

BRIEFING POINTS

Highlights of *The Economic Impact of the 2008 Fargo and West Fargo Smoking Bans* report, June 2010

STUDY DESIGN AND PURPOSE

- This economic impact study was funded by Fargo Cass Public Health, who received funding through the North Dakota Center for Tobacco Prevention and Control Policy. The study was designed to assist policy makers in understanding the economic implications of the comprehensive smoking bans implemented July 1, 2008, in Fargo and West Fargo, ND, which had the primary goal of improving public health. Our study expanded on the design of two previous Minot, ND, studies. We implemented a threefold approach to gather economic impact information using both objective and subjective data. First, we conducted horizontal and vertical analysis of the Accommodation and Food Services sector and its subsectors in Fargo, West Fargo, and Grand Forks (the latter serving as a benchmark comparison). The horizontal analysis looked at changes in the subsectors over time and the vertical analysis looked at the relationship of the subsectors to the overall sector. Second, we conducted a regression analysis of the tax data for these industries in Fargo and West Fargo which allows us to control for the interaction of various indicators of change in taxable sales and purchases. Third, we conducted a random survey of bar employees in Fargo and West Fargo to determine perceptions of changes in drinking establishments over the past two years.
- The first two sections of the study used taxable sales and purchases records obtained from the North Dakota Office of State Tax Commissioner that were filed by establishments in Fargo, West Fargo, Grand Forks, Cass County, Grand Forks County, and the state of North Dakota utilizing the following 2002 NAICS (North American Industry Classification System) codes: sector 72 (Accommodation and Food Services) and subsectors 722110 (Full-service Restaurants), 722211 (Limited-service Restaurants), and 722410 (Drinking Places). Restaurant data were included to provide context of the economic impact of North Dakota's August 1, 2005, statewide smoke-free law prohibiting smoking in all enclosed areas of public places of employment except for bars and truck stops. Tax data were converted into 2009 dollars using Consumer Pricing Index (CPI) tables in order to compare information over an extended period of time without the data being skewed by dollar value. To control for economic trends, Grand Forks served as a comparison area because it has similar characteristics as Fargo and West Fargo but was not subject to the variable we were studying (i.e., the Fargo and West Fargo comprehensive smoking bans).
- The survey of bar employees utilized a stratified sample based on four criteria; establishments were stratified by city, size (based on number of employees and then segregated into small or large establishments), time of day, and by day of the week. The list of liquor establishments in Fargo and West Fargo was obtained from Fargo-Cass Public Health. Data collection took place from April 7 – April 30, 2010. A total of 324 surveys were delivered – 105 to small establishments and 219 to large. A total of 38 surveys were returned from small establishments (i.e., fewer than 20 employees in Fargo or 15 employees in West Fargo) and 51 from large for a response rate of 27 percent. This response rate ensures that we can be 90 percent confident the error is no more than 7.5 percent.

KEY FINDINGS

Section 1 – Horizontal and Vertical Analysis of Tax Data

- *Full-service Restaurants* experienced no long-term effects (i.e., over the study period from Quarter 4 (Q4) 2004 to Q3 2009) due to the 2005 North Dakota smoke-free law in Fargo, West Fargo, or Grand Forks.
- *Limited-service Restaurants* experienced no long-term effects (i.e., over the study period from Q4 2004 to Q3 2009) due to the 2005 North Dakota smoke-free law in Fargo, West Fargo, or Grand Forks.
- *Drinking Places* in Fargo and West Fargo experienced short-term effects (i.e., from Q2 2008 to Q3 2008) due to the comprehensive smoking bans effective July 1, 2008, but experienced no long-term effects (i.e., the negative effect visible during Q3 2008 fell outside of normal trends, but trends returned to normal within the next quarter).

