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# New casinos and local labor markets: Evidence from Canada☆

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HIGHLIGHTS

- New casino areas are compared to areas with existing casinos and without casinos.
- Employment and earnings in local gambling industry doubled due to the new casino.
- Indirect spillovers limited to employment growth in closely related local industries.
- One to two additional hospitality jobs are created for every gambling job created.
- No significant employment or earnings effects are found in any other local industry.

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ABSTRACT

The local labor market effects of new casinos are examined by comparing the employment and earnings growth in areas with new casinos to the growth in areas with existing casinos and without casinos, exploiting numerous casino openings across multiple locations in Canada over several time periods. The opening of a new casino directly doubles the employment and earnings of the local gambling industry within five years, while this growth does not appear to continue beyond this period. Indirect positive spillovers are limited to the related local hospitality and entertainment industries. For every job created in the gambling industry, roughly one to two additional hospitality jobs are created. Increased gambling employment does not appear to increase employment in any other local industry.



## 1. Introduction

New casinos have the potential to generate both positive and negative impacts on the local economy, including tangible benefits such as local economic development and increased tax revenues, and negative consequences like increased problem gambling, crime, bankruptcy, and traffic (Eadington, 1999). Because these benefits and costs are of public concern, governments closely regulate the supply of casinos and typically require some positive economic benefit to outweigh any of the negative costs when expanding access to legal gambling. One common justification for a new casino is that it will lead to new job creation and enhanced earnings in the local labor market, due to a casino-induced increase in local labor demand, which may occur only in the gambling industry or in other local industries as well.[1] While it has been claimed that new casinos can generate significant spillovers outside of gambling, there is little consistent evidence to support this claim. For these reasons, it is important to properly assess these local labor impacts, in order to quantify just how many jobs may be created, or perhaps even lost, both inside and outside of the gambling industry.

☆ Disclaimer: The research and analysis are based on data from Statistics Canada and the opinions expressed do not represent the views of Statistics Canada.

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[1] A casino opening can be interpreted as a type of local labor demand shock, but this particular shock is unlikely to produce many of the general equilibrium effects described by Moretti (2011). Price adjustments will be kept to a minimum, as wage changes are likely to be concentrated within the gambling industry. Productivity spillovers will also be limited, as casinos are entertainment venues that hire mostly unskilled workers.

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The identification of the impacts of a new casino on a local labor market can be difficult.[2] Proper identification must rely on both the location and the timing of new casinos, as well as on an appropriate counterfactual addressing what would have happened if a new casino had not been built. Without proper identification, these impacts could be overstated or understated, such as where underdeveloped locations with relatively low employment and earnings are targeted for a new casino or when the timing of a new casino opening is more influenced by the conditions of the overall economy rather than by the conditions specific to the locality. Previous research examining these effects had focused on the United States (Rephann et al., 1997; Evans and Topoleski, 2002; Garrett, 2004; Cotti, 2008), but this may not be an ideal setting, as casinos there tend to be clustered in either highly-agglomerated tourist destinations or in remote areas, and are likely to be privately operated, making it difficult to disentangle the impact of new casinos from other effects.

This paper analyzes the effects of new casino openings on local labor markets in Canada. Canadian casinos are distributed more uniformly across the country, are more likely to be located in populated areas, and are more likely to be government run than casinos in the United States, all of which enhance the identification of these impacts. In addition, the restricted-access data from the Canadian Census of Population contain detailed geographic and industry identifiers which allow for the precise definition of the local labor markets and the separation of the direct impacts in the gambling industry from the indirect impacts in non-gambling industries. Under the quasi-experimental identification strategy of this study, treatment areas with new casinos are paired to two unique comparison areas, areas with existing casinos and areas without casinos, which are used to fill in the counterfactual for the treatment areas.

All of the estimation techniques generalize over three five-year time periods, so that each estimate is interpreted as the average impact of a new casino within a locality, making it less susceptible to the influence of any single time period. First, the direct growth within the gambling industry is estimated separately for each of the three area types. Second, the indirect growth is measured for the related and other local industries, by estimating the differential growth in labor outcomes between the treatment areas and each of the comparison areas. A nearest-neighbor matching estimator is additionally used to further restrict the comparison sets. Third, the local job multipliers are estimated, which have not been previously used in the literature to address the impacts of new casinos. This is done while taking into account the endogeneity of the employment relationship between the gambling and non-gambling industries through instrumentation.

