



Studies that Measure the Economic Impact of Smoke-free Policies on the Hospitality Industry

An extensive body of literature shows that smoke-free laws have no negative effect on the hospitality industry. The results of 25 studies involving 13 states are summarized below. The first two review the smoke-free literature in its entirety. The next 23 sources, organized alphabetically by author, look at specific cities or regions of the country and specific sectors of the hospitality industry where smoke-free ordinances have been implemented. Each study is coded to show whether it addresses the effect of smoke-free policy on specific areas of interest, such as restaurants, bars, hotels, revenues, sales tax, employment, tourism, gambling, air quality, and/or public opinion. Much of this research, highlighted in bold type, has appeared in scientifically-published, peer-reviewed journals. State health departments, public universities, and private think tanks have also contributed to the smoke-free literature. After analyzing ordinances from various parts of the country during different economic cycles, these studies have consistently shown that smoke-free laws have not hurt the hospitality industry, and in fact, may even be good for it.

Source	Region	Sector	Results/Description/Conclusion
Scollo, Michelle and Anita Lal (2004). Summary of Studies Assessing the Economic Impact of Smoke-free Policies in the Hospitality Industry. Melbourne: VicHealth Centre for Tobacco Control. http://www.vctc.org.au/tc-res/Hospitalitysummary.pdf.	Summary/Compilation of Smoke-Free Studies		A comprehensive review of scientifically sound studies shows that smoke-free ordinances had no negative effect on the hospitality industry. Researchers examined 145 studies that claimed to analyze the economic impact of smoke-free policies on the hospitality industry. 21 studies were methodologically sound (using objective measures such as sales receipts, controlling for outside factors and trends, using appropriate statistical tests, and including data prior to and following implementation of the smoking ban), and showed that smoke-free policies did not adversely affect the economic health of restaurants and bars. Studies showing a negative economic impact were based on subjective, unverified data and estimates, were methodologically flawed and largely funded by the tobacco industry.
Scollo, M., A. Lal, A. Hyland, and S. Glantz (2003). Review of the Quality of Studies on the Economic Effects of Smoke-Free Policies on the Hospitality Industry. <i>Tobacco Control</i> 12: 13-20.	Summary/Compilation of Smoke-Free Studies		A comprehensive review of scientifically sound studies shows that smoke-free ordinances had no negative effect on the hospitality industry. Researchers analyzed 97 studies that focused on the economic impact of smoke-free laws on restaurants, bars, recreational venues, hotels, and tourism. Reviewers assessed these studies based on their overall quality, which included the use of objective data, a pre-/post study design, and statistical methods. The paper concludes that lower quality studies (which used subjective data, received tobacco industry funding, and were not subject to peer-review requirements) were more likely to find a negative association between smoke-free laws and the hospitality industry. In contrast, well-designed, high quality studies found either no impact, or a positive association between smoke-free laws and the hospitality industry's overall sales and employment.

