PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Impact of U.S. smoke-free air laws on restaurants and bars by employer size: a panel study
AUTHORS	Shafer, Paul

VERSION 1 – REVIEW

REVIEWER	Stanton Glantz University of California San Francisco United States of America
REVIEW RETURNED	12-Jul-2017

GENERAL COMMENTS	This is a nicely done study that assesses the association between the presence of smokefree laws and hospitality employment accounting for different size businesses. The paper has been reviewed by several other reviewers and the author has provided responsive replies. Overall, the paper will clearly written. The overall finding is that these laws do not have any resdistributive effects, i.e., shifting business between restaurants of different sizes and either null or positive effects on business. To this end, the paper should be framed more neutrally. The title and many other times the author talks about “no NEGATIVE effects.” There are three problems with this: (1) The null hypothesis tested is a two-tailed hypothesis, i.e., no effects (either positive or negative), (2) the presentation downplays the tendency to positive effects, and (3) by repeating the NO NEGATIVE effects double negative, the tobacco industry-promoted myth that smokefree laws are bad for business gets repeated over and over again (e.g., the title, page 2 line 13, page 3 line 8, page 5 line 36, page 7 line 4, page 17 lines 10 and 22). While it is reasonable to mention this claim ONCE, the title of the paper and overall framing of the discussion of results should be written neutrally or in positive terms, since that is what the paper finds.` Alamar and Glantz also examine effects of smoking laws on bar profitability controlling for business size (Am J Public Health. 2007 Aug;97(8):1400-2. Epub 2007 Jun 28). Page 8, line 46: Why are workplace laws included in the coverage since the analysis only deals with restaurants and bars? Page 6 line 25: Why just cite these two studies? Page 5, line 51: A quantitative analysis showing that the laws are sticky is Sanders-Jackson et al (Am J Public Health. 2013 Aug;103(8):e44-51. doi: 10.2105/AJPH.2013.301449. Epub 2013 Jun 13).

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REVIEWER	Joaquin Barnoya Unidad de Cirugia Cardiovascular de Guatemala. Guatemala, Guatemala.
REVIEW RETURNED	29-Aug-2017

GENERAL COMMENTS	I reviewed the manuscript by Shafer that describes of smoke-free laws on restaurants and bars by employer size in the US and in North Carolina. The paper concludes that there smoke-free laws do not cause any economic harm to the bars and restaurants regardless of number of employees. The paper raises an interesting question as it is the impact of smoke-free laws on the economics of bars and restaurants. Unfortunately, as it is I suggest they edit to make it easier to follow for the Journal audience. In particular, the statistical analysis and results are hard to follow. Acronyms are hard to follow, particularly in the Results section. In its current form, it does not add much to the literature to what we already know (smoke-free laws do not harm bars and restaurants). Specific comments Abstract. The last sentence of the Objectives needs to be edited. Not clear what “employment” and “employer size” refers to. Please include something to justify here why the North Carolina analysis is separate. Please specify what you mean by employment (e.g., cooks, managers, and waitresses) as they might be differences on SHS exposure. In the results section, I suggest choosing another word besides “redistributive”. Strengths and limitations I suggest removing the word “treat effects”. On the “long time period”, what is this referring to? Compliance? Implementation? Economic effect becomes evident? Introduction In general, too long and I suggest to focus on the economics of smoke-free laws and the hospitality industry. In addition, not all laws are implemented at the same time and enforcement also differs by city, county, and state. Casinos should also be taken into account. Unclear why restaurants should not be treated as a single group. Would this apply the same to bars? A comprehensive law must include all of the hospitality industry, regardless of size. Please add more detail on why employment data is a good variable to answer the research question. Methods It would be useful to add how many states implemented smoke-free laws as opposed to city and counties first. On the employer categories by size, how where these chosen? Furthermore, as explained in the results section, nearly all have less than 50 employees. In the last sentence of the second paragraph of page 9, how many values were suppressed to protect employer confidentiality? On the policy variables, some laws were first implemented by City. Please address this issue. First paragraph of page 10, the first two sentences could be justified and the last sentence linked to restaurants and bars. Please address the limitations of using per capita pack sales. Is this as an estimate of smoking prevalence? Smoking intensity? How