The results of this study confirm the existence of positive local labor market gains following the opening of a new casino. The local gambling industry experiences the direct impact, which is a doubling of its employment and earnings in areas with new casinos, within one to five years after the casino opening. These effects were insignificant in areas with existing casinos, however, suggesting that the local effects of a new casino are short-lived. The indirect spillover effects were also positive and significant but mainly limited to differential employment growth in the closely related local industries of hospitality and entertainment, specifically accommodation, food, and beverage services and other amusement and recreation services. For every job created in the gambling industry due to a new casino, one to two additional jobs are created in the hospitality industry. Contrary to some previous findings in the literature, there are no significant employment or earnings effects in the other local industries of construction, retail trade, or all other services.

[2] As stated by Eadington (1999), "… the methodology to distinguish fully between absolute measures of economic impacts and incremental impacts – in comparison to what would have taken place in the absence of casino authorization – is still in need of considerable refinement."

## 2. Context and motivation

### 2.1. Previous research

Much of the previous research on the impact of casinos has focused on the assessment of negative outcomes, like the social costs of personal bankruptcy (Barron et al., 2002; Daraban and Thies, 2011), crime (Grinols and Mustard, 2006; Reese, 2010), and other possible adverse outcomes, like alcohol-related traffic deaths (Cotti and Walker, 2010). On the other hand, research on positive outcomes has typically addressed overall local growth (Walker and Jackson, 1998, 2007) and increases in net public revenues (Siegel and Anders, 1999; Kearney, 2005). Only a handful of previous studies have examined the local labor market effects of casinos, despite the fact that new job creation is often mentioned in the public debates involving casino openings. This small but growing literature, all using data from the United States, offers a variety of identification strategies, each with a different source for potential bias, and thus presents mixed evidence regarding the impacts that casinos have on local labor markets.

One of the notable papers in the literature, Rephann et al. (1997), assessed the economic impact of new casinos that opened from 1988 to 1994 using Regional Economic Information System data. The analysis matched the growth in employment and earnings for sixty-eight U.S. counties where new casinos were opened to sixty-eight non-casino counties, based on observable county characteristics. The largest differential employment growth due a new casino took place in the service industry, which included gambling operations, though positive growth differences were also found in construction, finance, insurance, and real estate, and retail trade. The differential earnings growth was found to be larger in magnitude than the differential employment growth. Unlike other research, this paper used an unbiased differential growth estimator like the one used in the current study. However, their results may reflect confounding negative local economic conditions in new casino counties before the casinos were built or unobservable location-specific heterogeneity, and they did not distinguish between the direct and indirect impacts of casinos.

Evans and Topoleski (2002) analyzed the employment effects of new casinos opened by Native American tribes using data collected by the U.S. Bureau of Indian Affairs. The analysis compared labor outcomes in tribes which opened casinos to those that did not, pooling data from 1983 with every other year from 1989 to 1999. In the four years after a casino opened, the employment for tribes with casinos increased by twenty-six percent relative to tribes without casinos. Some of this employment effect took place outside of the tribes and these effects were greater and more significant for larger tribes, with the biggest gains occurring in rural areas. The estimation controlled for tribe and year fixed effects, as well as for county demographics. That said, aggregate employment was the only outcome variable used, and the results may not be generalizable as the impact of new casinos on tribal land may differ from the impacts identified in other settings.

In another study, Garrett (2004) investigated the impact of new casinos that opened in six mid-western U.S. counties throughout the 1990s using trends of monthly household employment data from January 1986 to December 2001 and a comparison of payroll employment data for 1992, 1993, 1994, and 1997 to that of 2001. The trend analysis compared the actual employment trend in casino counties to what would have taken place absent the casinos, based on a univariate ARIMA forecasting model. Rural counties experienced the largest gains in employment relative to their forecasted employment trend. When analyzing employment growth before and after a casino opening by industry, a new casino was associated with large increases in casino employment, as well as in construction, finance, and service employment. Some crowd out effects were reported, as manufacturing and retail trade employment decreased. While this study analyzed casino employment separately from other local sectors to isolate the direct and indirect effects, it