Section 2 – Regression Analysis of Tax Data

- The regression models showed a significant impact on the proportion of taxable sales and purchases from Drinking Places in Fargo and West Fargo, seemingly due to the ordinance. After controlling for market share (i.e., the proportion of Cass County’s taxable sales and purchases for Drinking Places attributed to each city), the impact of the ordinance disappeared and was not significant. Shifting market share, reflecting the competition for bar customers between the two cities, began in 2007. The initial impact shown in the regression models was determined to be an effect of this shift which was concurrent with the implementation of the ordinance.

Section 3 – Survey of Bar Employees

- The strength of Section 3 is that the survey uses individuals within organizations to offer insight regarding changes that occurred in the last two years in the organization. This timeframe corresponds to the comprehensive smoking bans taking effect. It also reflects a recessionary economic period. We did not ask respondents what they thought was the cause of changes; we wanted the data to speak to the changes without introducing potential bias based on respondent’s perceptions of the cause of those changes. In addition, we did not know if the employees’ perceptions matched the financial realities of the organization.
- Overall, when reviewing all respondents in the aggregate, the survey findings indicate there was very little or no perceived effect on establishments after the comprehensive smoking bans were implemented on July 1, 2008. However, when disaggregating responses by characteristics of the establishments, we find that employees in small establishments did perceive significant negative changes in the past two years. Survey results also suggest that resistance from employees in the bar industry has declined, even among those who were most resistant –smokers and those in small establishments. Prior to the ordinance, smokers were significantly less supportive of the legislation. Now, there is no longer a significant difference in support by smoking status. On average, levels of support for the ordinance have increased among bar employees.

CONCLUSION

- By analyzing the tax and survey data using objective scientific approaches, we hope to have provided policy makers and other key leaders with insight into the impact of such legislation. We also hope that the use of a triangulated approach for the analysis may serve as a guide to future efforts aimed at assessing the economic impact of smoking bans throughout North Dakota and other states.
- Our Section 1 analysis demonstrated that a short-term economic impact (i.e., from Q2 2008 to Q3 2008) did occur which can be linked with the comprehensive smoking bans passed in Fargo and West Fargo. More importantly, however, the findings from sections 1 and 2 concur that there were no significant long-term economic effects (i.e., trends returned to normal within the next quarter) on Drinking Places from the passing of the comprehensive smoking bans in Fargo and West Fargo. Our findings from Section 3, in general, concurred with sections 1 and 2. However, the survey findings do support the claim that differential effects are likely based on characteristics of establishments. Nonetheless, when viewed in the aggregate, the survey found very little or no perceived effect on establishments after the passing of the comprehensive smoking bans. Therefore, the comprehensive smoking bans appear to be good public policy because they address an important public health issue and our study has determined that, overall, the bans do not have a long-term negative economic consequence.
- Recommendations for future studies include: 1) gaining a better understanding of how smoking bans affect different styles of bars so that individual bars with decreases in sales linked with smoking bans can identify changes that may help them to thrive in the new environment, 2) researching the economic impact of the recession, which began in December 2007, to help North Dakota communities understand the recession’s impact on different sectors in their communities, 3) repeating the economic impact study 5 and 10 years after the passing of the smoking bans so that analysis can also be conducted during a non-recessionary period and long after people have adjusted to the change in regulations, and 4) examining additional variables which can have an impact on Drinking Places such as city population changes, unemployment rates, market fluctuations, and psychological feelings of wealth, to better understand the complex environment in which Drinking Places operate.

TABLES AND CHARTS

Horizontal and Vertical Analysis of Tax Data

Table 1. Percentage Change in Taxable Sales and Purchases for the Accommodation and Food Services Sector for North Dakota and Subsectors for Grand Forks, Fargo, and West Fargo

