

**The Economic Impact of the Nevada
Clean Indoor Air Act
in Clark County, Nevada – Preliminary
Findings**

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Abstract

Objective. The primary purpose of this exploratory study was to quantitatively evaluate the economic impact of the Nevada Clean Indoor Air Act (NCIAA) on businesses in Clark County.

Methods. The goal of this research was to assess economic indicators over a ten year period utilizing measurable data points,

including restaurant and drinking establishment employment rates, taxable sales, openings and closings, as well as slot gaming revenues. This ten year time period consisted of a seven year span prior to the enactment of the NCIAA, and three years post enactment. Researchers conceived this study as a means to independently evaluate and address the potential economic impact of a smoke-free law in a region dependent upon tourism and gaming.

Results. Economic indicators did in fact decrease after the NCIAA was enforced but most of the declining trends began prior to the passage of the smoke-free act and are consistent with downward trends in other, non-NCIAA affected segments of our economy.

Conclusion. The overall findings of this study are consistent with similar non-tobacco industry supported economic studies showing little or no statistically significant downward economic trends after passage of smoke-free legislation.

Key Words: smoking ban, smoke-free legislation, smoke-free policy, economic impact, Nevada Clean Indoor Air Act

Introduction

On December 8, 2006, the Nevada Clean Indoor Air Act, NRS.202.2483, became a voter initiated law. The Act prohibits smoking tobacco within indoor places of employment and school property in the state of Nevada, with the following exceptions: areas within casinos that prohibit minors; stand-alone bars, taverns, and saloons that do not serve food; strip clubs and brothels; retail tobacco stores; private residences not used for child care or health care; and hotel and motel rooms if allowed by the owner.

Nevada state law defines a “casino” as an entity that contains a building or large room devoted to gambling games or wagering on a variety of events and possesses a “non-restricted” gaming license. This definition makes the NCIAA unique in

that casinos, as defined, are found in restaurants and drinking establishments. Businesses operating fewer than fifteen machines operate under “restricted” gaming licenses and, therefore are not considered casinos by the NCIAA, and may not allow smoking. Establishments with 15 or more gaming machines, and/or possess multiple gaming activities, operate under “non-restricted” licenses and may allow indoor smoking in restricted areas per the NCIAA.

Opponents of the NCIAA argue that it is vague and unfairly targets small drinking establishments with restricted gaming licenses, as they must comply with the law, while allowing businesses with non-restricted gaming licenses to operate unchanged. Restaurant and drinking establishment owners with restricted licenses state they have suffered severe revenue losses and were forced to downsize their work force (Bussewitz, 2009). However, information shared by business owners has been anecdotal and not substantiated.

Methods

Research Design

This study used a before-after trend analysis framework to examine the relationship between the NCIAA and related economic indicators in a single unit of analysis, Clark County (see Figure 1). The trend analysis is a common economic assessment of the impact of policy decisions, such as the NCIAA, and is most effective for a single unit of analysis (Eriksen & Chaloupka, 2007). Each observation (O_k) represents the reporting quarter for an annual measure. The X represents the effective date of the NCIAA, December 8, 2006.

O1 O2 O3 O4 O5...O32 O33...O40 O41 O42
1999 2000-2006 2007-2008 2009

Figure 1. Trend analysis examining the economic impact of the NCIAA

Measures

The sample of analysis for this study was Clark County, Nevada. Several economic variables were used and all were interval

level data and publicly available (see Table 1).

Table 1.
Variables and Sources

Variable	Data Source
Clark County employment rates	Nevada Department of Employment, Training & Rehabilitation (DETR)
Taxable sales	Nevada Department of Taxation
Restaurant/Drinking Establishment openings	Southern Nevada Health District Clark County
Restaurant/Drinking Establishment closings	Department of Business Licenses
Gaming revenues	Nevada Gaming Control Board

Data Collection and Data Analysis

Data for analysis were collected from public sources. Data were also identified and classified by their Standard Industrial Classification (SIC) codes and North American Classification System (NAICS) codes. These codes are used by businesses and government to classify economic activity. By utilizing these classifications, economic trends among different industries were comparable.

