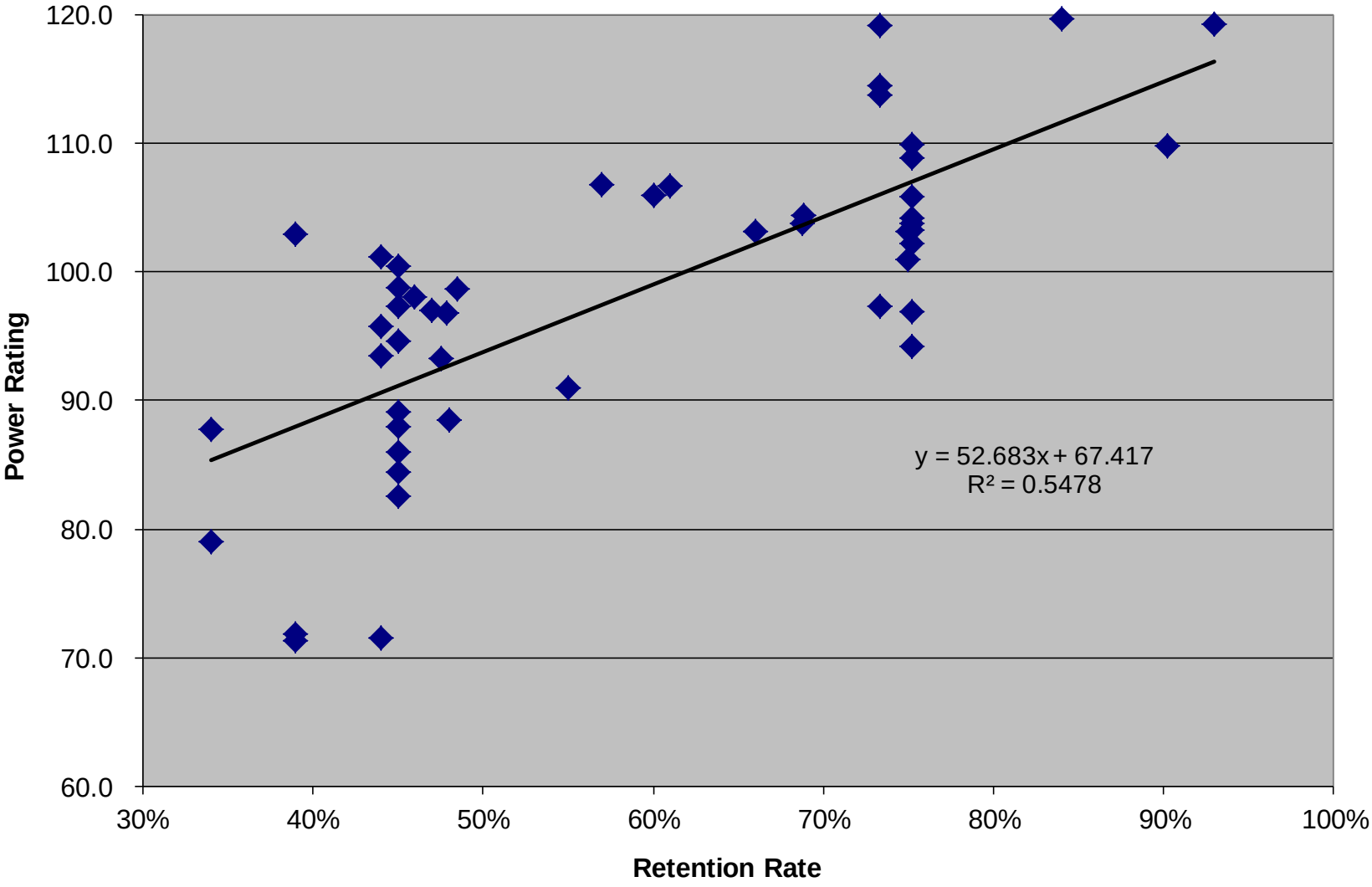


Exhibit 13: Slot Power Rating vs. Casino Retention % (Detail)



Application to Maryland

Northeast Slot Estimates

Travel Time (in minutes):