Geography	NAICS Sector or Subsector (NAICS Code)		Percentage Change in Taxable Sales and Purchases		
			Sharpest Quarterly Decline (Period of Occurrence)	Short-Term Change Corresponding to Implementation of City Smoking Bans (Q2 2008 – Q3 2008)	Change for Study Period (Q4 2004 – Q3 2009)
North Dakota	Accommodation and Food Services Sector (72)		-10.89% (Q4 2004 – Q1 2005)	6.74%	26.62%
Grand Forks	Subsector	Full-service Restaurants (722110)	-8.32% (Q4 2004 – Q1 2005)	1.55%	23.94%
		Limited-service Restaurants (722210)	-12.76% (Q4 2004 – Q1 2005)	1.65%	-2.46%
		Drinking Places (722410)	-10.61% (Q4 2004 – Q1 2005)	-0.54%	-20.71%
Fargo	Subsector	Full-service Restaurants (722110)	-7.16% (Q4 2004 – Q1 2005)	-2.86%	11.85%
		Limited-service Restaurants (722210)	-8.63% (Q4 2004 – Q1 2005)	3.23%	19.04%
		Drinking Places (722410)	-10.20% (Q2 2008 – Q3 2008)	-10.20%	26.15%
West Fargo	Subsector	Full-service Restaurants (722110)	-13.40% (Q1 2007 – Q2 2007)	-2.78%	2.79%
		Limited-service Restaurants (722210)	-12.08% (Q3 2006 – Q4 2006)	1.28%	6.64%
		Drinking Places (722410)	-16.69% (Q4 2006 – Q1 2007)	-15.04%	123.02%

Note: The North Dakota smoke-free law became effective August 1, 2005 (Q3 2005); bars and trucks stops were excluded. The Fargo and West Fargo comprehensive smoking bans became effective July 1, 2008 (Q3 2008). NAICS stands for North American Industry Classification System.

Chart 1. Comparison of Taxable Sales and Purchases for Drinking Places (NAICS Code 722410) in Fargo, West Fargo, and Grand Forks in 2009 Dollars, Q4 2004 – Q3 2009

