Informing the Public Debate: Academic Research on Crime and Casinos

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Executive Summary

This document is the second in a series intended to inform policy debates on the potential development of a casino resort in the Greater Toronto Area (GTA). In this second report, our focus is on the academic research on the effect of casino gaming on crime. The literature on casinos and crime has produced fairly consistent results in the past 15 years of research; however, we have observed that these findings are often misinterpreted or deceptively applied. In this paper, we seek to provide a sound assessment of academic research on the true relationship that might be expected in the GTA.

The findings of our review generally support a view that the proposed casino-resort might increase the total volume of crimes in the area, but that there will be an insignificant effect on the crime rates overall (when adjusted for the number of people in the area). That is, with respect to the *total volume of crime*, casinos seem to have an impact similar to other large recreation/tourism draws, such as a hockey game or the Canadian National Exhibition. With respect to the *crime rate*, however, casinos are typically found to have no significant effects, as the increase in volume is generally explained by the number of temporary visitors in the area. Put another way, there should be no increased risk of crime-related harm to nearby residents. These findings were consistent between studies that focused on jurisdictions within Canada, and in other international locations.

As such, we expect that resource requirements will indeed be higher for local law enforcement if the GTA adopts a casino-resort, but that the probability of any nearby residents being victimized will remain unchanged. The broader public policy consideration is that increased traffic in the form of tourists will be accompanied by increased infrastructural costs associated with that decision – including costs associated with policing additional people.

1 Introduction

This document is the second 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 policy debates associated with the expansion of casino gaming. Our intent is to not to advise on the immediate decision to permit a casino resort in the GTA, but rather to outline the relevant academic research, and then to provide reasoned applications 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 second report, our focus is on the academic research on the effect of casino gaming on crime. Although casinos and crime are often associated in the popular imagination, we seek to provide a sound assessment of academic research on the true relationship that might be expected in the GTA.

2 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. In addition, 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.

In engaging the debates over gaming expansion, critics often cite ad hoc research that may or may not be entirely relevant to this particular market – as it may ignore other multidisciplinary fields of research that are relevant to the topic (e.g., sociology, psychology, economics, and criminology) or predate an era with modern responsible gambling programs. Wherever possible when engaging these debates, we believe that policymakers should rely on peer-reviewed research, as it has been subjected to the full rigors of the academic process.

What follows in this paper is a carefully reasoned set of policy considerations, drawing on empirical results and theory from the most robust academic studies available on the effects of

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

casinos on crime. While the literature on casinos and crime has produced fairly consistent results, these findings are often misinterpreted or deceptively applied. In the rest of this paper, we attempt to clarify these findings as they pertain to the GTA.

3 Casinos & Crime

3.1 General Findings

This section describes the existing research on the relationship between casinos and crime. Although much of this literature examines jurisdictions outside of Canada, we attempt to focus our efforts on the most robust studies from the jurisdictions that are most relevant to the proposed GTA resort-style casino. There were a handful of studies that looked at the relationship between crime and casinos prior to the 2000s, beginning with Albanese (1985). His study, though limited by data and a choice of method, is quite important to understanding the effects of casinos, as he outlined how crime statistics can be misleading when they fail to account for changes in the population at risk.

In general, these studies support a view that the introduction of casinos may increase the total volume of crime in an area, but that this tends to be related to crime caused by a higher number of people present rather than by the presence of casino gaming itself.

Those warnings aside, we observe (as do other researchers, such as Walker, 2010) that the more robust studies on casinos and crime tend to have been published within the past 10 to 15 years. These studies include papers by Gazel, Rickman, and Thompson (2001), Wilson (2001), Giacopassi, Stitt and Nichols (2001), Evans and Topoleski (2002), Stitt, Nichols, and Giacopassi, (2003), Grinols and Mustard (2006), Barthe and Stitt (2007, 2009a, 2009b), Reece (2010), and Humphreys and Lee (2010). Although these studies vary in terms of their scope and design, there are some broad inferences that can be made from an interpretation of their overall results.