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	does this take into account smuggling? Why not use other databases? For example NHANES? Maybe the Measurement section could be better placed in the Discussion. The second paragraph on this section is not very clear why it is relevant. On the third paragraph, please clarify what "state level employment data" refers to. Only bars and restaurants? On page 12, please expand on the three states with "better" data. Unclear if employer size was available only for states. Smoke-free air laws, the ones that are comprehensive, should impact all workplaces, not "specific types of businesses." On page 14, the last paragraph is hard to follow with the rest of the Methods section, similar to the first on page 15. Results. What does more than 90% mean? This means that nearly all are less than 50 employees. So what about how are these distributed? Franchises? The results focus on those "representing employers with fewer than 100 employees" but more than 90% have less than 50. Please clarify why this was chosen as opposed to focusing only on those below 50 (or even less). Discussion Please be more specific on what you mean by "economic impact" on the first sentence and over the Discussion. Does this refer to revenue? Number of employees? State? North Carolina. I suggest removing any reference to cities as these were not part of the analysis. In addition, casinos are not included. More references are needed, for example, paragraph two of page 18 lacks any literature context.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

This is a nicely done study that assesses the association between the presence of smokefree laws and hospitality employment accounting for different size businesses. The paper has been reviewed by several other reviewers and the author has provided responsive replies. Overall, the paper will clearly written. The overall finding is that these laws do not have any resdistributive effects, i.e., shifting business between restaurants of different sizes and either null or positive effects on business.

1. To this end, the paper should be framed more neutrally. The title and many other times the author talks about "no NEGATIVE effects." There are three problems with this: (1) The null hypothesis tested is a two-tailed hypothesis, i.e., no effects (either positive or negative), (2) the presentation downplays the tendency to positive effects, and (3) by repeating the NO NEGATIVE effects double negative, the tobacco industry-promoted myth that smokefree laws are bad for business gets repeated over and over again (e.g., the title, page 2 line 13, page 3 line 8, page 5 line 36, page 7 line 4, page 17 lines 10 and 22). While it is reasonable to mention this claim ONCE, the title of the paper and overall framing of the discussion of results should be written neutrally or in positive terms, since that is what the paper finds.

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AUTHOR RESPONSE: I appreciate the concern and have softened the framing throughout the Abstract, Introduction, and Discussion. There is now only a single mention at the beginning of the second paragraph of the Introduction, which reads “Opponents of these laws frequently claim that their implementation will have an adverse economic impact on the hospitality industry, particularly restaurants and bars, despite a strong evidence base to contradict these claims.” The passages noted above have all been reframed more neutrally (e.g., “a near consensus among peer-reviewed studies that smoke-free air laws have generally null or positive economic effects”). In particular, the first sentence of last paragraph of the Discussion now reads “These findings provide empirical evidence that there is no redistributive effect between smaller and larger establishments underlying generally null or positive estimates of the economic impact of smoke-free air laws–a potential concern for policymakers seeking to balance the health of local businesses and public health.” I have also changed the title slightly as not suggest that differential effects were actually found, it now reads “Impact of U.S. smoke-free air laws on restaurants and bars by employer size: a panel study”.

3. Alamar and Glantz also examine effects of smoking laws on bar profitability controlling for business size (Am J Public Health. 2007 Aug;97(8):1400-2. Epub 2007 Jun 28).

AUTHOR RESPONSE: I have incorporated this into the second paragraph of the Introduction with the addition of “A study using business sales found no evidence that smoke-free air laws impacted the value for which individual bars were sold after controlling for employer size, providing an indication that these laws do not differentially impact profitability.”

4. Page 8, line 46: Why are workplace laws included in the coverage since the analysis only deals with restaurants and bars?

AUTHOR RESPONSE: The national analysis uses state accommodation and food services employment, which includes workplace settings beyond just restaurants and bars (i.e., casino hotels [but not standalone casinos], fast food, etc.). These settings may not be subject to restaurant or bar-specific smoke-free air laws but would be subject to comprehensive laws or those that cover non-hospitality workplaces. I ran an alternative specification that uses the percentage of state population covered by a restaurant or bar law (excluding workplace laws), yielding no qualitative change in the findings (see Tables R1 and R2 below). As a result, I chose to keep the more inclusive definition of the smoke-free air law variable for the national analysis.