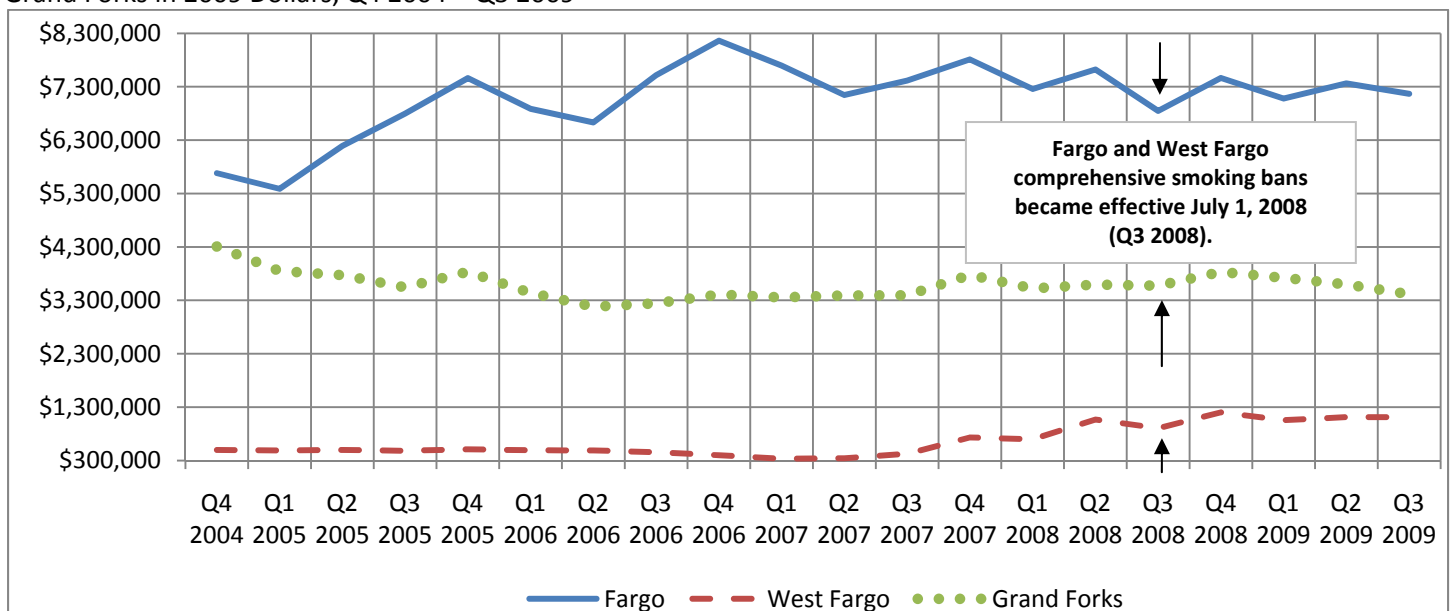


Chart 2. Quarterly Percentage Change in Taxable Sales and Purchases for Drinking Places (NAICS Code 722410) in Fargo, West Fargo, and Grand Forks, Q4 2004 – Q3 2009