Source	Region	Sector*	Results/Description/Conclusion
Alamar, B.C. and S.A. Glantz (2004). Smoke-Free Ordinances Increase Restaurant Profit and Value. <i>Contemporary Economic Policy</i> 22(4): 520-525.	Utah and California	RV	The authors find that restaurants in localities with smoke-free ordinances sell at a higher price than restaurants in areas that are not smoke-free. There is a median increase of 16 percent, or \$15,300, in the sale price of restaurants in smoke-free communities.
Bartosch, W.J. and G.C. Pope (2002). Economic Effect of Restaurant Smoking Restrictions on Restaurant Business in Massachusetts, 1992-1998. <i>Tobacco Control</i> 11(Suppl II): ii38-ii42.	Massachusetts Amherst, Andover, Arlington, Attleboro, Bedford, Belmont, Brookline, Chicopee, East Longmeadow, Easthampton, Foxborough, Greenfield, Holden, Holyoke, Lee, Lenox, Lexington, Longmeadow, Medfield, Montague, Northampton, Norwell, Plainville, Plymouth, Reading, Sharon, South Hadley, Southampton, Stockbridge, Sunderland, Tewksbury, West Springfield	R, S B, RV	Smoke-free laws do not affect overall restaurant sales in the Massachusetts communities included in the analysis. This is a follow-up to a 1999 study and uses additional data to examine the economic effects in cities and towns with and without smoke-free ordinances between January 1992 and December 1998. Seasonal changes and changes in county population and per capita income are the only factors shown to have an effect on restaurant and alcohol revenue.
Bartosch, W.J. and G.C. Pope (1999). The Economic Effect of Smoke-Free Restaurant Policies on Restaurant Business in Massachusetts. <i>Journal of Public Health Management Practice</i> 5(1): 53-62.	Massachusetts Amherst, Andover, Arlington, Attleboro, Bedford, Belmont, Brookline, Chicopee, East Longmeadow, Easthampton, Foxborough, Greenfield, Holden, Holyoke, Lee, Lenox, Lexington, Longmeadow, Medfield, Montague, Northampton, Norwell, Plainville, Plymouth, Reading, Sharon, South Hadley, Southampton, Stockbridge, Sunderland, Tewksbury, West Springfield	R, S B, RV	Smoke-free laws do not cause a significant change in communities' overall meal and alcohol revenues. Only seasonal changes and changes in a community's population were shown to have an effect on restaurant and bar revenues. Researchers compared aggregate restaurant receipts in 32 Massachusetts communities that adopted smoke-free restaurant and/or bar policies between January 1992 and December 1995 with the receipts of 203 communities that did not.

Source	Region	Sector*	Results/Description/Conclusion
<p>Centers for Disease Control and Prevention (2004). Impact of a Smoking Ban on Restaurant and Bar Revenues—El Paso, Texas, 2002. <i>Morbidity and Mortality Weekly Report</i> 53(7): 150-152.</p>	<p>El Paso, TX</p>	<p>R, B, S, RV</p>	<p>Mixed-beverage revenue analyses indicate that sales of alcoholic beverages were not affected by the El Paso smoke-free ordinance. Researchers from the Texas Department of Health (TDH) and the Centers for Disease Control and Prevention (CDC) examined restaurant and bar revenues 12 years before and 1 year after El Paso, Texas enacted its smoke-free ordinance on January 2, 2002. Restaurant, bar, and mixed-beverage revenues varied by quarter (and were found to be highest between the October-December quarter).</p>
<p>Connolly, G.N., et al. (2005). <i>Evaluation of the Massachusetts Smoke-Free Workplace Law: A Preliminary Report.</i> Paper presented to the Harvard School of Public Health Tobacco Control Working Group, Boston, MA.</p>	<p>Massachusetts</p>	<p>R, B, H, RV, S, E, G, AQ</p>	<p>The study concludes that Massachusetts' state-wide smoking ban, implemented on July 5, 2004, has improved indoor air quality in a sample of 27 bars and restaurants and has had no negative impact on leisure and hospitality revenues or employment. Indoor air pollution decreased 93 percent among sampled establishments. Restaurant and bar patronage and monthly meals and alcoholic beverage tax collections did not change. Employment in food services and drinking establishments remained the same and there was an increase in the number of workers employed in accommodation venues (i.e. hotels, motels, etc.). No change in lottery revenues, as measured by net Keno sales, was observed after the law's implementation.</p>
<p>Dai, Chifeng, et al. (2004). <i>The Economic Impact of Florida's Smoke-Free Workplace Law.</i> Gainesville, Florida: University of Florida, Warrington College of Business Administration, Bureau of Economic and Business Research.</p>	<p>Florida Daytona Beach, Ft. Lauderdale, Ft. Myers, Gainesville, Jacksonville, Lakeland, Melbourne, Miami, Orlando, Pensacola, Sarasota, Tallahassee, Tampa, West Palm Beach</p>	<p>R, B, T, RV, E</p>	<p>Florida's smoke-free law did not negatively impact revenues and employment. Using data from January 1990 to April 2004, the study looks at the economic effect of Florida's smoke-free law on restaurant and bar sales and employment levels within the state's leisure and hospitality industry. Among the six economic measures, three—retail sales from restaurants, lunchrooms and catering services; employment in drinking and eating establishments; and employment in the leisure and hospitality sector—increased after Florida's smoke-free law went into effect. The other measures—retail sales from taverns, night clubs, bars and liquor stores; retail sales from recreational admissions; and employment in accommodations—experienced no change after the law went into effect.</p>

