Informing the Public Debate: Cannibalization

The Effect of New Casinos on Gaming and Non-Gaming Businesses

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Executive Summary

This paper is part of a series that is intended to inform policy debates on the potential development of a casino resort in the Greater Toronto Area (GTA). Specifically, our intent is to outline the relevant peer-reviewed research pertaining to these issues, as this is the research that can be trusted to be scientific and objective, and then to provide reasoned applications of this research to the unique economic and social environment in the Greater Toronto Area.

Our focus in this particular paper is on the issue of complementary effects and substitutionary effects (or "cannibalization") when casino-style gaming is introduced. To date, opinions on potential cannibalization in the GTA have been publicly and articulately voiced, but few if any of these have been supported by sound academic research on an alleged cannibalistic relationship between casino-style gaming and other industries.

In fact, available research does not generally support the assertion that casinos negatively affect surrounding businesses, including those in the hospitality industry. Where research is available to inform some of these questions, it often suggests that surrounding industries have actually *grown* after the introduction of casinos, and we would expect this to be especially true with the GTA project, as it should attract tourists. Potential impacts on neighboring businesses (including food and beverage, entertainment, and retail businesses) should not, therefore, discourage policy makers from adopting a resort casino in the GTA.

Even when we turn our attention to the existing gaming industry, the evidence does not support these cannibalization claims. On this academic topic, there are even more peer-reviewed studies that carefully explore these relationships, and they tend to conclude that new casinos' net economic effect on existing nearby casinos is positive. Some researchers have found negative impacts on lottery ticket revenues; however, in these instances the net economic impact remains positive. Finally, the most relevant scientific research on the economic relationships between online gambling and casinos suggest that the two forms of gaming actually have a small but positive (complementary) relationship.

Having examined all of the relevant peer-reviewed literature on the oft-cited "cannibalization" claim, we conclude that there is no strong evidence to suggest that a GTA resort casino will meaningfully cannibalize incumbent businesses. In fact, we expect that many industries will be stimulated by the resort casino, given the current empirical evidence of complementary relationships. Industries such as tourism, entertainment, lodging, food and beverage, as well as non-lottery gaming products may observe positive economic benefits from the expansion of casino gaming in the GTA. Finally, we expect that these positive effects will be even greater for a diverse integrated-resort property as opposed to a gaming-only facility.

Introduction

This document is the first in a series intended to inform policy debates on the potential development of a casino resort in the Greater Toronto Area (GTA). The series focuses on common debates that tend to occur during the expansion of gaming in a jurisdiction. Our intent is to outline the relevant peer-reviewed research pertaining to these issues, as this is the research that can be trusted to be scientific and objective, and then to provide reasoned applications of this research to the unique economic and social environment in the Greater Toronto Area. This latter step is particularly important in policy considerations, since potential gaming jurisdictions can vary significantly in terms of market structure, amenities, population demographics, economic characteristics, and public health support systems.

In this first report, our focus is on the issue of complementary effects and substitutionary effects in industries related to casino style gaming – or what is commonly referred to as "cannibalization." The sections that follow include a discussion of the expected impacts on non-gaming industries (including hospitality-related businesses), the expected impacts on existing gaming markets, and the general economic principles of product and service consumption.

1 Background

In early 2012, the Ontario Lottery and Gaming Corporation (OLG) announced formal plans to develop a new casino in Greater Toronto. The plan, which is expected to elicit bids from large commercial gaming corporations, is projected to include an "integrated resort" property, combining hotel, restaurant, entertainment, retail, and convention facilities along with gaming amenities.

Presently, there are several forms of gaming available in the GTA, although there is no resort-style casino gaming within an hour's drive of the downtown core. The nearest commercial resort-style casinos are Niagara Fallsview and Casino Rama, located well outside of the city limits, and there are OLG slot machines at more nearby racetrack casinos, such as Woodbine, Georgia Downs, and Ajax Downs.[1] Lotteries, pari-mutuel horse racing, bingo, and multi-game sports wagering are all accessible, and OLG has expressed its intention to roll out various forms of Internet gaming, beginning in 2013.