State	County	ZIP Code	Baltim.	MD Live	H'woodP	RockyG	OceanD	MTR	Wheelin(	M Gras	Charles1(
MD	Allegany	21502	132.0	133.0	168.7	22.2	302.4	167.1	138.4	208.5	96.4
MD	Allegany	21504	123.1	124.1	159.8	13.3	293.5	169.9	136.9	207.0	87.5
MD	Allegany	21521	162.7	163.7	199.4	52.9	333.1	174.4	144.0	214.1	127.1
MD	Allegany	21529	137.1	138.1	173.8	27.3	307.5	162.5	146.8	216.9	101.5
MD	Allegany	21530	124.2	125.3	161.0	13.8	294.6	179.1	146.1	216.2	88.7
MD	Allegany	21532	137.5	138.5	174.2	27.7	307.9	159.7	131.2	201.4	102.0
MD	Allegany	21539	150.0	151.0	186.7	40.2	320.4	167.9	137.6	207.7	114.4
MD	Allegany	21540	159.4	160.5	196.2	49.6	329.8	186.1	157.5	235.8	116.6
MD	Allegany	21543	132.5	133.5	169.2	22.7	302.9	155.9	127.2	197.3	96.9
MD	Allegany	21545	141.5	142.6	178.3	31.7	311.9	159.6	141.1	218.1	106.0
MD	Allegany	21555	140.9	142.0	177.7	41.0	311.3	203.2	170.2	240.4	105.4
MD	Allegany	21557	143.2	144.2	179.9	33.4	313.6	181.1	152.5	222.6	107.6
MD	Allegany	21560	131.8	132.8	168.5	22.0	302.2	179.4	146.4	216.5	96.2
MD	Allegany	21562	149.1	150.1	185.8	39.3	319.5	187.1	158.4	223.0	103.8
MD	Allegany	21766	114.9	115.9	151.6	26.9	285.3	198.0	165.0	235.1	79.3
MD	Anne Arundel	20711	44.8	43.4	80.0	144.1	134.3	303.7	282.2	352.3	96.5
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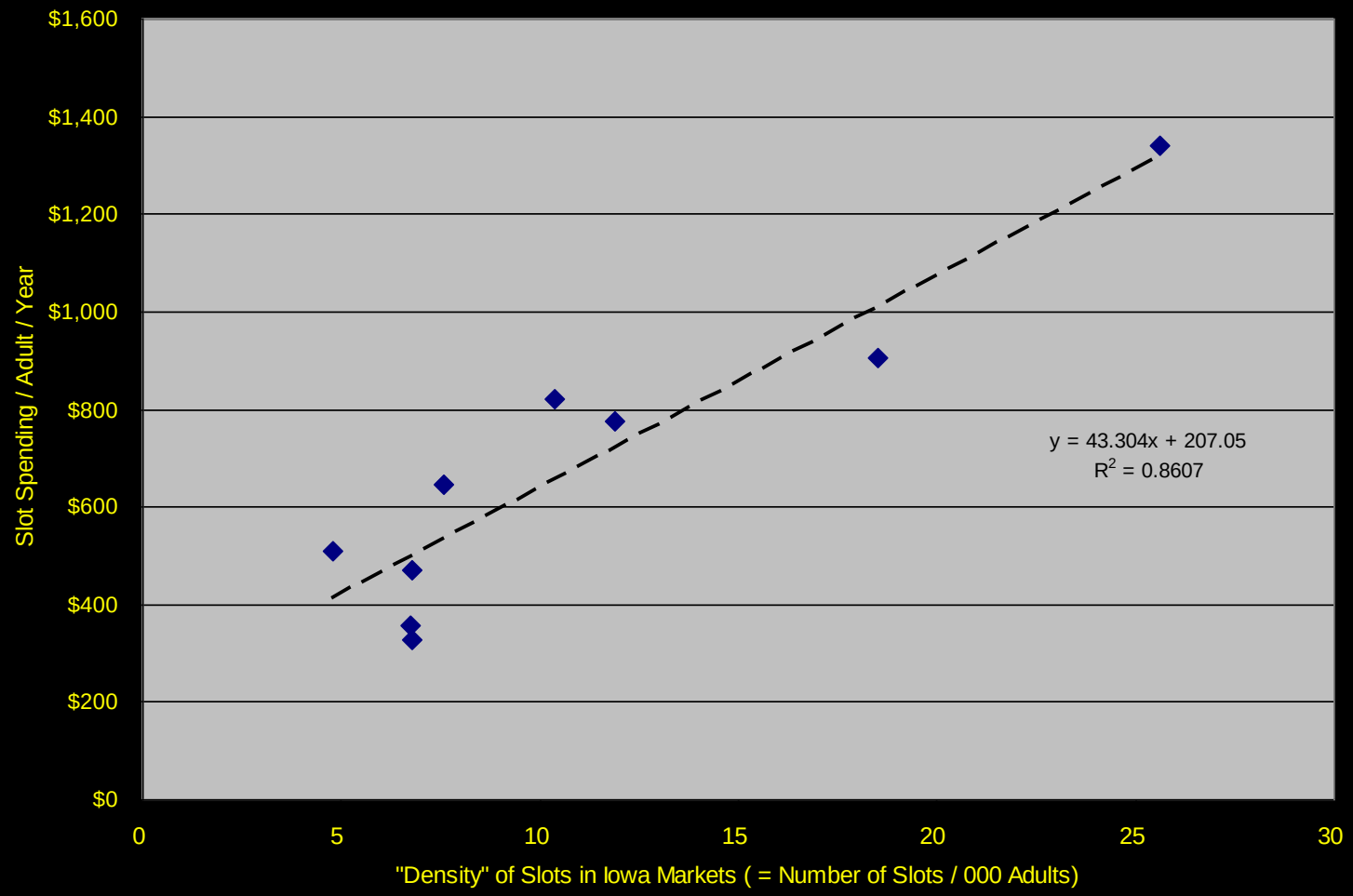
MD	Worcester	21851	147.0	145.2	145.2	257.6	38.2	417.2	395.7	465.8	209.9
MD	Worcester	21862	131.5	129.6	129.6	242.0	12.0	397.3	380.1	450.2	194.4
MD	Worcester	21863	137.8	136.0	136.0	248.3	25.0	403.6	386.5	456.6	200.7
MD	Worcester	21864	153.4	151.6	151.6	263.9	38.3	419.2	402.1	472.2	216.3
MD	Worcester	21872	132.2	130.3	130.3	242.7	16.0	398.0	380.8	451.0	195.1