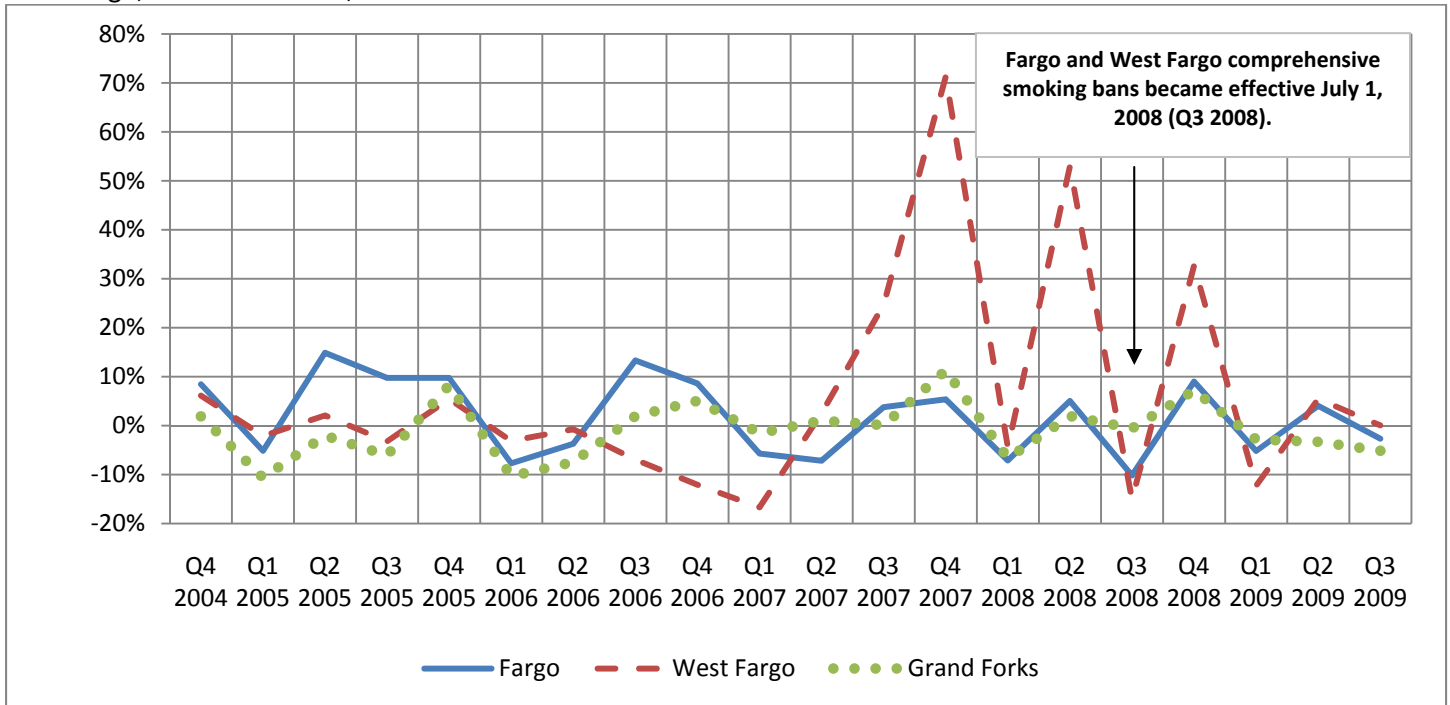


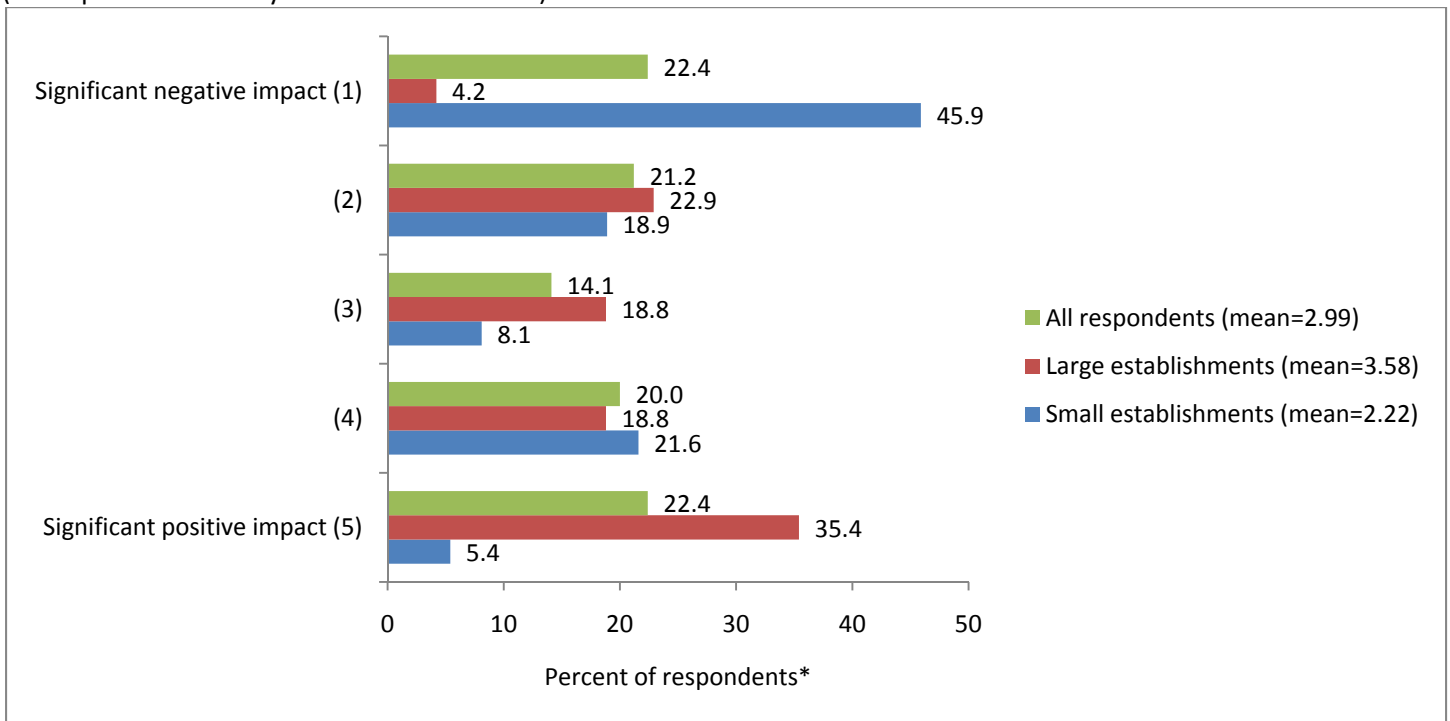
Table 2. Market Share: Fargo and West Fargo’s Taxable Sales and Purchases for Drinking Places (NAICS Code 722410) as a Proportion of Cass County’s Taxable Sales and Purchases for Drinking Places, Q4 2004 – Q3 2009