A total of 42 data points were included over the 10-year period for analyses (see Figure 1). There were 32 data points for the years 1999 through 2006 (before the NCIAA enactment) and 10 data points collected from 2007 to the second quarter of 2009, after the NCIAA. A set of trend curves covering the 10-year period were produced by employing the outcomes listed in Table 1. The analysis focused on the percentage change rates of each of the economic outcomes by comparing each quarter to the same quarter of the previous year. This allowed researchers to rule out any potential seasonal effects, while allowing the percentage

change rates to reflect the speed of economic growth and decline.

Results

Employment in six of the seven employment sectors (gaming industry, leisure and hospitality, casino hotels and gaming, food services and drinking places, food and beverage stores and health and personal care stores) began declining in the second quarter of 2006, prior to the NCIAA (see Figure 2). Food service and drinking places employment rates fell at a less steep rate than any other segment post-NCIAA enactment. Employment in all sectors rose in mid-2007, despite a drop in overall employment linked to the economic recession. All employment rates began to drop in mid-2008, and a slight increase in most sectors was noted in the first quarter of 2009, paralleling the general economic trend observed in all states (Nevada Department of Employment, Training & Rehabilitation, 2009). Over the ten year period that was studied, the employment indicator showed the steepest decline initially after 9/11, and then continued to fluctuate over the remaining timeline of this study.

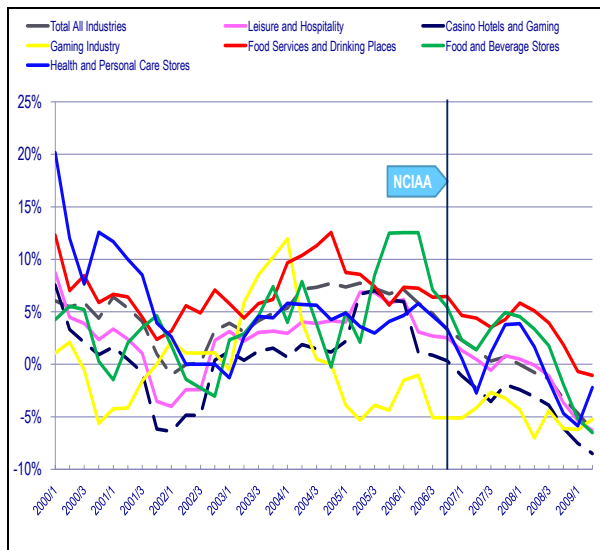


Figure 2. Percentage Change Clark County in Employment

Taxable sales in food services and drinking places, which are comprised of

establishments primarily engaged in preparing meals, snacks and beverages to customer order for immediate consumption on and off the premises, and establishments known as bars, taverns, and nightclubs, primarily engaged in preparing and serving alcoholic beverages for immediate consumption, sharply declined in the two quarters prior to the NCIAA enactment, but then increased by the third quarter of 2007, while following county-wide sales trends in 2007 and 2008 (see Figure 3). Taxable sales in food and beverage stores, which are defined as the retail sales of food and beverage products such as grocery stores did not start declining until the third quarter of 2007. Sales continued to decline until the second quarter of 2009 (Nevada Department of Taxation, 2009).

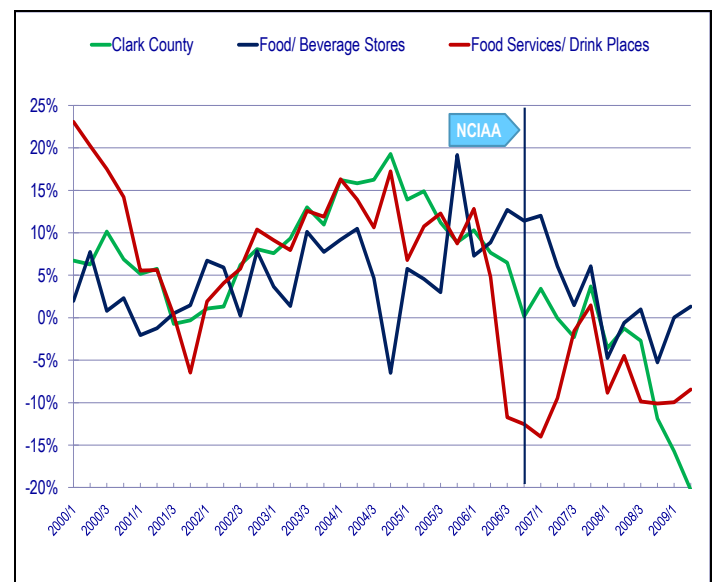


Figure 3. Percentage Change in Taxable Sales

The number of newly opened drinking establishments increased after the NCIAA went into effect and continued to climb until the third quarter of 2008 (see Figure 4). The overall number of restaurant and drinking establishment permits also increased after the NCIAA went into effect. The number of newly opened restaurants dropped in the second quarter of 2007, however then rebounded to a record high in the fourth

quarter of 2007 (Southern Nevada Health District, 2009).