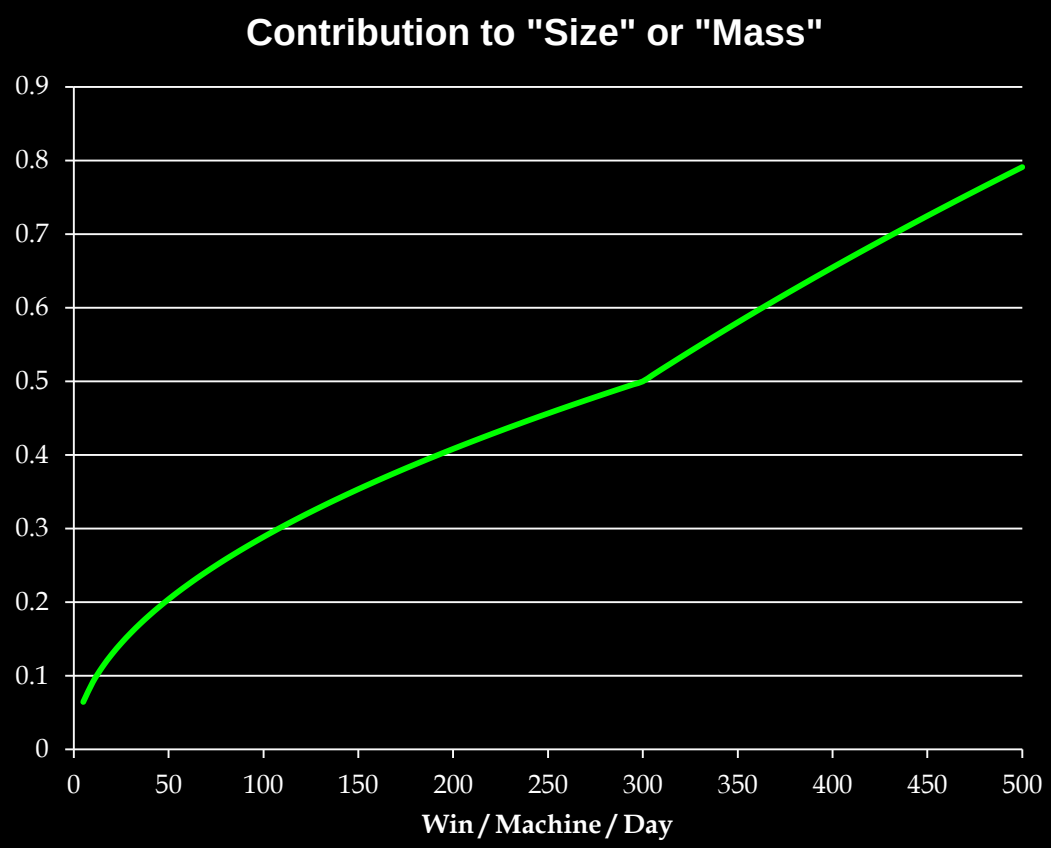
Total MD

 # Slots ≠ “Size”

More Slots, More Spending



More Slots, More Spending



Projections for Hollywood

Exhibit 8: Projected Total Slot Win at Hollywood ($mn) vs. Number of Slots

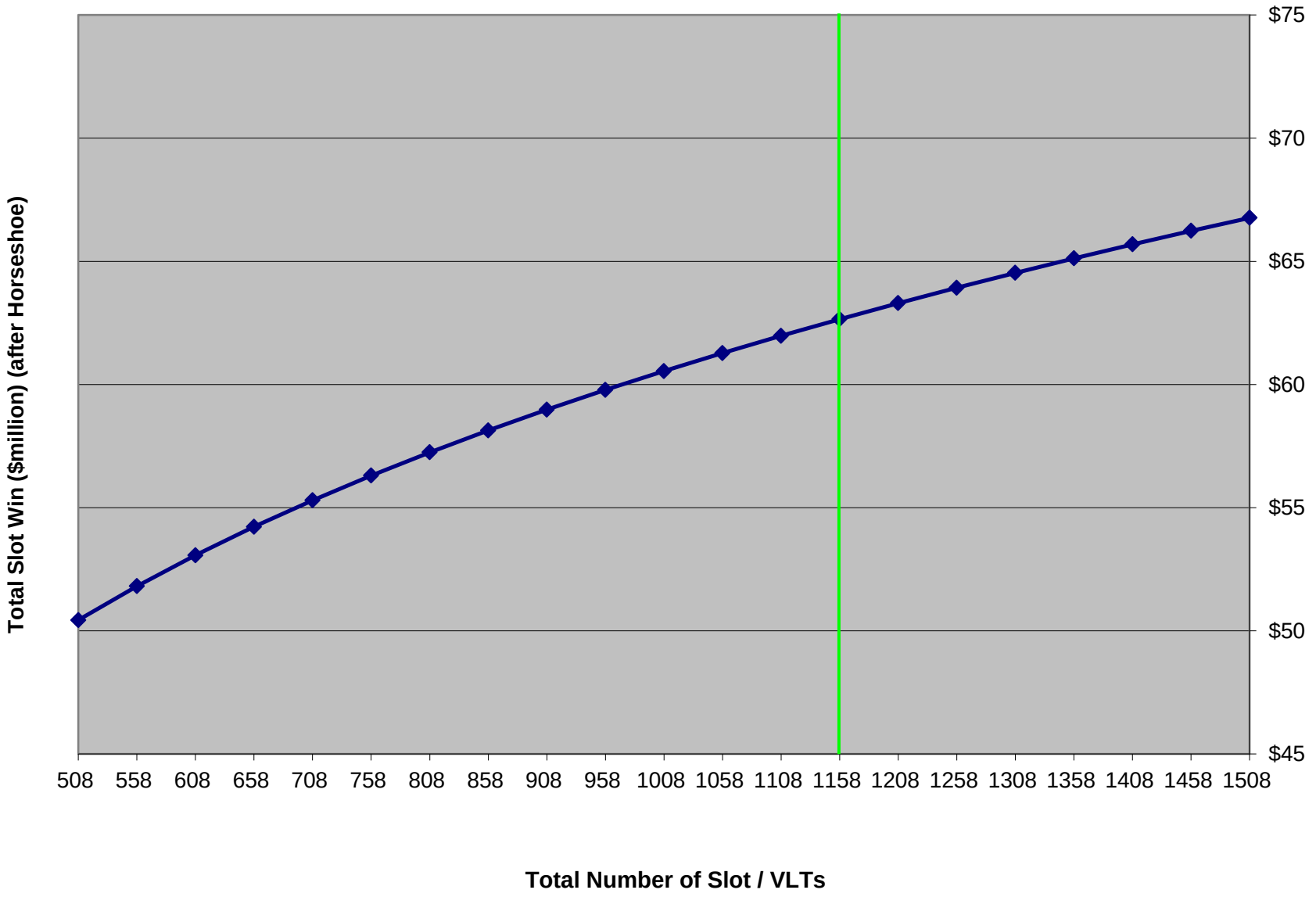


Exhibit 9: Hollywood Average Win/Slot/Day vs. Number of Slots

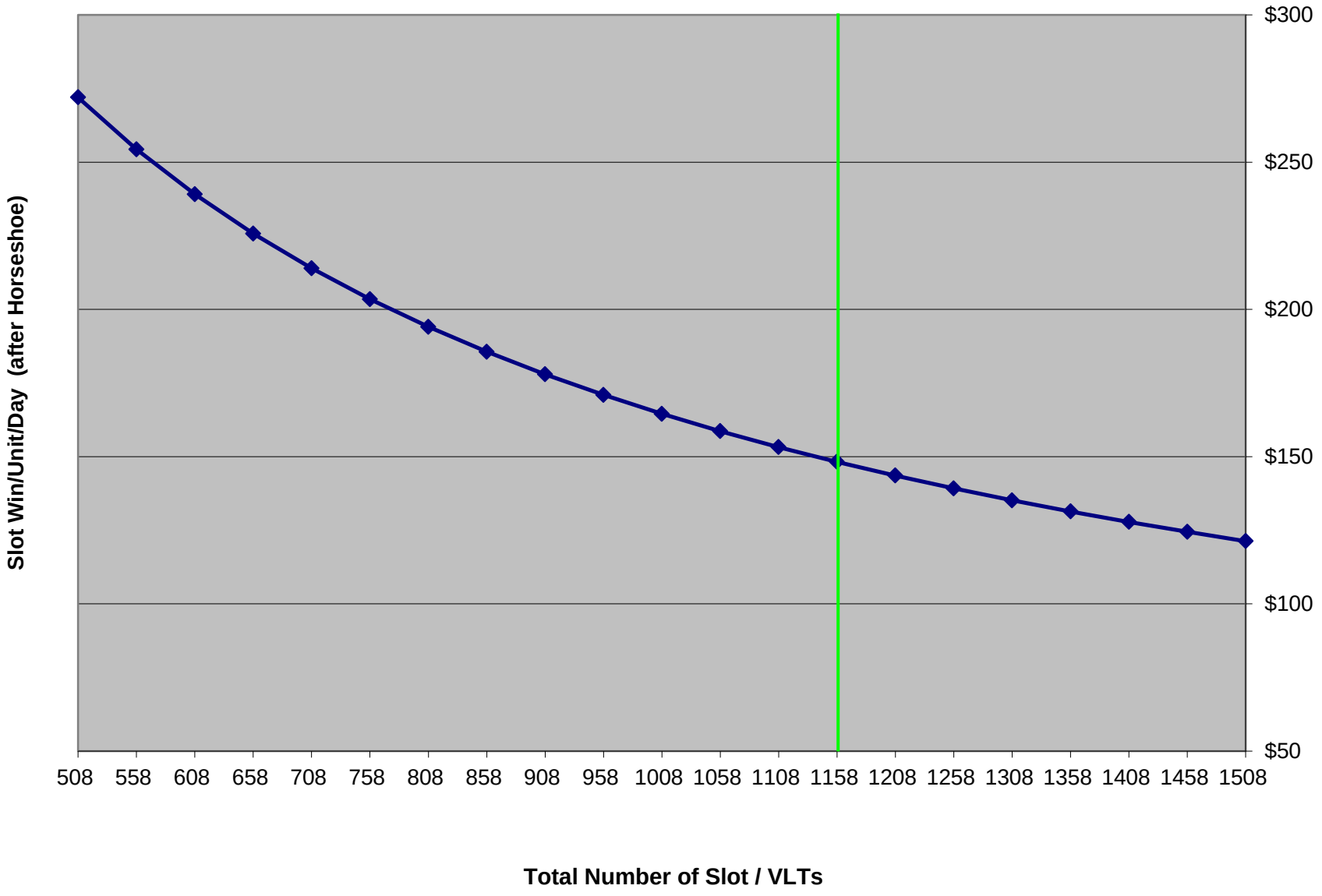


Exhibit 10: Hollywood Win/Day for Each Incremental Slot vs. Number of Slots

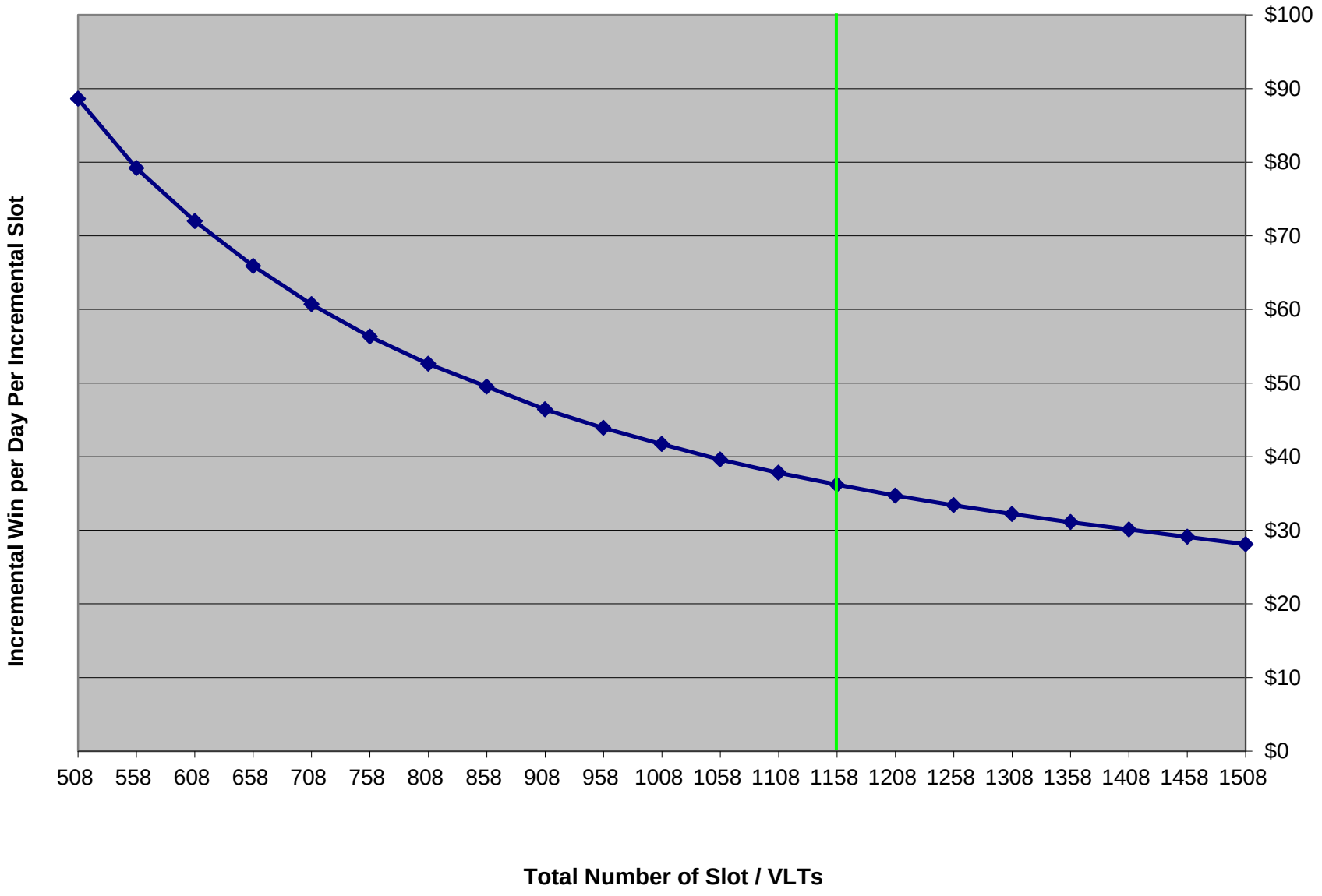


Exhibit 11: Hollywood's Marginal Revenues/Day for Each Incremental Slot

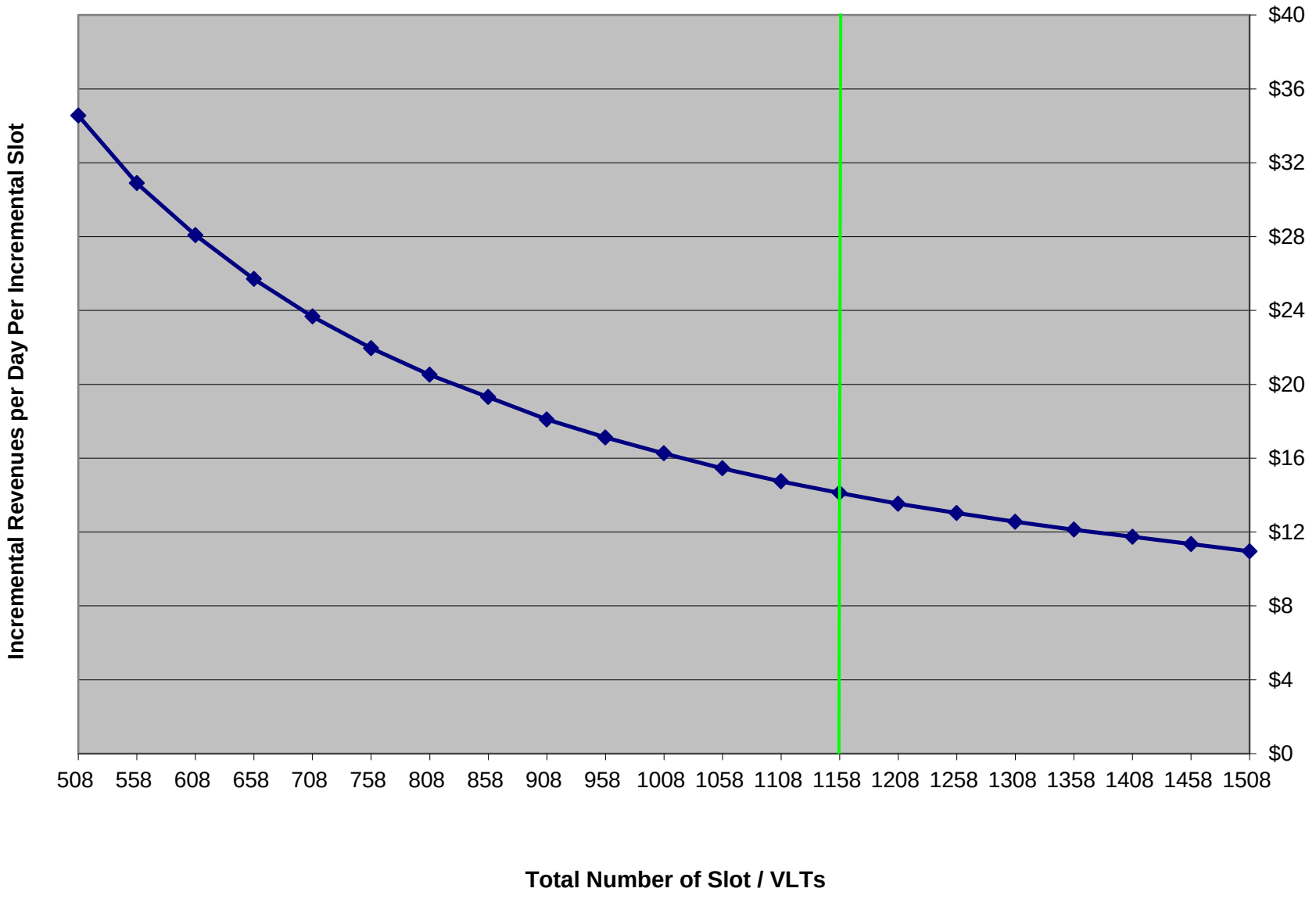


Exhibit 16: Estimated Direct Marginal Costs - Long Term

	Per Year Per Machine		Basis / Comment
Slot Machine	$3,600	$18,000	average -- some more, some less
