

Meliora Solutions, LLC

To: Bill Jackson
McAlvey Merchant & Associates

From: Matt Hanley

Date: November 8, 2016

Re: Potential impact of online gaming on commercial casino revenue

You have asked me to analyze the proposal to allow online gaming in Michigan with respect to potential impacts on state revenues, especially those from the three commercial casinos in Detroit and the state lottery. Please see the below discussion, including responses to specific questions you have asked.

Background

Michigan currently authorizes several forms of legal gambling in the state including the state lottery, commercial casinos, and pari-mutuel betting. In addition, several Native American tribes operate casinos in the state. Senate Bill 889 would permit online gaming in the state, subject to several restrictions.

A significant question for policymakers is what impact the new form of gaming would have on existing forms. There are three possible effects:

- Positive – In theory, the legalization of internet gambling could increase the amount spent on other types of gambling. When consumption of one good increases the consumption of another, the goods are referred to as “complimentary goods.”
- Neutral – It’s possible that the consumption of one good is unrelated to the consumption of another, and the increased consumption on the first has no impact on the level of consumption of the other.
- Negative – It is also possible that spending on existing casino gambling could suffer because of the existence of another form of gambling such as online gaming. If consumption of one good comes at the expense (in whole or in part) of another, the two goods are said to be “substitute goods.”

In addition to the consumption relationship discussed above, policymakers must also consider the tax rates that apply to each good. If a new form of gambling has a neutral or complimentary relationship with an existing form, tax revenues will increase (resulting from the tax on the new product, and perhaps from the tax on the existing product). If two goods are substitutes for each other, however, the state may experience a gain or loss of revenue depending on the amount of substitution that takes place and the difference in tax rates.

The Detroit casinos are subject to both state and local taxes on their revenues minus winnings they pay out – the state tax rate is 8.1% and the local tax is 9.9%. The online gaming proposal would levy a state tax of 10% on internet gaming revenues minus winnings paid out.

Research

Economists have studied the interaction between various forms of gaming, but research of online gaming is relatively sparse, due presumably to the relative newness of the technology and the until-recent prohibition of the activity. There is one known study of the relationship between online gaming and commercial casinos. Kahlil S. Philander estimated that an increase of one dollar in gross gaming revenue coincides with an estimated 28 to 30 cent decrease in commercial gaming revenue, representing a moderate substitution effect between the two types of gambling.¹

No known research has estimated the interaction between online gaming and other forms of gambling, such as lotteries or pari-mutuel betting.

Analysis

Because the research available examines only the interaction between commercial casino gambling and online gaming, this analysis is necessarily limited to the subuniverse of gambling revenues from those two sources. However, we can use this information to inform an analysis of two questions you've posed:

Question 1: If we assume no net increase in gambling in Michigan if online gaming is authorized and everything else remains the same, what effect on revenues could the State of Michigan expect?

¹ Philander, K. S. (2011). The Effect of Online Gaming on Commercial Casino Revenue. *UNLV Gaming Research & Review Journal*, 15(2). Retrieved from <http://digitalscholarship.unlv.edu/grrj/vol15/iss2/5>

Philander’s work estimates that 28 to 30 cents of every dollar of online gaming revenue would have otherwise been spent at a casino. (For purposes of this analysis, we will use the midpoint of that range – 29 percent.) So in the aggregate, for every dollar spent at a casino prior to the introduction of online gaming, 29 cents will be spent online instead and the remaining 71 cents will continue to be spent at the casino. In addition, another 71 cents will be spent online (which, along with the 29 cents diverted from casino revenues totals the whole dollar of online gaming revenue). In short, 58.5% (100 divided by 171) of every dollar of revenue will be attributed to online gaming and 41.5% (71 divided by 171) will be from casinos, all else equal.