Opinions on this potential development have been publicly and articulately voiced, but few if any of these have been supported by sound research on an alleged substitutionary (or cannibalistic) relationship between casino resort gaming and other industries

To date, opinions on this potential development have been publicly and articulately voiced, but few if any of these have been supported by sound research on an alleged

[1] There is also a temporary casino at the CNE during a portion of the summer.

substitutionary (or cannibalistic) relationship between casino resort gaming and other industries. Concerns about cannibalization of surrounding businesses in the GTA frequently point to isolated testimonial evidence – and at other times, they cite no research whatsoever. For example, consider a recent publication by the University of Guelph entitled, "Economic Consequences of a Casino-Resort in Downtown Toronto" (Joppe and Choi, 2012). The authors of that study made strong claims about many aspects of cannibalization, contending, for example, that a Toronto area casino would cannibalize Niagara Fallsview and Casino Rama. However, in their justification of this claim, the authors cited only an online news discussion with a psychologist, instead of the types of data-driven economic analyses we examine here.[2] Needless to say, these types of "studies" should not drive policy; instead, wherever possible, policymakers should rely on peer-reviewed research. What follows in this paper is carefully reasoned set of policy considerations, drawing on empirical results from the most robust academic studies available on cannibalization and casinos.

2 Issues

2.1 Impacts on Non-Gaming Industries

A common discussion point that arises when the expansion of casino gaming is introduced focuses on how businesses in the surrounding area, particularly those in the hospitality industry, will be affected. Our outlook is that the development of a resort-style casino in the GTA will have either no effect or a net overall positive effect on the nearby hospitality and tourism industries. Available research does not generally support the assertion that commercial casinos negatively affect surrounding businesses, including those in the hospitality industry. Where research is available to inform some of these questions, it often suggests that surrounding industries have actually grown after the introduction of casinos. Potential impacts on neighboring businesses should not, therefore, discourage policy makers from adopting a resort casino in the GTA.

Available research does not generally support the assertion that commercial casinos negatively affect surrounding businesses, including the hospitality industry

Consider the food and beverage industry, where the issue of casino cannibalization has been thoroughly researched. Hashimoto and Fenich (2003) examined the effects of casino development on food and beverage activity in the state of Mississippi. Mississippi is clearly not a perfect corollary to Toronto, but it is a market with resort-style casino gaming, and therefore provides some guidance, given the expected GTA property design. In the four cases that these researchers examined, they found activity of the local food and beverage industry *increased*

[2] Incidentally, one of the existing peer-reviewed empirical studies that exists (Fenich and Hashimoto, 2004) was listed in the reference section by Joppe and Choi (2012), but the authors did not cite its results anywhere in the report.

following the development of casinos, including rises in the number of businesses and employment. Importantly, these figures excluded food and beverage activity within the casino, and therefore represent incremental effects outside of the property.

Another article by Fenich and Hashimoto (2004) on different markets reached similar conclusions. This study focused on four casinos located in Colorado, South Dakota, and New Jersey. Again, the authors found that the number of food and beverage establishments and employees rise following the development of nearby casinos. While neither of these studies directly imply causal effects (that is, we cannot unequivocally suggest that casino development will increase surrounding hospitality industries), we find strong evidence that policymakers should proceed under the assumption that casino development will have either positive or insignificant effects on surrounding food and beverage businesses.

In a more recent study, Cotti (2008) develops a carefully constructed empirical analysis, using county-level data from across the US to examine the effects of casinos in a non-case study sample. This paper, which does not focus on any particular region, provides more generalizable insight into casinos' effects on related industrial sectors. Overall, Cotti finds that counties generally experience positive spillover effects after a casino opens. In particular, he finds that the effects on entertainment and hospitality industry employment/earnings are either insignificant or positive. Of course, a concern during the study was that the findings may be capturing the direct effects of the casinos themselves (that is, impacts felt within the new casinos), so Cotti also conducts other analyses of smaller sub-sectors that specifically exclude the casino properties. These sectors provide particularly revealing insights, as Cotti notes in the study:

> *Estimates from analysis of both the museum, zoos, and parks sector, as well as the other recreational centers sector (which includes golf courses, skiing resorts, marinas, fitness centers, and bowling alleys) do not show the presence of a strong casino effect, as estimates are insignificantly different from zero. That said, it is noteworthy that in both cases they have non-trivial positive coefficients. So one can conclude that there is stronger evidence of a complementary casino effect present then there is of any business-stealing effect within the entertainment industry.*