Furnishings & Fixtures	$600	$3,000	bases, stools, signage, wiring
Surveillance etc.	$400	$2,000	cameras, wiring / wireless, radios
	---	---	(all amortized over 5 years)
Equipment Costs	**$4,600**	$23,000	
Cost of Capital	**$1,150**	10%	x net book value of the above (on average, 50%)
Updates / Conversions	$1,000	$2,000	roughly every 2nd year
Network etc.	$600		includes slot data system
Machine-Related Payroll	$820		roughly 3 FTE per 100 machines (slot tech, EVS, count)
Miscellaneous	$100		electricity, paper, count, etc.
State License Fee	$450		provides revenue to the State, of course
	---		
Direct Operating Costs	**$2,970**		
Customer-Service Payroll	$232 *	1.0%	x incremental GGR (beverage, tech & count)
Marketing & Promotion	$348 *	1.5%	x incremental GGR (out-of-pocket costs only)

Associated Direct Costs	**$581**		
Facility Expansion / Contraction		None Assumed	
Facility Overhead		No Charge	
Management Time & Attention		No Charge	

Total Direct Costs	$9,301	per year per machine	
	= $25.48	per day *	

* actually varies in proportion to incremental GGR; figures shown are at the optimum number of slots and the average for both facilities

Exhibit 17: Estimated Direct Marginal Costs - Near Term

	Per Year Per Machine		Basis / Comment
Slot Machine	$2,000	$6,000	average -- amortized over 3 years
Furnishings & Fixtures	$0		bases, stools, signage, wiring
Surveillance etc.	$0		cameras, wiring / wireless, radios
	---	---	(sunk costs - no impact at margin)
Equipment Costs	**$2,000**	$6,000	
Cost of Capital	**$300**	10%	x net book value of the above (on average, 50%)
Updates / Conversions	$1,000	$2,000	roughly every 2nd year
Network etc.	$600		includes slot data system
Machine-Related Payroll	$820		roughly 3 FTE per 100 machines (slot tech, EVS, count)
Miscellaneous	$100		electricity, paper, count, etc.
State License Fee	$450		provides revenue to the State
Direct Operating Costs	**$2,970**		
Customer-Service Payroll	$232 *	1.0%	x incremental GGR (beverage, tech & count)
Marketing & Promotion	$348 *	1.5%	x incremental GGR (out-of-pocket costs only)
Associated Direct Costs	**$581**		
Facility Expansion / Contraction		None Assumed	
Facility Overhead		No Charge	
Management Time & Attention		No Charge	
Total Direct Costs	$5,851	per year per machine	
	= $16.03	per day *	

* actually varies in proportion to incremental GGR; figures shown are at the optimum number of slots and the average for both facilities