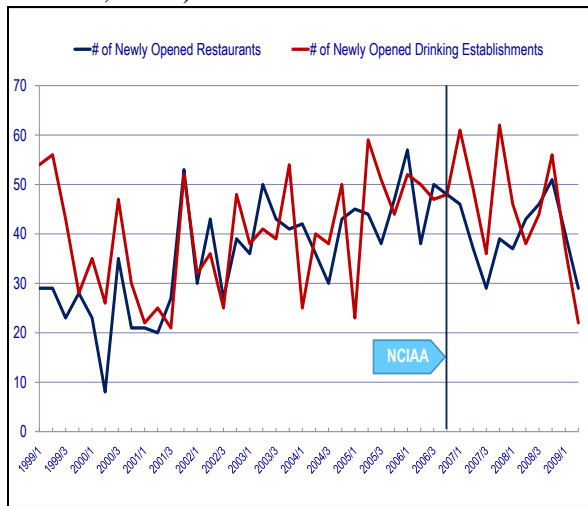


Figure 4. Number of New Clark County Restaurant/Drinking Establishment Openings

The number of inactive business license filings for restaurants and drinking establishments in Clark County has steadily decreased since 2005 for all businesses related to our assessment (Clark County Department of Business Licenses, 2009) (see Figure 5). This indicates that there may have been less restaurant and drinking establishment closings in this sector since the enactment of the NCIAA.

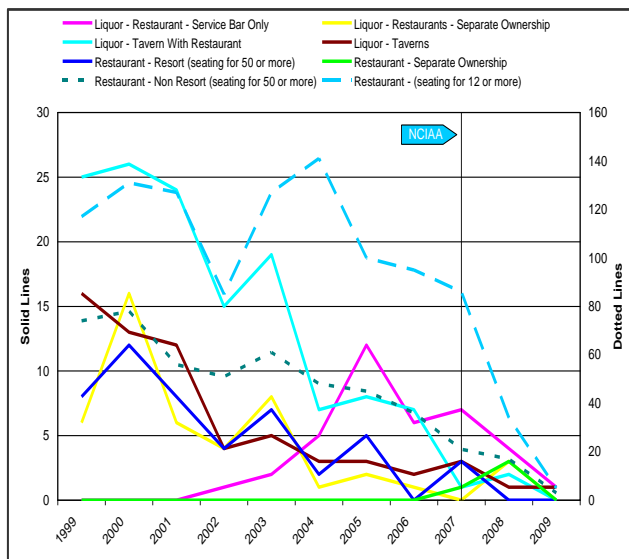


Figure 5. Number of Clark County Restaurant/Drinking Establishment Closings

Taxable gross revenue from games and tables dropped immediately after the NCIAA went into effect in January of 2007, but rebounded by the second quarter of 2007 (see Figure 6). Slot revenue was consistent with the general downward trends in total gross gaming revenue and games and table revenue, all of which have been in decline since the third quarter of 2007 but showed some upswing after the fourth quarter of 2008. Slot machine collections (fees businesses pay for housing slot machines) in businesses utilizing this service, followed this same trend through the second quarter of 2008 (Nevada Gaming Control Board, 2009).

It is important to note in this analysis that slot machine revenues in restricted businesses are only a small portion of the total slot revenue reported. Typically there are 15 slot machines or less in a restricted location as compared to the large casinos which can accommodate hundreds. Therefore, trends in restricted slot revenue locations may be distorted by the overall trend. Another factor worthy of mention is that revenue elasticity is larger in slot play than in table games resulting in the visibly greater decline in table revenues (Thalheimer & Ali, 2008).