This study also provides estimates of impacts on the non-casino hotel industry and the non-casino restaurant/bar industry, and in both cases there is no evidence of a substitutionary effect; both industries show no statistical significance. The author concludes the study by noting that his findings generally refute arguments for a substitutionary effect, noting that the evidence actually supports the opposite position:

> *The results do not provide strong evidence to suggest that this increase in jobs is offset through substitution of jobs in other related industries, as has been suggested in prior research. To the contrary, some related industries see an increase in employment, which*

> *could be indicative that these firms benefit from some complementary demand, maybe through increased tourism etc.*

In a modest but relevant study, Siegel and Anders (1999) examined the effect of riverboat gambling in Missouri on the sales tax revenue of surrounding businesses. The authors found that the growth of riverboat casinos had no effect on the sales tax revenue of general merchandise stores, apparel and accessory stores, miscellaneous retail, or personal services. The sole industry where the authors find some level of substitution is the amusement and recreation services industry, but this was far from a dollar for dollar substitution, and provides evidence countering claims by authors such as Grinols (1996) of perfect substitution. Siegel and Anders estimate a sales tax revenue substitution level of roughly $0.29 for every dollar of sales tax paid by riverboat casinos. That is, these results only suggest a decrease of $0.29 in amusement and recreation taxes for each $1.00 increase in gaming taxes – thereby leading to a *positive* incremental change of $0.71 in tax revenue.

Likewise, Rephann, Dalton, Stair, and Isserman (1997) conducted a more robust study of the effect of casinos on other sectors of the economy, analyzing 68 counties where casinos were opened from 1989 to 1993, including riverboat gambling. These authors also find no evidence of industry substitution, and in fact identify significant positive differences in retail trade, construction, and finance, insurance and real estate employment. These authors specifically note:

> *There is no evidence that casino development "cannibalizes" other sectors of the economy.*

2.1.1 Economic and Market Perspectives

At this stage, it is useful to consider one oft-neglected point: previous research often examines casino-style development that looks (and acts) very different from that which is being proposed in the GTA. When considering the effects of casino expansion in the GTA, it is important to consider the design of the proposed property, especially when considering older research. For instance, one key aspect of the GTA development is that the integrated resort is expected to draw patrons from outside of the local market. This is an important feature, since the development of an integrated resort will serve to attract both business and leisure travelers from outside of the GTA. Some of these visitors will surely sleep, eat, and seek entertainment on-site, but many will also participate in tourism-oriented activities outside of the resort. Compared to a "gaming only" facility, then, we would expect that an integrated resort casino will have more positive effects on surrounding businesses, due to a positive increase in local tourism.

Compared to a "gaming only" facility, we expect that an integrated-resort casino will have more positive effects on surrounding businesses.

Even in the absence of these observations of the GTA market, the research literature contains economic arguments that suggest that cannibalization claims miss a bigger (and fundamental) policy point: if consumers choose to patronize the resort properties instead of another business, they are doing so because the value they perceive is higher. According to general economic principles, when we restrict these options, consumers tend to be inherently worse off. Certainly an argument can be made that whether that business is inside the casino resort or outside of the facility, consumers should be able to decide for themselves where they spend their income. This perspective on casino gaming is explained by Walker (1999):

> *If spending is unregulated, the producers who best please consumers will be rewarded with profitable futures. These researchers suggest that more choice in entertainment, by itself, is a bad thing simply because it means more competition for existing entertainment firms – that competing entertainment firms will be "cannibalized." Of course casinos will attract dollars that otherwise would have been spent elsewhere, but so does a sale at the local department store. Was society harmed when the horse-drawn buggy industry was cannibalized by the automobile industry?*

Of course, this economic argument is based an assumption that most consumers behave rationally, and we would certainly note that those with gambling-related problems do not necessarily do so. Nevertheless, the notion that cannibalization is an automatic negative misses an important and broader historical point: that newer consumer options are constantly replacing old ones, and that market forces are a key driver of this phenomenon.

2.2 Impacts on Existing Gaming Markets

In addition to considering the effects of casino expansion on non-gaming industries, an important policy concern is their effect on *other* gaming industries, which may be in competition for the same players. As summarized by Walker and Jackson (2008):

> *A key to understanding the effectiveness of legalized gambling as a fiscal policy tool is the relationship among gambling industries. If casinos and lotteries are complementary, for example, then a lottery state can benefit by introducing casinos.*

Because we seek to provide a thorough assessment of all of the substitution effects that we can determine based upon the academic literature, this section outlines the projected impact of a GTA resort casino on other gaming markets in Ontario.