5. Page 6 line 25: Why just cite these two studies?

AUTHOR RESPONSE: These were two negative estimates that were not included in the original Scollo et al. (2003) review cited at the end of that sentence. I have changed this to also cite the more recent version of the Scollo et al. review (from 2008) and the Cornelsen
et al. (2014) review and meta-analysis rather than choosing individual studies with negative findings.

6. Page 5, line 51: A quantitative analysis showing that the laws are sticky is Sanders-Jackson et al (Am J Public Health. 2013 Aug;103(8):e44-51. doi: 10.2105/AJPH.2013.301449. Epub 2013 Jun 13).

AUTHOR RESPONSE: I have added this citation to the existing Tung et al. (2014) citation at the end of this sentence.

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Table R1. State accommodation and food services employment models, IV

	State accommodation and food services employment by employer size category, *b* (SE)				
	<5 employees	*5-9 employees*	*10-19 employees*	*20-49 employees*	*50-99 employees*
	(1)	(2)	(3)	(4)	(5)
Percentage of state population covered by a restaurant or bar smoke-free air law	–0.2 (1.1)	–1.0* (0.5)	–0.4 (1.6)	0.0 (4.8)	–2.3 (3.1)
Prior year state accommodation and food services employment *(within employer size category)*	0.8** (0.04)	0.9** (0.01)	0.9** (0.01)	0.8** (0.1)	0.95** (0.06)
State cigarette pack sales per capita	1.9 (3.4)	–0.1 (1.7)	4.1 (5.0)	7.4 (11.2)	3.6 (6.2)
Real total cigarette excise tax *(federal plus state)*	120.8 (122.1)	137.1** (45.4)	309.2 (157.5)	1,378.1** (462.4)	509.6* (224.4)
State non-hospitality employment *(in units of 10,000)*	4.1 (3.1)	5.0** (1.0)	15.1** (2.6)	49.8* (20.8)	2.4 (13.7)
Years included	1990-2014	1990-2014	1990-2014	1990-2014	1990-2014
N (states)	51	51	51	51	51
N (state-year observations)	757	1,157	1,224	1,224	1,171

* P < .05, ** P < .01

State non-hospitality employment instrumented for by its lagged value. State fixed effects not shown.

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Table R2. State accommodation and food services employment models, LSDVc

	State accommodation and food services employment by employer size category, *b* (SE)				
	<5 employees	*5-9 employees*	*10-19 employees*	*20-49 employees*	*50-99 employees*
	(1)	(2)	(3)	(4)	(5)
Percentage of state population covered by a restaurant or bar smoke-free air law	–0.3 (1.7)	–1.1 (0.7)	–0.5 (1.8)	–1.1 (5.2)	–4.0 (3.6)
Prior year state accommodation and food services employment *(within employer size category)*	0.9** (0.05)	0.96** (0.01)	0.99** (0.01)	0.8** (0.01)	0.9** (0.02)
State cigarette pack sales per capita	1.6 (3.9)	–0.2 (1.8)	4.1 (4.4)	12.7 (12.3)	8.6 (10.5)
Real total cigarette excise tax *(federal plus state)*	95.7 (131.2)	92.5* (46.8)	223.9 (116.8)	1,420.6** (336.5)	675.5** (258.4)
State non-hospitality employment *(in units of 10,000)*	2.2 (1.5)	0.5 (1.1)	0.6 (2.4)	53.0** (8.0)	27.0** (6.4)
Years included	1990-2014	1990-2014	1990-2014	1990-2014	1990-2014
N (states)	51	51	51	51	51
N (state-year observations)	757	1,157	1,224	1,224	1,171

* P < .05, ** P < .01

State fixed effects not shown.

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Reviewer 2

I reviewed the manuscript by Shafer that describes of smoke-free laws on restaurants and bars by employer size in the US and in North Carolina. The paper concludes that there smoke-free laws do not cause any economic harm to the bars and restaurants regardless of number of employees. The paper raises an interesting question as it is the impact of smoke-free laws on the economics of bars and restaurants.