Source	Region	Sector*	Results/Description/Conclusion
Dresser, J., S. Boles, E. Lichtenstein, and L. Strycker (1999). Multiple Impacts of a Bar Smoking Prohibition Ordinance in Corvallis, Oregon. Eugene, Oregon: Pacifica Research Institute.	Corvallis, OR	B, G, S, RV	Corvallis, Oregon's smoking ban appears to have no economic impact on most bars, with an increase in nonsmokers offsetting a loss in smokers. On July 1, 1998, Corvallis, Oregon required all bars to go smoke-free. Using four data sources (distilled spirits sales, malt liquor sales, video poker sales, and alcohol sales), researchers find that Corvallis' smoke-free ordinance had generally no economic impact on bars. However, the evidence suggests that establishments catering to video poker players did experience a decline in sales. Overall, there appears to be a loss of some smokers to bars outside Corvallis, however, this migration effect was offset by an increase in non-smoking patronage.
Glantz, S.A. (2000). Effect of Smokefree Bar Law on Bar Revenues in California. <i>Tobacco Control</i> 9(Spring): 111-112.	California	B, RV	Glantz concludes that (1) California's smoke-free restaurant law increased retail sales of eating and drinking establishments, with a larger increase following the enactment of smoke-free bars and (2) the smoke-free restaurant law had no effect on bar revenues for those businesses established solely for the purpose of drinking. Glantz investigates: (1) Whether California's smoke-free restaurant law harmed businesses that were both eating and drinking establishments and (2) Whether California's smoke-free bar law had negative effects on bar revenues. He compares revenues for eating and drinking establishments before and after January 1, 1995, when all restaurants were required to go smoke-free. He also compares bar revenues before and after January 1, 1998, when all bars were required to go smoke-free.
Glantz, S.A. and A. Charlesworth (1999). Tourism and Hotel Revenues Before and After Passage of Smoke-Free Restaurant Ordinances. <i>Journal of the American Medical Association</i> 281(20): 1911-1918.	California, Utah, Vermont Boulder, CO; Flagstaff, AZ; Los Angeles, CA; Mesa, AZ; New York, NY; San Francisco, CA	H, RV, T	Smoking bans either increased or had no effect on hotel revenues and tourism. Researchers compared hotel revenues and tourism rates in 3 states and 6 cities. The authors found that smoke-free ordinances increased hotel revenues in 4 localities (Utah; Los Angeles, California; Mesa, Arizona; and New York City, New York), had no effect on revenues in 4 localities (California; Vermont; Boulder, Colorado; and San Francisco, California), and slowed the rate of increase in one city, Flagstaff, Arizona (which, at the time of the investigation, was expanding its hotel stock). Smoke-free ordinances were also shown to increase the number of Japanese tourists who visited California and the number of European tourists who visited New York City. As for the seven remaining locales, no significant changes in tourist rates were observed, either before or after the implementation of smoke-free policies.