2.2.1 Casinos & Racinos

The most comprehensive and robust study of gaming industry relationships was carried out by Walker and Jackson (2008). Their study modeled the gaming market relationships of all 50 U.S. states plus Washington D.C. over a 16 year period from 1985 to 2000. In their results, the authors found a positive relationship between casino gaming, race track gaming, and First Nations gaming – meaning that as one sector grew, others grew alongside them. If we (cautiously) extend these results to the GTA market to understand the likely effects of an integrated resort there, we would expect that there would not be net substitution by the surrounding gaming facilities, such as those at Woodbine or in Niagara Falls. In fact, the GTA development might actually be associated with increased revenues from these facilities.

We would expect that there would not be net substitution from the surrounding gaming facilities, such as those at Woodbine or in Niagara Falls

Of course, we advocate a conservative outlook when applying the results from any study of the U.S. market when making recommendations for a Canadian municipality, but we see no strong arguments as to why these markets should differ significantly. In fact, there is similar evidence of complementary relationships in a study that included analysis of the Canadian market. Marfels (1997) examined the relationship between casinos and video lottery terminals (VLTs) in Canadian and U.S. jurisdictions. Marfels reached a similar conclusion on these relationships, noting:

> *…there is no case of declining revenues of casino gaming when VLT gaming was introduced or vice versa.*

Part of the explanation of the observed complementary relationships between commercial casinos, racetracks, First Nation casinos, and VLTs may be explained by an agglomeration effect, where the presence of more casinos leads to more activity for the whole sector. This effect, which has been casually observed in markets such as Las Vegas or Atlantic City for many years, was empirically tested by Walker and Nesbit (2012) in the Missouri market. Their study found that although casinos compete with one another in the machine game category, the presence of a new casino in a well-developed market offset this "cannibalization" through what was titled an "agglomeration" effect. They concluded that the presence of a new casino increases demand for all nearby gaming properties.

In the case of an "isolated" casino market, which is applicable to the GTA, Walker and Nesbit actually find that the agglomeration effect dominates the competitive effect, leading to an overall positive effect on the closest casino's revenue. This implies that although a new GTA casino and existing properties may compete for some players, the net effect on the incumbent properties should still be positive.

Similarly, Rephann et al. (1997) found that the positive economic effects of casinos were greater if the jurisdiction (county) hosted more than two casinos. This provides more evidence that nearby gaming facilities, such as casinos located at Niagara Falls or at Casino Rama, would not be adversely affected by a GTA casino. Another regional study by Condliffe (2012) found some evidence of substitution *between* jurisdictions (in this case from other states), though the study did not look at the potential for cannibalization within the jurisdiction that expanded the number of casinos.[3] This study supported theory proposed by Eadington (1999) and others that suggests expanding gaming can help regain players that were leaving the jurisdiction (e.g. Ontario) to gamble in other provinces or states, as they found evidence that players that were once patronizing New Jersey casinos were now playing within their home state of Pennsylvania.

2.2.2 Lotteries

The sole industry where Walker and Jackson (2008) did find a substitutionary relationship with casino gaming was the lottery sector. This result is consistent with the general findings of Siegel and Anders (2001) and Elliot and Navin (2002). However, the effect, though significant, was of relatively minor economic size – a $1 increase in per capita casino revenue was related to a $0.12 reduction in lottery revenue. Of course, given typical casino gaming taxes, a relationship of this size would still result in a positive incremental tax revenue, growing the overall gaming industry and tax base. Put another way, even in this scenario, the overall tax revenue pie grows.

Although we find the Walker and Jackson (2008) study to have produced the most robust estimates of this effect size, the magnitude of this finding is not consistent throughout academic literature. For example, an early study of the effect of riverboat gaming on lotteries by Elliot and Navin (2002) found that an additional dollar in casino tax revenue was offset by an estimated $0.83 reduction in lottery revenue. However, these estimates were later improved by Fink and Rork (2003), who remedied a methodological issue by Elliot and Navin, producing a revised estimate of $0.56.