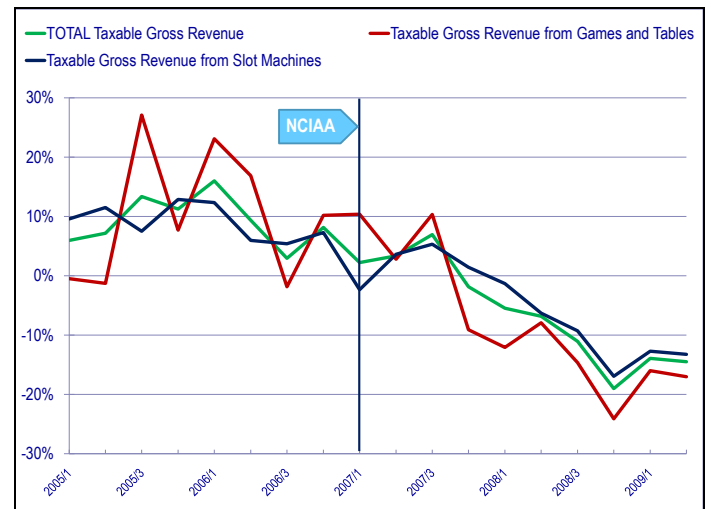


Figure 6. Percentage Change in Gaming Revenues

Discussion

The goal in undertaking this study was to assess pertinent economic data to substantiate the measurable effects of the NCIAA on Clark County businesses.

Economic data were collected on a quarterly basis for ten years, allowing researchers to take into account the county's general economic conditions, as well as seasonal effects. Although other studies have measured the potential economic impact of smoke-free laws on businesses, this is the first to our knowledge that has independently assessed and addressed the impact of such legislation in a region where tourism and gaming are the primary industries.

Previous studies have estimated the economic impact of smoke-free legislation on the restaurant and drinking establishment industry as non-significant (Eriksen & Chaloupka, 2007; Glantz & Smith, 1997). Our overall findings indicate that the majority of the business sectors potentially affected by the NCIAA, including leisure and hospitality, restaurants and drinking establishments, health and personal care stores and grocery stores, started to show economic declines beginning in the second quarter of 2006, a full six months prior to enactment of the NCIAA.

Employment in the above mentioned sectors rose in the mid-2007 and early 2008 periods despite a general drop in Clark County employment rates. Our findings are similar to Hyland et al. (2003) that found per capita, hotel employment and sales levels were higher after the implementation of smoke-free laws. Similarly, after Massachusetts enacted a comprehensive smoke-free law, neither meal taxes nor employment rates were negatively impacted (Hillel et al., 2007). Pyles et al., (2007) examined the impact on employment and business closures in Lexington, Kentucky, a tobacco growing community, after that city's smoke-free ordinance was enacted. Despite the fact that Lexington had a higher-than-average smoking prevalence rate, their smoke-free ordinance did not result in a

negative economic outcome for businesses.

Though the Nevada Bar and Tavern Owners Association stated that the NCIAA disproportionately affected their businesses, our research indicates that the number of drinking establishment openings, as measured by permit issuances, increased after the NCIAA went into effect (Southern Nevada Health District, 2009). Newly opened restaurants and drinking establishments increased quarterly from the time the NCIAA went into effect until the second quarter of 2008.

Taxable sales in Clark County restaurants and drinking establishments declined prior to the passing of the NCIAA, and then improved by the end of 2007, after a steady 2-year decline. This is similar to other studies in California and Colorado that found smoke-free legislation did not adversely affect retail sales in restaurants and drinking establishments (Glantz & Smith, 1994; Glantz & Smith, 1997). Stolzenberg and D'Alessio (2007) assessed the effects on California restaurant revenues immediately after smoke-free legislation was enacted and found that restaurants serving alcohol had an initial 4% drop in revenues but that revenues returned to a normal level in the following quarter. No significant changes were noted in restaurant revenues for those not serving alcohol.

Taxable slot revenue did drop immediately after the law went into effect but rebounded in the 2nd quarter of 2007. Since the NCIAA enactment, slot revenue trends have been consistent with general downward trends in total gross gaming revenue, again paralleling the general economic decline commencing in the third quarter of 2007. Our research also indicates that slot collections in restricted businesses followed similar trends of slot collections in non-restricted businesses.