Quarter	Market Share (Proportion of Cass County’s Taxable Sales and Purchases for Drinking Places)		
	Fargo and West Fargo Combined	Fargo Alone	West Fargo Alone
Q4 2004	86.93%	79.90%	7.02%
Q1 2005	87.91%	80.59%	7.31%
Q2 2005	88.04%	81.47%	6.57%
Q3 2005	89.33%	83.40%	5.93%
Q4 2005	89.88%	84.14%	5.74%
Q1 2006	90.36%	84.32%	6.04%
Q2 2006	89.93%	83.75%	6.18%
Q3 2006	90.32%	85.16%	5.16%
Q4 2006	90.74%	86.49%	4.24%
Q1 2007	90.90%	87.13%	3.78%
Q2 2007	90.11%	85.99%	4.12%
Q3 2007	90.44%	85.52%	4.92%
Q4 2007	90.63%	82.88%	7.75%
Q1 2008	90.54%	82.59%	7.95%
Q2 2008	90.76%	79.61%	11.15%
Q3 2008*	88.57%	78.21%	10.36%
Q4 2008	89.69%	77.23%	12.45%
Q1 2009	89.24%	77.66%	11.58%
Q2 2009	89.93%	78.12%	11.81%
Q3 2009	89.52%	77.48%	12.04%

*The Fargo and West Fargo comprehensive smoking bans became effective July 1, 2008 (Q3 2008).

Perception of Impact of Smoking Ordinance on Working Environment

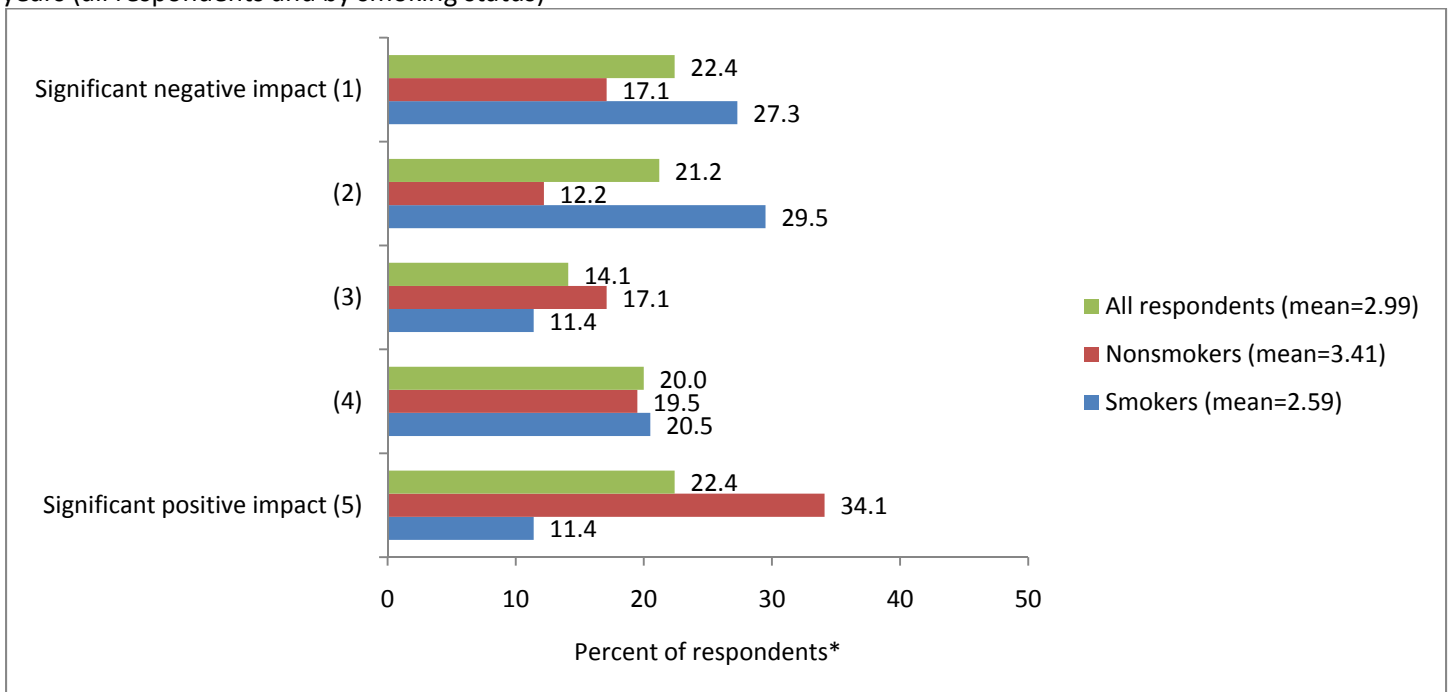
Chart 3a. Respondents' perception of impact of smoking ordinance on their working environment over the last two years (all respondents and by size of establishment)