Exhibit 18: Hollywood's Marginal Revenues vs. Long-Term Marginal Costs

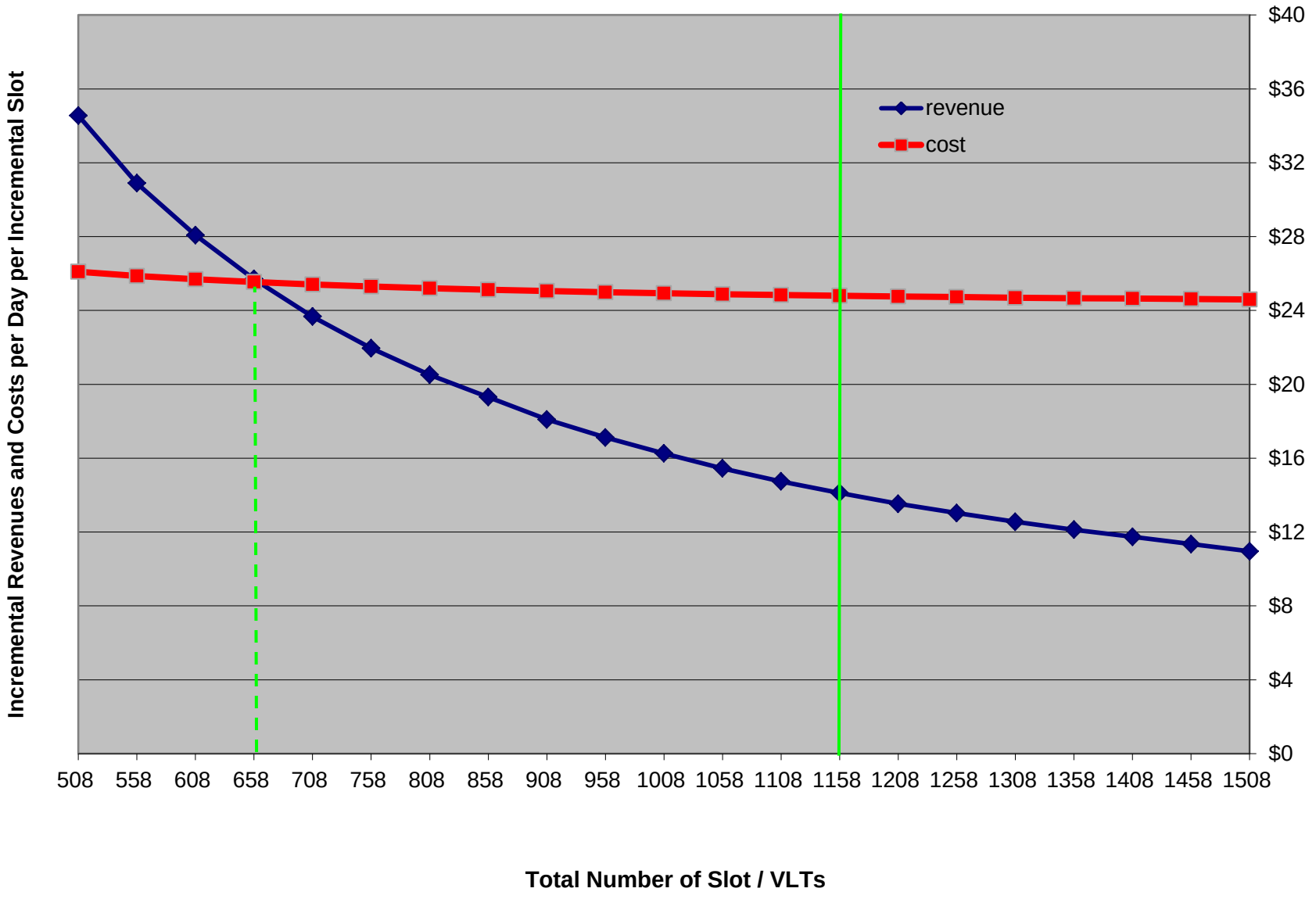
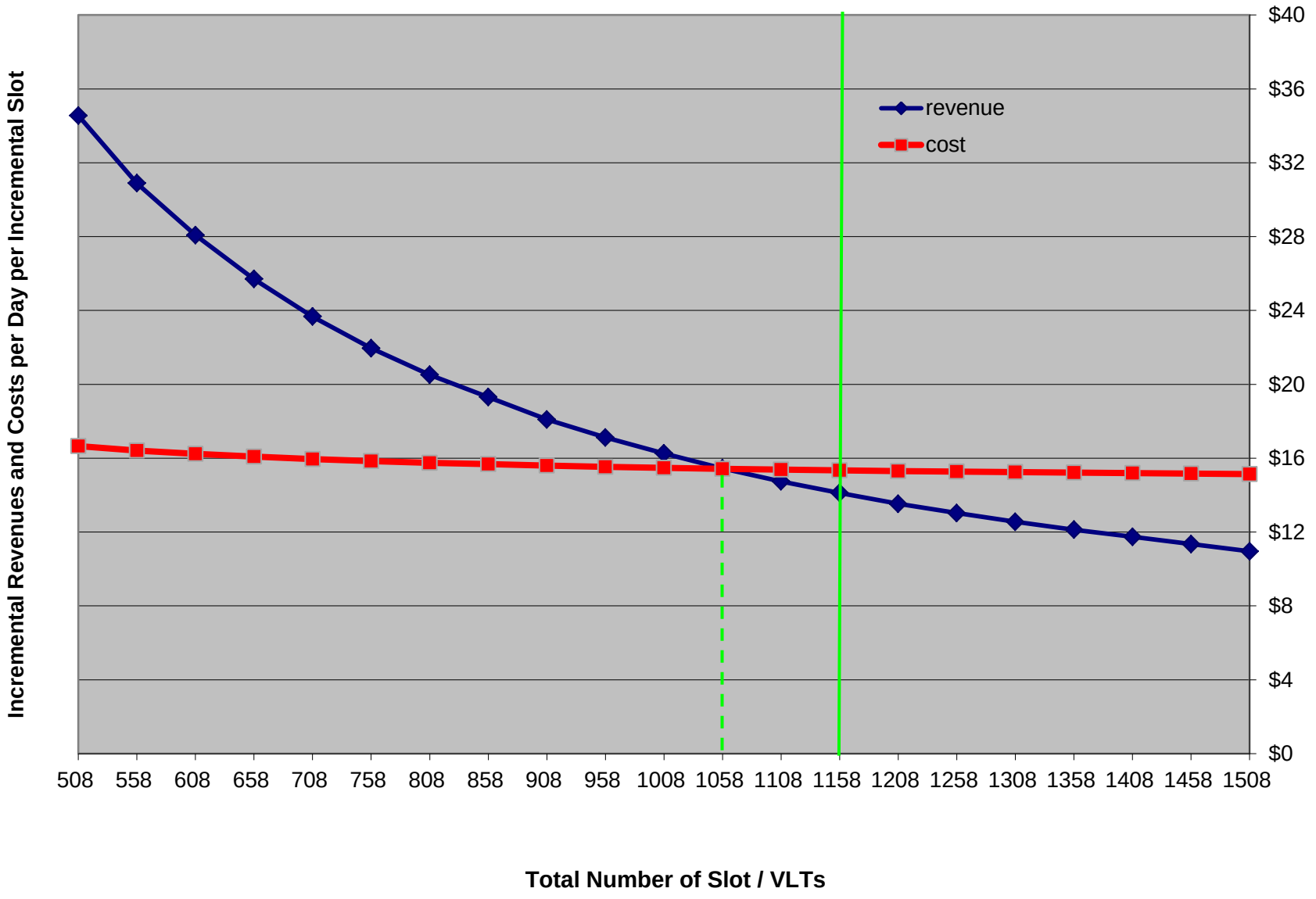