Source	Region	Sector*	Results/Description/Conclusion
Glantz, S.A. and L.R.A. Smith (1997). The Effect of Ordinances Requiring Smoke-Free Restaurants and Bars on Revenues: A Follow-Up. <i>American Journal of Public Health</i> (87)10: 1687- 1692.	<p>Colorado</p> <p>Aspen, Snowmass, and Telluride</p> <p>California</p> <p>Auburn, Beverly Hills, Bellflower, El Cerrito, Lodi, Martinez, Palo Alto, Paradise, Roseville, Ross, Sacramento, San Luis Obispo,</p> <p>Anderson, David, Redding, San Luis Obispo, Tiburon, Shasta Co., Santa Clara Co.</p>	R, B, S, RV	Smoke-free ordinances were found to have no effect on aggregate restaurant or bar sales. Researchers compared sales tax and total retail sales for 15 cities with smoke-free restaurant ordinances against 15 cities without. They also compared bar sales for the first 5 cities (Anderson, CA; Davis, CA; Redding, CA; San Luis Obispo, CA; Tiburon, CA) and 2 counties (Shasta County, CA and Santa Clara County, CA) requiring smoke-free bars with the bar sales of matched cities and counties that did not (Red Bluff, CA; Chico, CA; Healdsburg, CA; Sausalito, CA; Butte County, CA; and Alameda County, CA).
Glantz, S.A. and L.R.A. Smith (1994). The Effect of Ordinances Requiring Smoke-Free Restaurants on Restaurant Sales. <i>American Journal of Public Health</i> (84)7: 1081-1085.	<p>Colorado</p> <p>Aspen, Snowmass, Telluride</p> <p>California</p> <p>Auburn, Beverly Hills, Bellflower, El Cerrito, Lodi, Martinez, Palo Alto, Paradise, Roseville, Ross, Sacramento, San Luis Obispo</p>	R, S, RV	This is the first study that used taxable restaurant sales to examine the economic impact of smoke-free laws on business as well as the first study to find that smoking bans generally do not harm restaurants. Researchers compared sales tax and total retail sales for 15 cities with smoke-free ordinances against 15 cities, similar in population, income, and smoking prevalence, where an ordinance was not in force. Among the 15 communities, the data show that restaurant sales from 1986 through 1993 remained unchanged as a fraction of total retail sales. There was some evidence that retail sales to restaurants increased in Bellflower and Martinez, but may have decreased in Roseville. When compared to cities without a smoke-free ordinance, sales also appeared to increase in Palo Alto but decrease in Paradise. It is not clear what factors may have driven these changes.
Glantz, S.A. and R. Wilson-Loots (2003). No Association of Smoke-free Ordinances with Profit from Bingo and Charitable Games in Massachusetts. <i>Tobacco Control</i> 12: 411-413.	<p>Massachusetts</p> <p>Communities that permitted charitable gaming between 1985 and 2001 (not listed in study)</p>	G, RV	Statistical analysis suggests that observed revenue declines in bingo were not related to community smoking bans. Using annual bingo receipts for the years 1985 through 2001, researchers found that net profits from charitable gaming in Massachusetts fell over time. This trend preceded the passage of local smoke-free ordinances in the state.

Source	Region	Sector*	Results/Description/Conclusion
Goldstein, A.O. and R.A. Sobel (1998). Environmental Tobacco Smoke Regulations Have Not Hurt Restaurant Sales in North Carolina. <i>North Carolina Medical Journal.</i> (59)5: 284-287.	North Carolina Craven Co., Halifax Co., Orange Co., Wake Co., Buncombe Co.	R, RV	The authors conclude that there were no differences in restaurant sales among the ten counties studied in either the period (1990-1993) before smoking bans were implemented or in the period (1994-1997) after. Researchers compared the impact of smoke-free ordinances on restaurant sales in ten North Carolina counties—five which had a smoke-free ordinance (Craven, Halifax, Orange, Wake, and Buncombe) and five that did not (Rockingham, Brunswick, Cabarrus, Mecklenburg, and Davidson).
Hahn, E.J., et al. (2005). <i>Economic Impact of Lexington's Smoke-Free Law: A Progress Report.</i> Lexington, Kentucky: University of Kentucky, College of Nursing and Gatton College of Business and Economics.	Kentucky Lexington	R, B, H, E	Lexington, Kentucky's smoke-free law, implemented on April 27, 2004, has had no negative impact on employment, payroll withholding taxes, or business openings and closings among the city's restaurants, bars, and hotels. Restaurant employment increased, bar employment remained unchanged, and hotel/motel employment decreased in the five months after the law went into effect. There are methodological problems with this last result. The authors used five years of employment data, but the pre-9/11 data appear to be statistical outliers and should have been controlled for in the analysis. Workers' earnings, as measured by payroll withholding taxes, remained unchanged among restaurant, bar, and hotel/motel employees. There was no change in the number of openings or closings in food service or alcohol serving establishments.
Hayslett, J.A. and P.P. Huang (2000). Impact of Clean Indoor Air Ordinances on Restaurant Revenues in Four Texas Cities: Arlington, Austin, Plano and Wichita Falls 1987-1999. Bureau of Disease, Injury and Tobacco Prevention. Texas Department of Health.	Texas Arlington, Austin, Plano, Wichita Falls	R, S, RV	This study finds that smoke-free ordinances had either no effect or increased restaurant revenues across four Texas cities. Arlington, Austin, Plano, and Wichita Falls, Texas implemented smoke-free restaurant ordinances in July 1994, March 1996, August 1995, and July 1995, respectively. These four cities have different geographies in the state, as well as different economies. Researchers examined thirteen years (1987-1999) of restaurant and retail sales data to look at the effect of smoke-free ordinances on the economic health of these cities. For Plano and Wichita Falls, the smoking ban had no impact on restaurant revenues. For Arlington and Austin, the smoke-free ordinance was associated with an increase in restaurant revenues. With respect to restaurant revenue as a proportion of total retail revenue, the smoke-free ordinance was found to have no effect in Austin, Plano, and Wichita Falls. In Arlington, the smoking ban was shown to increase the city's restaurant sales as a proportion of total retail revenue.