*Significant at p<.05 level by size of establishment.

Note: Large establishments=20 or more employees in Fargo and 15 or more employees in West Fargo; small establishments=fewer than 20 employees in Fargo and fewer than 15 employees in West Fargo.

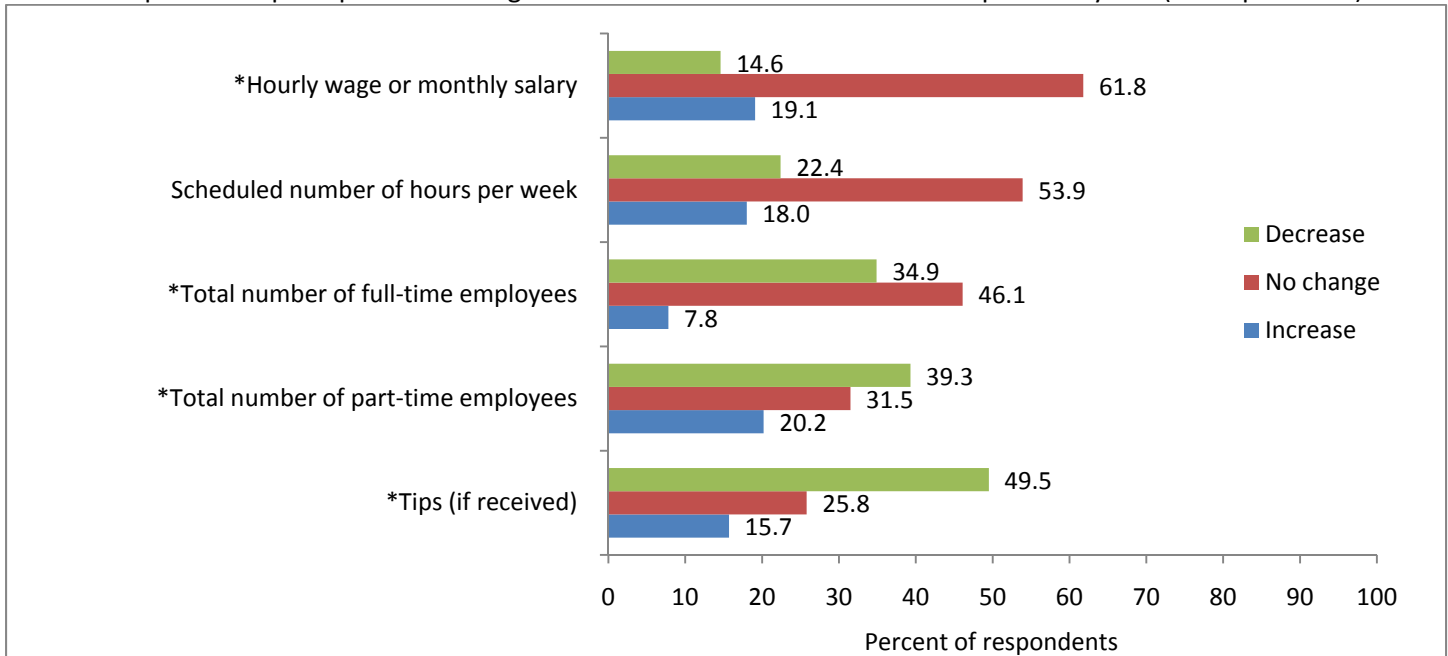
Chart 3b. Respondents' perception of impact of smoking ordinance on their working environment over the last two years (all respondents and by smoking status)



*Significant at p<.05 level by smoking status.