Exhibit 20: Hollywood's Marginal Revenues vs. Near-Term Marginal Costs

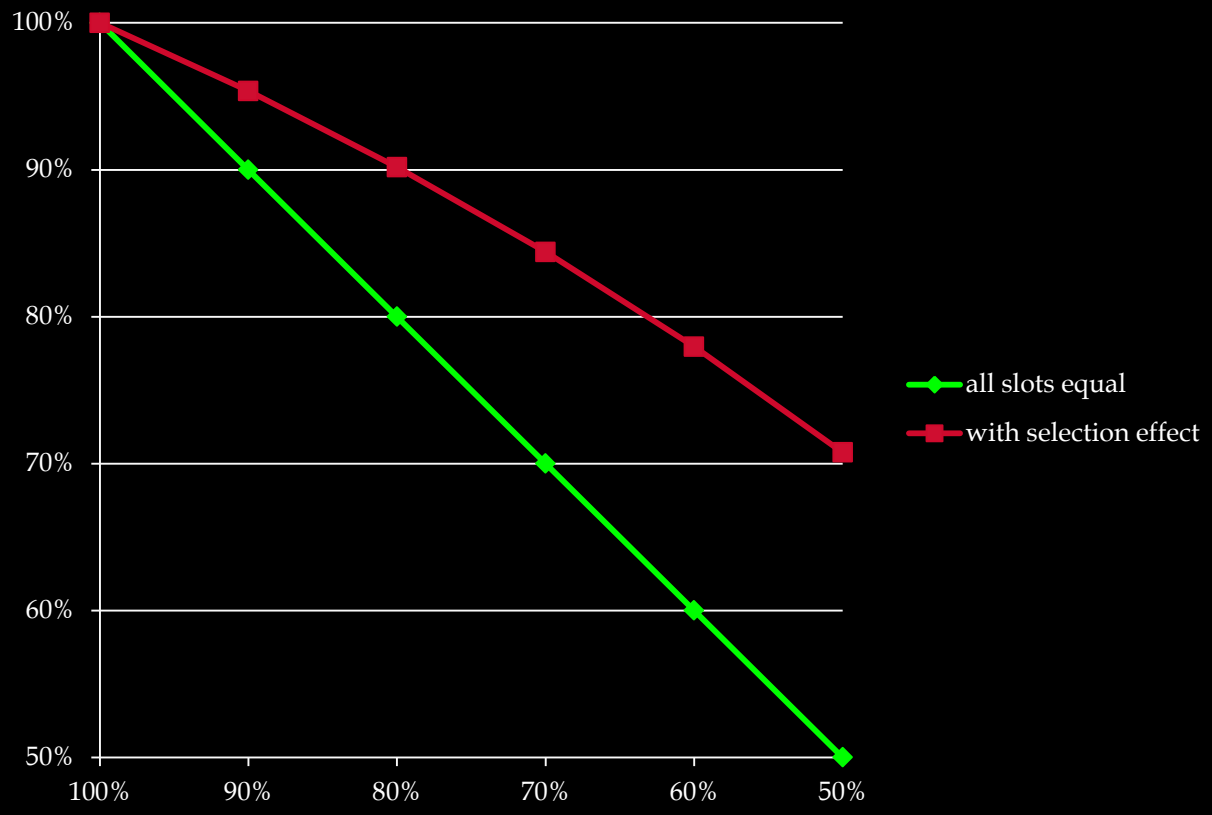


Impacts on State Revenues

- 61% effective tax rate on GTR
- $450/machine annual license fee
- Offset* by small gains at other casinos
- Near Term: Offset* by "selection" effects
  - these evaporate over the long term
- Long Term: Offset* by improved economic efficiency + better "tuning" to the marketplace

* To some extent

Near-Term "Selection" Effects



Bottom Line

	# Slots	Impact on State $
Current	1,158	$ 0
Near Term	1,058	- $ 353,000 *
Assumed Next Year	900	- $ 982,000 *
Long-Term	660	less?

* Annual Rates for Next 12 Months

Sensitivity Analysis

- Consequences of "wrong" number are not dire
- After selection effects, etc., near-term impacts of variation by 100 machines (± from 850) ≈ $527,000 in net State revenues
- Mitigated (if not totally offset) over the long term by changes in productivity

Questions Please!

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HOLLYWOOD
Casino