Source	Region	Sector*	Results/Description/Conclusion
Huang, P., et al. (1995). Assessment of the Impact of a 100% Smoke-Free Ordinance on Restaurant Sales—West Lake Hills, Texas, 1992-1994. <i>Morbidity and Mortality Weekly Report</i> 44(19): 370-372.	West Lake Hills, TX	R, RV	The study concludes that there were no adverse economic effects associated with West Lake Hills' smoke-free ordinance. On June 1, 1993, West Lake Hills, Texas implemented a smoke-free ordinance requiring all commercial establishments, including restaurants and restaurants with bars, to be 100 percent smoke-free. Researchers examined aggregate monthly sales from 7 restaurants before and after the ban.
Hyland, A. and J. Tuk (2001). Restaurant Employment Boom in New York City. <i>Tobacco Control</i> 10(Summer): 199.	New York City, NY (Bronx, Brooklyn, Manhattan, Queens, Staten Island) Nassau Co., Westchester Co., Rockland Co.	R, E	This study finds no decrease in restaurant employment following the passage of New York City's smoke-free ordinance. Researchers compared the number of restaurant employees per month between April 10, 1994, one year before NYC required all smoke-free restaurants, and April 10, 1999, four years after the law's implementation. In addition to looking at employment data for the city's five boroughs—Bronx, Brooklyn, Manhattan, Queens, and Staten Island—researchers also included the nearby counties of Nassau, Westchester, and Rockland. They conclude that more than 22,000 restaurant employees were employed in NYC four years post-ban; this was an 18 percent increase from 1990. While all five boroughs experienced an increase in restaurant employment, Bronx and Richmond counties outpaced other regions at 36 percent and 31 percent, respectively.
Hyland, A. and K.M. Cummings (1999). Restaurateur Reports of the Economic Impact of the New York City Smoke-Free Air Act. <i>Journal of Public Health Management Practice</i> 5(1): 37-42.	New York City, NY Bronx, Brooklyn, Manhattan, Queens, Staten Island	R, PO	After randomly surveying 434 New York City restaurateurs, researchers determined that New York City's Smoke-Free Air Act had no effect on restaurant sales. 34 percent of smaller restaurants and 36 percent of restaurants with bar areas reported a decline in business compared with 35 percent of larger restaurants and restaurants without bar areas reporting similar results.