Perceptions of Changes Within Establishment

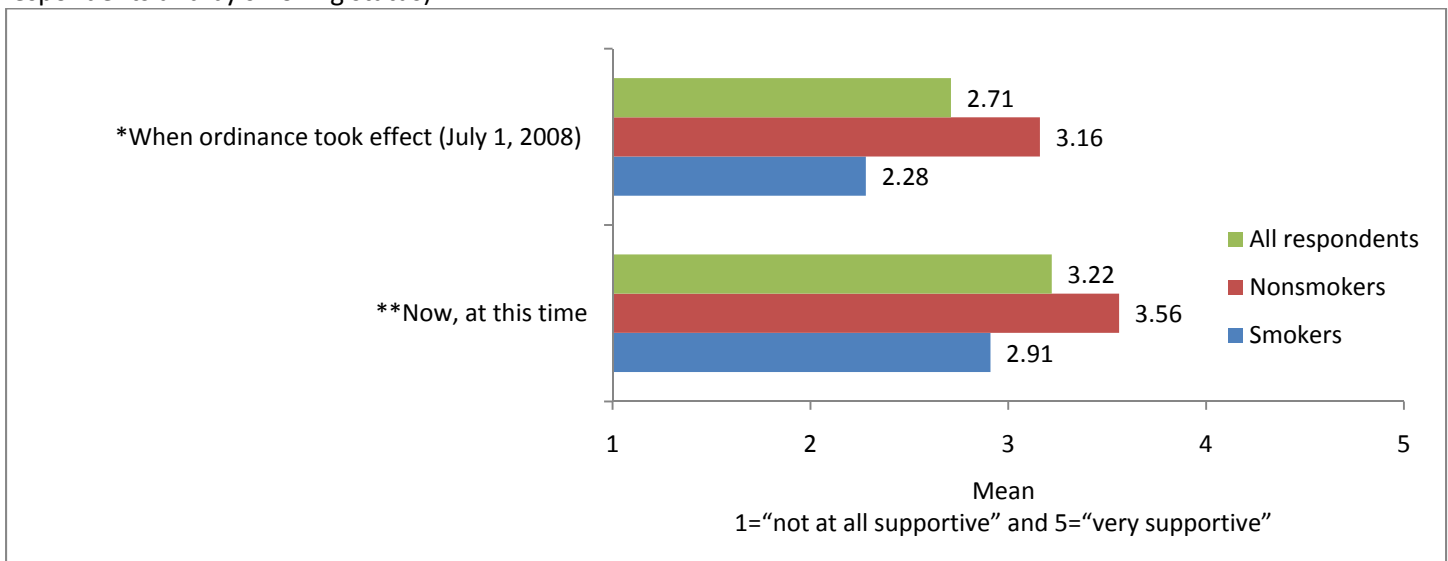
Chart 4. Respondents' perceptions of changes within their establishment over the past two years (all respondents)



*Significant at $p < .05$ level by size of establishment (data not shown).

Support of Smoke-Free Ordinance Over Time

Chart 5. Respondents' support of the smoke-free ordinance when it took effect on July 1, 2008, and currently (all respondents and by smoking status)



*Significant at $p < .05$ level by smoking status (see Chart 5) and by size of establishment (data not shown).

**Significant at $p < .05$ level by size of establishment (data not shown). The differences by smoking status (see Chart 5) were *not* significant.