Overall, our outlook is that the expansion of spending on casino gambling will accompany a mild to moderate reduction in the purchase of lottery tickets, though the size of the effect is somewhat unclear for this market. We expect this effect size to be much closer to the $0.12 estimate by Walker and Jackson (2008) than the $0.56 estimate by Fink and Rork (2003), due to the more robust methodological design and wider sampling by Walker and Jackson. However, as we have noted, even these estimates may be overly negative. In part, this is because these effect sizes should be reduced to the extent that the integrated resort can serve as a tourism attraction and draw customers from outside of Ontario. Casino patrons drawn from outside of Ontario would not have purchased a lottery tickets from OLG retailers, and therefore substitution effects with these populations would be abated.

Finally, regardless of the precise level of substitution, we still expect a net increase in public tax revenue from the development of a GTA casino resort, since there is no evidence of perfect substitution. We also note that this substitution is only expected in the gaming portion of the resort development: other amenities, as we have seen, such as lodging, conference facilities, or other entertainment, are not expected to have any relationship with lottery sales.

[3]We note that due to some methodological limitations observed in this study, declines in revenues may be attributable (at least in part) to the Great Recession.

2.2.3 Online Gaming

OLG has yet to offer any form of sports wagering, poker, or casino style betting via the Internet, but given that OLG has expressed plans to do so, it is a useful exercise to examine how a GTA resort casino would affect this gaming market. The research in this field is limited, though revealing for this particular market. In a study examining the relationship between online poker and the casino industry, Philander and Fiedler (2012) found that the two forms of gaming actually had a small but positive (complementary) relationship in the North American market. This suggests that an increase in revenue from casino gaming would increase the revenue from online poker. This finding seems plausible in the GTA, since cross-marketing would be a straightforward exercise. For example, players who win poker tournaments online might be provided with a seat at a "live" tournament at the casino location.

Overall, we expect that the expansion of GTA resort-style gaming will not have a significant effect on the future OLG online gaming market

In an earlier study of the entire online gaming market, Philander (2011) found a negative overall relationship between the U.S. commercial casino industry and the online gaming industry (a reduction of 27 to 30 cents on the dollar by online gaming). However, there is reason to believe that this relationship is not as applicable to the GTA market as the newer Philander and Fiedler (2012) study. First, Philander (2011) did not include Canada as part of the market analysis, whereas Philander and Fielder (2012) examined both countries. Second, the earlier study also estimated a relationship over a very different, early growth period in online gaming (pre-2006 as opposed to the end of 2010 in Philander and Fiedler), rendering it less relevant to the current online market.

Overall, we expect that the expansion of GTA resort-style gaming will not have a significant effect on the future OLG online gaming market. Although substitution may occur in some forms of gaming and a complementary relationship may occur in others, our outlook is that the general effect will be relatively minor. We therefore suggest that future plans for OLG online gaming not affect any monetary estimates of GTA casino gaming. Put simply, the size of the online gaming pie should not shrink after the development of a GTA casino.

3 Conclusion

In this paper, we have examined all of the relevant peer-reviewed literature on the common "cannibalization" claim. Given the

Given the results of the relevant studies, there is no strong evidence to suggest that a GTA resort casino will meaningfully cannibalize incumbent businesses. It is striking that while a "cannibalization" claim is often made, we could not find any strong empirical evidence to support this argument.

results of these studies, there is no strong evidence to suggest that a GTA resort casino will meaningfully cannibalize incumbent businesses. This finding applies to both gaming and non-gaming industries. It is striking that while a “cannibalization” claim is often made with respect to casino gaming, we could not find any strong empirical evidence to support this argument. Where research has been based on empirical findings and not conjecture, studies generally support a view of complementary or insignificant relationships.

In general, a conservative approach to policymaking on the substitutionary versus complementary issue in the GTA would proceed under an assumption that no negative effects would occur to nearby businesses. Our perspective is that there is minimal downside risk to other industries from the expansion of casino gaming in the GTA.

We also expect that many industries will in fact be stimulated by the resort casino, given that there is much empirical evidence of complementary relationships. Industries such as tourism, entertainment, lodging, food and beverage, as well as non-lottery gaming products may observe positive economic benefits from the expansion of casino gaming in the GTA. Finally, we expect that these positive effects will be even greater for a diverse integrated-resort property as opposed to a gaming-only facility.

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