In general, these studies support a view that the introduction of casinos may increase the total volume of crime in an area, but that this tends to be related to crime caused by a higher number of people present (caused by increases in tourism and traffic levels) rather than by the presence of casino gaming itself. Put another way, individual risks do not increase, but absolute amounts of crime do (and the latter is in turn related to the presence of more people). In this respect, casinos appear to be similar to any other large recreation/tourism draw, such as a hockey game or the Canadian National Exhibition. Therefore, we believe that an increase in law

enforcement may be required to handle the increase in crime, but the probability of being victimized will likely remain the same.[2]

Consider Grinols and Mustard (2006), whose results have been widely quoted, and whose study examined crime data in each US County from 1977 to 1996. Their study concludes that roughly 8% of crime in counties with casinos can be attributed to the casinos. Importantly, however, these authors focus on the structural costs rather than the probability of being victimized, and they specifically note that their analysis excludes the number of visitors in the area when calculating crime rates:

> *"In this study we are interested in the costs to the host county associated with a change in crime from whatever source. We are therefore interested in the total effect of casinos on crime, and thus use the undiluted crime rate based on (population without visitors)."*

…casinos have an effect similar to any other amenity that brings in tourists, which is a key point that is consistent among these studies.

In a compelling critique of this study, however, Walker (2008) describes how the results from Grinols and Mustard can be misleading, and argues that tourists should be included in these crime calculations:

> *"…clearly the "diluted" crime rate (adjusted for temporary visitors) is the appropriate one to use if we are trying to measure the risk to residents and/or visitors of being victimized. The Grinols and Mustard "undiluted" crime rate will overstate the crime rate in tourist (casino) counties. This is perhaps the most significant problem in the Grinols and Mustard paper*."

In fact, Walker (2008) continues, the organization that provides the data for Grinols and Mustard's study – the FBI – argues *against* using these data in the way these authors do:

> *Curran and Scarpitti (1991, 438) explain that the FBI, the source of the Grinols and Mustard crime data, warns against "comparing statistical data…solely on the basis of their population."*

These same warnings are reiterated by Giacopassi, Stitt, and Nichols (2000), who reference the original data handbook from the FBI, and who also engage in their own analysis to demonstrate the policy risk of ignoring the tourist population.

Generally speaking, it seems that academics who have more recently published in this area agree with this critique. For instance, Reece (2010) used several controls to account for the

[2] Indeed, this view is the same perspective that was outlined by the Toronto Police Department in response to the proposed casino resort (EY, 2012).

effects of tourism. In particular, Reece accounted for the number of hotel rooms in the area, as a means to determine which effects were caused by general tourism increases with new casinos and which were caused by the casino itself. The author concludes:

> *"I find very limited support for the proposition that new casinos increase local crime rates. Opening new casinos appears to increase the number of burglaries in the county after a lag of a few years. Opening new casinos appears, however, to reduce the number of motor vehicle thefts and aggravated assaults. Increased casino activity, measured using turnstile count of casino patrons, seems to reduce rates of larceny, motor vehicle theft, aggravated assault, and robbery."*

…economic variables often associated with economic growth (such as unemployment decline or GDP growth) have an effect on crime – predictably, improved economic conditions are related to a decrease in the crime rate.

Other authors who controlled for increased levels of visitation near casinos, including those responsible for a series of papers on the Reno, NV market (Barthe and Stitt 2007, 2009a, 2009b), reach similar conclusions. Barthe and Stitt (2009b) put it this way in their conclusion:

> *"…while it has been consistently argued by many that casinos generate crime, this latest analysis is yet another empirical verification that casinos venues may not be all that different from non-casino environs in terms of crime prevalence and patterns. Barthe and Stitt (2007) provided evidence that casinos may not be deserving of the label 'hot spots' for crime. Then, Barthe and Stitt (2009a) further found that casino generated 'hot spots' were not very different from non-casino 'hot spots in terms of criminogenic patterns.'"*

In other words, casinos have an effect similar to any other amenity that brings in tourists, which is a key point that is consistent among these studies.

In a "pre- and post-test" longitudinal study, Koo, Rosentraub, and Horn (2007) developed a model using data from several US states, both before and after casinos were adopted. In their models of crime rates, the authors find that the presence of a casino in the home county or an adjacent county (within 50 miles) has no effect on the crime rate. The authors do find that economic variables often associated with economic growth (such as unemployment decline or GDP growth) have an effect on crime – predictably, improved economic conditions are related to a decrease in the crime rate. In their conclusion, these authors state quite simply:

> *"The analysis of crime rates…shows that the presence of casinos had no impact on crime levels."*

3.2 Canadian Evidence

In one of the few studies that examine a Canadian jurisdiction, Humphreys and Lee (2010) explore the effects of both VLTs and casinos on crime rates in Alberta, using a model that controls many other different variables that could be affecting crime rates. In general, they find little relationship between the introduction of a casino and crime rates (including breaking and entering, credit card fraud, other fraud, drugs, illegal gambling, prostitution, robbery, and shoplifting):