Source	Region	Sector*	Results/Description/Conclusion
Hyland, A. and K.M. Cummings (1999). Restaurant Employment Before and After the New York City Smoke-Free Air Act. <i>Journal of Public Health Management Practice</i> 5(1): 22-27.	New York City, NY Bronx, Brooklyn, Manhattan, Queens, Staten Island Nassau Co., Westchester Co., Suffolk Co.	R, E	New York City's smoking ban was not shown to affect employment in or the growth of the city's hospitality industry. Researchers looked at the number of restaurants and restaurant employees in New York City (comprised of the five boroughs of Manhattan, Bronx, Richmond, Kings, and Queens), three nearby counties (Nassau, Westchester, and Suffolk) and the rest of the state using data from two years before and after the passage of New York City's Smoke-Free Air Act. Between April 1993 and April 1997, New York City, as well as the rest of the state, experienced increases in both the numbers of restaurants and restaurant employees. New York City's restaurant employment growth was found to be more than three times that of the entire state. Brooklyn was the only county to show a decrease in both restaurants and employment, however, Brooklyn also lost population during the study period, making a decline in overall restaurant and restaurant employees likely.
Hyland, A., K.M. Cummings, and E. Nauenberg (1999). Analysis of Taxable Sales Receipts: Was New York City's Smoke-Free Air Act Bad for Restaurant Business? <i>Journal of Public Health Management Practice</i> 5(1): 14-21.	New York City, NY Brooklyn, Bronx, Manhattan, Queens, Staten Island	R, H, S	Researchers conclude that New York City's smoke-free law did not change sale revenues at restaurants and hotels. This study measures the level of taxable sales receipts before and after the implementation of New York City's Smoke-Free Air Act on April 10, 1995.
New York City Department of Finance, New York City Department of Health and Mental Hygiene, New York City Department of Small Business Services, and New York City Economic Development Corporation (2004). The State of Smoke-Free New York City: A One Year Review.	New York City, NY Brooklyn, Bronx, Manhattan, Queens, Staten Island	R, B, S, E, AQ, PO	This study suggests that New York City's smoke-free law has not hurt the hospitality industry, and that New Yorkers approve of the ban. Researchers looked at the effect of New York City's Smoke-Free Air Act, enacted March 30, 2003, on the city's employment and its restaurant and bar sales. Since the law went into effect, employment in the city's restaurants and bars increased by 10,600 jobs while sales tax receipts increased 8.7%, or nearly \$1.4 million. While the number of restaurants and bars did not change, there was a 4% increase in the number of new liquor licenses issued. Moreover, 69% of registered NYC voters approved of the smoking ban.
Sciacca, J.P. and M.I. Ratliff (1998). Prohibiting Smoking in Restaurants: Effects on Restaurant Sales. <i>American Journal of Health Promotion</i> 12(3): 176-184.	Flagstaff, AZ	R, H, T, S, RV	Flagstaff, Arizona's smoking ban had no effect on the city's tourism. The authors compared restaurant, motel and hotel sales data three-and-a-half years before Flagstaff's smoke-free restaurant law and one-and-a-half years after its enactment. In comparison to Prescott, Yavapai County, Yuma, Yuma County, and the state of Arizona, Flagstaff's motel and hotel sales did not change before or after the ordinance.

Source	Region	Sector*	Results/Description/Conclusion
Styring, W. III (2001). A Study of the Fort Wayne (IN) Restaurant Smoking Ban: Has It Impacted the Restaurant Business? Indianapolis: Hudson Institute.	Fort Wayne, IN	R, S, PO	Fort Wayne, Indiana's smoke-free ordinance, enacted in January 1999, had no effect on food and beverage tax revenues. Styring, a researcher for a prominent, conservative think-tank, looked at the levels of Allen County tax revenue before and after the ban. He concluded that changes in Allen County Personal Income explained over 96 percent of the change in food and beverage tax collections. Styring followed up his statistical analysis with a telephone survey of 250 Allen County residents. Of the 238 residents who said they were aware of Fort Wayne's smoking ban, 164 (69%) said it made no difference in their decision to patronize a restaurant; 39 (16%) said the ban made it less likely and 35(15%) said the ban made it more likely that they would patronize a restaurant.

Policy
National Government Relations Department
June 2006