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# Effect of Smoke-Free Ordinances on Restaurant and Bar Sales

## **Abstract**

Peer-reviewed studies that have examined the effect of the enactment of smoke-free ordinances on restaurant and bar sales have uniformly found that the enactment of these ordinances does not decrease restaurant or bar sales, with most studies observing no effect on restaurant revenues.

## **Keywords**

Smoke-free. Restaurants, bars, Sales, No Effect

# Effect of smoke-free ordinances on restaurant and bar sales

by Howard P. Glauert

*Peer-reviewed studies that have examined the effect of the enactment of smoke-free ordinances on restaurant and bar sales have uniformly found that the enactment of these ordinances does not decrease restaurant or bar sales, with most studies observing no effect on restaurant revenues.*

**S**moke-free restaurant ordinances have been enacted or proposed in many cities in the United States. The main opposition to these ordinances has been from restaurant and bar owners, who have claimed that such an ordinance would hurt their business. This review examines studies that have quantified whether the enactment of smoke-free ordinances influences sales in restaurants and bars. Only studies that have been published in refereed journals are reviewed in order to ensure that the methods and interpretations have been peer-reviewed, and only studies that had actual data as to restaurant and bar sales are described.

The first peer-reviewed study examining the effect of non-smoking ordinances on restaurant sales was published by Glantz and Smith in 1994<sup>1</sup>. Fifteen cities in Colorado and California that had enacted smoke-free restaurant ordinances were chosen and paired with 15 similar cities without ordinances. Examples of these pairs were Aspen and Vail, Colorado, Sacramento and Fresno, California, and Palo Alto and Mountain View, California; the smoke-free city is listed first. Quarterly data on taxable restaurant sales and total retail sales were obtained from the Colorado State Department of Revenue and the California State Board of Equalization. Total restaurant sales were analyzed as a fraction of total retail sales to account for population growth, inflation, and changes in the economy.

## **Sales not affected**

Overall, there was no effect on restaurant sales (as a percent of

retail sales). After performing statistical analyses, restaurant sales were found to be increased in two cities, decreased in one city, and not changed in the rest. In comparing the smoke-free cities with the control cities, sales were increased in one city, decreased in one city, and not affected in the rest. This study was updated in 1997 when three more years of data were added; in addition data for five cities and two counties that banned smoking in bars (as well as seven control communities) were added<sup>2</sup>. As before, smoke-free ordinances were not found to affect restaurant sales. In addition, bar sales (as a percent of total retail sales) were also not affected. When the city pairs were examined individually, only one city, Davis, California, did have a drop in sales.

#### **Southwest cities examined**

Huang et al.<sup>3</sup> examined restaurant sales in West Lake Hills, Texas, a suburb of Austin, before and after a smoke-free restaurant ordinance was enacted in June 1993. Data were collected for the 17-month period before the ordinance went into effect and for the 19-month period after it went into effect. Seasonal variations were taken into account, as were economic trends. The analysis found that restaurant sales did not decrease after the ordinance went into effect, and may actually have increased (a positive regression coefficient was noted).

Sciacca and Ratliff<sup>4</sup> examined the effect of a smoke-free ordinance

in Flagstaff, Arizona. Data on restaurant sales, total retail sales, and hotel and motel sales were collected from the Arizona Department of Revenue for Flagstaff and two comparison cities, Yuma and Prescott. Four endpoints were quantified: first, restaurant sales in Flagstaff before and after the start of the ordinance; second, the ratio of Flagstaff restaurant sales to those in comparison cities both before and after enactment of the ordinance; third, the ratio of restaurant sales to total retail sales in Flagstaff both before and after the start of the ordinance; and, fourth, the effect of the ordinance on motel and hotel sales both before and after the start of the ordinance. For all endpoints, the smoke-free restaurant ordinance was found to have no effect.

#### **Northeast studies cited**

A study from the state of Massachusetts was performed by Bartosch and Pope<sup>5</sup>. Thirty-two cities and towns that had adopted smoke-free ordinances between 1992 and 1995 were studied and compared to 203 cities and towns that had no such ordinance. Taxable meals receipts data were collected from the Massachusetts Department of Revenue from January 1992 through December 1995. The study did not find any difference between communities with smoke-free ordinances and those with no ordinance. This study was updated in 2002, so that data between 1992 and 1998 could be analyzed; again, no effect on the restaurant business was observed<sup>6</sup>.

New York City enacted a smoke-free restaurant law in 1995. The effect of this law on the city's restaurants and hotels was studied by Hyland et al.<sup>7</sup> Data on taxable sales from restaurants and hotels was obtained from 1990 through 1997, and compared to similar data from other counties in New York State that did not have smoke-free ordinances. Five endpoints were quantified: first, total sales from eating and drinking establishments; second, total sales from hotels; third, ratio of these sales to total retail sales in New York City; fourth, ratio of sales from eating and drinking establishments to those outside of New York City; and fifth, ratio of sales from hotels to those outside New York City. For all of these endpoints, the smoke-free ordinance either had no effect or resulted in an increase in sales, compared to the rest of the state. Hyland and Cummings<sup>8</sup> also examined restaurant employment before and after the start of the smoke-free law. Statistics were obtained from the New York State Department of Labor. They found that there was an 18 percent increase in restaurant jobs in New York City between 1993 and 1997, whereas there was only a 5 percent increase in restaurant jobs in the rest of the state.

The Australian territory South Australia (SA) enacted a law prohibiting smoking in restaurants in 1999. Wakefield et al.<sup>9</sup> examined the effect of this law on restaurant turnover (defined as retail sales + wholesale sales) from April 1991 to April 2001. They examined the

ratio of restaurant and café turnover to total retail turnover and also compared restaurant and café turnover in SA to that in other Australian provinces not having smoke-free laws. The study found that the enactment of the smoke-free law did not influence the restaurant business in SA.

#### **California shows no change**

In 1998, California began requiring all bars in the state to become smoke-free; restaurants had previously been required to become smoke-free in 1995. Glantz<sup>10</sup> examined the effect of these two laws on bar revenues in California. Data were obtained from the California State Board of Equalization. For the study, bars were defined as establishments with full liquor licenses, and thus included restaurants that had full bars. The study had two endpoints: bar revenues as a fraction of total retail sales; and the fraction of all "eating and drinking establishment" revenues that were going to businesses with full liquor licenses (to determine if there was a shift toward or away from bars). No change was observed in bar revenues following enactment of the restaurant law in 1995, but there was a small increase in bar revenues following enforcement of the 1998 law. The fraction of all eating and drinking establishment revenues going to bars was increased after both the 1995 and 1998 laws.

Finally, an ordinance that banned smoking in all public places,

including both restaurants and bars, was enforced in El Paso, Texas, starting on January 2, 2002. Huang et al.<sup>11</sup> examined the effect on restaurant sales, bar sales, and mixed beverage sales. Sales tax reports for restaurants and for bars and mixed beverage tax receipts were examined for 12 years before and one year after the ordinance was implemented. Results were additionally examined after expressing them as a percent of total retail sales, or after adjusting for inflation. No changes were observed in restaurant revenues, bar revenues, or mixed beverage revenues, either before or after adjustment for total retail sales or inflation.

### Sales not affected

Overall, it is clear from the above studies that enacting smoke-free restaurant laws does not influence sales in restaurants, at least in the cities and towns studied. Of course, one cannot state with 100 percent certainty that this would also be true for every city or town that enacts a smoke-free ordinance. It is likely, however, that nearly all would have a similar experience as the cities studied if a smoke-free ordinance were enacted: no effect on the restaurant business.

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