> *"The results indicate only a weak relationship between casinos and crime in Alberta…the presence of a casino in a community was associated with an increase in robberies and decrease in shoplifting under $5,000. All of the other estimated parameters on the casino indicator variables were not statistically different from zero at conventional levels."*

The idea that problem gamblers are more likely to commit crimes than others has been proposed by many researchers, however it is important to note that most of these psychological studies simply draw correlational relationships and do not directly imply any causal effects

The authors also investigate whether crime effects take a longer time period to develop (as some have suggested) by examining how casinos affect crime rates up to three years after opening. They find little evidence of a delayed effect either:

> *"… infrequent instances of significant parameters, and the fact that some are negative, provides little support for the idea that casinos increased crime in Alberta over this period."*

In another Canadian study that specifically focused on an Ontario market, Phipps (2004) developed an empirical model to test for the effects of the opening and closing of Windsor urban casinos in two nearby neighborhoods. Although the author is cautious to avoid concluding that casinos had benign effects, he found no evidence that calls to police services changed as a result of the casinos' presence in the neighborhoods.

3.3 Crime and Problem Gamblers

Because of the lack of macro-level evidence to support the idea that casinos and crime would be related, we might wonder whether micro-level studies would support this theory. The idea that problem gamblers (or gamblers in general) are more likely to commit crimes than others has been proposed by many researchers (e.g. Lesieur and Rosenthal, 1991), however it is important to note that most of these psychological studies simply draw correlation based relationships and do not imply any causal effects. As a means of addressing the methodological issues that pertain to these research questions, Clark and Walker (2009) developed a model using

a data set that examined a large sample of young adults, and controlled for many characteristics that may also contribute to criminal behavior. This sample is arguably more applicable to policymakers, since it focuses on a public that includes non-gamblers, gamblers who are non-problem gamblers, and problem gamblers, whereas many micro studies look only at risk factors for problem gamblers. The authors found the following (emphasis added in bold):

> *"Contrary to what is commonly believed, the Add Health survey data suggests gamblers **other than casino and lotto gamblers**, are more likely to commit crimes."*

That is, while other types of gamblers are associated with criminal activity, the authors found no evidence that *casino* gamblers are more likely to commit crimes than the general public. In other words, the gamblers who are more susceptible to committing crimes are found to participate in other (non-casino) forms of gaming, such as sports wagering, cards, or horse racing. Notably, even in these cases, the authors point out that their analysis does not allow them to make a strong conclusion regarding these other groups' likelihood of committing a crime.

4 Implications for the Proposed Toronto Market

The broader public policy consideration for policymakers is that increased traffic in the form of tourists will be accompanied by increased infrastructural costs associated with that decision – including costs associated with policing additional people. These costs must be balanced against the projected economic benefits of the development.

The findings of our review and analysis widely support a view that the proposed casino-resort might increase the total volume of crimes in the area, but that it will have an insignificant effect on the crime rates overall (when adjusted for the number of people in the area). As such, we can expect that resource requirements will be higher for local law enforcement if the GTA adopts a casino-resort, but that the probability of any nearby residents being victimized will remain unchanged.

Given this, the broader public policy consideration is that increased traffic in the form of tourists will be accompanied by increased infrastructural costs associated with that decision – including costs associated with policing additional people. As a resort-style casino would serve as a greater draw than a gaming-only facility, we expect that this type of facility design would lead to even more resource requirements than might be associated with smaller-scale projects. These costs must be balanced against the projected economic benefits of the development.

On the other hand, the notion that casinos increase the individual risk of residents is not supported by the research. Based upon the academic literature, we can conclude that a GTA casino should not cause any increased risk of crime-related harm to area residents.

5 Conclusion

The purpose of this study was to inform policy makers and the general public of the likely effects of a GTA resort-style casino on crime. The academic research in this area of the gaming literature is fairly consistent, and should be considered in the public debate. With respect to the *total volume of crime*, casinos seem to have an impact similar to other large recreation/tourism draws, such as a hockey game or the Canadian National Exhibition. This anticipated development, of course, can and should be considered when developing policies pertaining to infrastructure in the area. With respect to the *crime rate*, however, casinos are typically found to have no significant effects, as the increase in volume is generally explained by the number of temporary visitors in the area – meaning that there should be no increased risk of crime-related harm to nearby residents.

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