If we impose the assumption that there would be no net increase in gambling revenue after the advent of online gaming, it would be reasonable to assume that gamblers would choose the same mix of online vs. casino gambling. Using a starting value of \$100 of existing commercial casino revenue, we might expect to see a revenue pattern like the following:

Gambling Revenue

	Casino	Online	Total
Prior to legalization	\$100.00	\$0.00	\$100.00
After legalization	\$41.50	\$58.50	\$100.00
Net change (percent)	-\$58.50 (-58.5%)	\$58.50 (N/A)	\$0.00 (0%)

The corresponding tax revenues would be:

Tax Revenues – State of Michigan

	Casino	Online	Total
Prior to legalization	\$8.10	\$0.00	\$8.10
After legalization	\$3.36	\$5.85	\$9.21
Net change (percent)	-\$4.74 (-58.5%)	\$5.85 (N/A)	\$1.11 (13.7%)

Tax Revenues – City of Detroit

	Casino	Online	Total
Prior to legalization	\$9.90	\$0.00	\$9.90
After legalization	\$4.11	\$0.00	\$4.11
Net change (percent)	-\$5.79 (-58.5%)	\$0.00	-\$5.79 (-58.5%)

Tax Revenues – State and Local

	Casino	Online	Total
Prior to legalization	\$18.00	\$0.00	\$18.00
After legalization	\$7.47	\$5.85	\$13.32
Net change (percent)	-\$10.53 (-58.5%)	\$0.00 (N/A)	-\$4.68 (-26%)

The above suggests that if there is no net increase in gambling and Philander’s estimates are correct, there would be a net decrease in total tax revenues between online gaming and commercial casinos. This result is due to the fact that casino revenues are taxed at a higher (combined state and local) rate than online gaming would be. You will notice, however, the disparate effects on the City of Detroit as compared to the State of Michigan: the State would actually see an increase in revenue, while the City’s revenue would absorb the full effect of the cannibalization of casino gaming by its online competition.

Note: The illustration above and the research findings upon which they are based should not be interpreted to mean that overall gambling will necessarily increase if online gaming is authorized. This exercise merely examines the subuniverse of online and casino gaming grouped together. We might, for example, consider where the additional 71 cents of online gaming in the above illustration is coming from – some or all of it may be coming from other sources of gambling apart from casinos.

Question 2: How much net new gambling would online gaming have to produce in Michigan, all else equal, for there to be no net decline in tax revenues from gaming?

Again, our assessment is limited to combined revenues from online gaming and commercial casino revenue. As illustrated above, tax revenues from the two sources might be expected to decrease in the aggregate if there is no net new gambling as a result of legalization due to the substitution effect and the differential tax rates.

For combined state and local revenues to be unaffected, combined online and commercial casino revenues would have to be approximately 35% higher than current commercial casino revenues are. Under this scenario the State would still see an increase and the City a decrease. Each governmental unit would be held harmless only if the State reimbursed the City for its loss.

Gambling Revenue

	Casino	Online	Total
Prior to legalization	\$100.00	\$0.00	\$100.00
After legalization	\$56.08	\$79.06	\$135.14
Net change (percent)	-\$43.92 (-43.9%)	\$79.06 (N/A)	\$35.14 (35.1%)

Tax Revenues – State of Michigan

	Casino	Online	Total
Prior to legalization	\$8.10	\$0.00	\$8.10
After legalization	\$4.54	\$7.91	\$12.45
Net change (percent)	-\$3.56 (-43.9%)	\$7.91 (N/A)	\$4.35 (53.7%)

Tax Revenues – City of Detroit

	Casino	Online	Total
Prior to legalization	\$9.90	\$0.00	\$9.90
After legalization	\$5.55	\$0.00	\$5.55
Net change (percent)	-\$4.35 (-43.9%)	\$0.00	-\$4.35 (-43.9%)

Tax Revenues – State and Local

	Casino	Online	Total
Prior to legalization	\$18.00	\$0.00	\$18.00
After legalization	\$10.09	\$7.91	\$18.00
Net change (percent)	-\$7.91 (-43.9%)	\$0.00 (N/A)	\$0.00 (0%)

If the State of Michigan were not willing to reimburse the City of Detroit for any of its lost revenue, then the only way the City would be kept whole is if commercial casino revenue were unaffected by the introduction of online gaming. If Philander's research is correct that there is a moderate substitution effect of approximately 29 percent, the only way that could happen is if online gaming creates 141 percent of net new gambling revenue in the state as compared to existing commercial casino revenue.