Enforcement of the NCIAA in Clark County is limited to civil fines of \$100 and no criminal penalties. The Southern Nevada Health District (SNHD) was charged to enforce the law and initially focused on "an

information and education campaign” for restaurants and drinking establishments (SNHD, 2009). Following these efforts, the SNHD now identifies establishments who receive the most consumer complaints about violations of the NCIAA, and conducts investigations and collaborates with establishments to promote compliance. Future research is needed to determine the effects of more rigorous enforcement strategies on the economic indicators examined.

In summary, acceptance of the NCIAA has been tenuous in Clark County due to speculation that businesses were financially impacted. Our findings indicate that while economic indicators did decrease after the Act was enforced, most of the declining trends began prior to the passage of the NCIAA. These findings are consistent with downward trends in other, non-NCIAA affected segments of our economy.

Limitations

Due to the limited number of post NCIAA data points, data collected so far are insufficient to run a more robust analysis. Moreover, the data collected does not account for other Nevada counties to examine economic similarities across the state. However, as we continue to collect additional data points, we can improve our analysis of the economic effects on Clark County. Also, further research should include statewide data to determine whether differences exist in enforcement of the NCIAA and whether economic differences exist across counties.

Acknowledgments

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References

Bussewitz, C. (2009). Nevada Legislature: Smoking ban bill debated. Available at: www.nevadaappeal.com/apps/pbcs.dll/article?AID=/20090514/NEWS/905139910/

Eriksen, M., & Chaloupka, F. (2007). The Economic Impact of Clean Indoor Air Laws. *A Cancer Journal for Clinicians*, 57:367-378.

Glantz, S.A. & Charlesworth, A. (1999). Tourism and hotel revenues before and after passage of smoke-free restaurant ordinances. *Journal of the American Medical Association*, 281:1911-1918.

Glantz, S.A., & Smith, L.R. (1994). The effects of ordinances requiring smoke-free restaurants on restaurant sales. *American Journal of Public Health*, 84(7):1081-1085.

Glantz, S.A., & Smith, L.R. (1997). The effects of ordinances requiring smoke-free restaurants and bars on revenues: A follow up. *American Journal of Public Health*, 87(10):1687-1693.

Hillel, R.A., Carpenter, C.M., Travers, M.J., & Connolly, G.N., (2007). Environmental and economic evaluation of the Massachusetts Smoke-Free Workplace Act. *Journal of Community Health*, 32(4): 269-281.

Hyland, A., Puli, V., Cummings, M., & Sciandra, R. (2003). New York's smoke-free regulations: effects on employment and sales in the hospitality industry. *Cornell Hotel and Restaurant Administration Quarterly*, 9-16.

Mandel, L., Alamar, B.C., & Glantz, S.A. (2005). Smoke-free law did not affect revenue from gaming in Delaware. *Tobacco Control* 2005, Vol. 14, 10-12.

Pyles, M.K., Mullineaux, D.J., Okoli, Z., & Hahn, E.J. (2007) Economic effect of a smoke-free law in a tobacco-growing community. *Tobacco Control* 2007, 16:66-68.

Southern Nevada Health District. (2009). Nevada clean indoor air act. Current enforcement activities. Available at

<http://www.southernnevadahealthdistrict.org/nciaatobacco/enforcement.php>

Stolzenberg, L., & D'Alessio, S.J. (2007). Is nonsmoking dangerous to the health of restaurants? The effect of California's indoor smoking ban on restaurant revenues. *Evaluation Review*, 31(1): 75-92.

Thalheimer, R., & Ali, M.M. (2008). Table games, slot machines and casino revenue. *Applied Economics*. 40(18): 2395-2404.

Restaurant/Bar employment rate statistics Available at Nevada Department of Employment, Training & Rehabilitation: http://www.nevadaworkforce.com/admin/uploadedPublications/1407_LV_CES.xls, 2009.

Restaurant/Bar closing statistics Available at Clark County Department of Business Licenses: <http://sandgate.co.clark.nv.us/businessLicense/businessSearch/blinmult.asp>, 2009.

Restaurant/Bar opening statistics Available at Southern Nevada Health District: <http://www.cchd.org/>, 2009.

Restaurant/Bar taxable sales statistics Available at Nevada Department of Taxation: <http://tax.state.nv.us/pubs.htm#business>, 2009.

Slot gaming revenues statistics Available at Nevada Gaming Control Board: http://gaming.nv.gov/qtr_stat_rpt.htm, 2009.