1. Unfortunately, as it is I suggest they edit to make it easier to follow for the Journal audience. In particular, the statistical analysis and results are hard to follow. Acronyms are hard to follow, particularly in the Results section.

AUTHOR RESPONSE: The complexity of methods and their description are an important consideration for a journal with a diverse audience, such as BMJ Open. I have removed the final paragraph in the Statistical Analysis subsection since the preceding two paragraphs provide a thorough explanation of the model specification without the added complexity of formal equations. I have also trimmed the technical discussion of the properties of each estimator (i.e., the second paragraph of the Statistical Analysis subsection of the Methods in the original version). I have also slightly reorganized Results section to improve readability and remind readers of the definition of the acronyms for the two statistical approaches. These changes should make the analysis and its findings more accessible to readers with a wide range of statistical expertise.

2. In its current form, it does not add much to the literature to what we already know (smoke-free laws do not harm bars and restaurants).

AUTHOR RESPONSE: I respectfully disagree with the reviewer on this point. There have not been any studies that I am aware of that look at the potential redistributive effects of smoke-free air laws that underlie the null or positive economic effects that are generally found. Reviewer 1 pointed out a single older study (see Reviewer 1 Comment 3 above) that controls for employer size. However, it only captured sales of bar businesses and not the activity of all restaurants or bars in operation as I do. Economic uncertainty is still touted as
a concern despite the overwhelming evidence that these laws do not cause economic harm. There have been specific examples of smaller establishments mentioned by policymakers as being differentially affected even though it was acknowledged that the industry as a whole was not. For example, “[o]fficials believed that the NCIAA [Nevada Clean Indoor Air Act] was having a negative economic impact on smaller gaming businesses, but not on the casino industry.” (https://dx.doi.org/10.1007/s10900-011-9421-3)

3. [Abstract.] The last sentence of the Objectives needs to be edited. Not clear what “employment” and “employer size” refers to. Please specify what you mean by employment (e.g., cooks, managers, and waitresses) as they might be differences on SHS exposure.

AUTHOR RESPONSE: I have reworded the original final sentence of the Objectives to read “This study uses variation in smoke-free air laws over time to estimate their impact on employment in restaurants and bars with a focus on potential differences by employer size (number of employees).” Employment captures the total number of employees for all establishments in the relevant location (i.e., state, county), time (i.e., year, quarter), and employer size category (i.e., <5, 5 to 9, 10 to 19, 20 to 49, 50 to 99, 100 to 249, 250 to 499, 500 to 999, and ≥1,000 employees). It does not distinguish employment by role (e.g., cooks, managers, and waitresses) or potential secondhand smoke exposure since that is not relevant to the research question.

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This study aims to measure whether smoke-free air laws have an economic impact on restaurants and bars, which would be observed through changes in the number of people employed as a result of underlying changes in revenue, and whether there is a difference in this effect based on establishment size (e.g., do smaller restaurants do worse while larger ones do better?).

4. [Abstract.] Please include something to justify here why the North Carolina analysis is separate.

AUTHOR RESPONSE: I have added a new sentence to the end of the Objectives describing the multi-level analysis, which reads “A dual-pronged approach with a national and state-level analysis is used to take advantage of more granular data availability for a single state (North Carolina).”

5. [Abstract.] In the results section, I suggest choosing another word besides “redistributive”.

AUTHOR RESPONSE: The concept of redistribution is key to the research question addressed in this study. We do not see an effect of smoke-free air laws on restaurants and bars generally but prior to this study there was no evidence as to whether there may be an underlying redistribution between smaller and larger establishments. As noted in the final paragraph of the Introduction, there is reasonable to believe that smaller establishments could be differentially affected due to greater sensitivity to a loss of revenue. The quote supplied from Nevada in my response to Reviewer 2 Comment 2 above indicates that there are policymakers who believe that redistribution or at least differential effects (e.g., negative effects on smaller restaurants and bars despite no effect overall) are occurring without any evidence to back up those claims.

6. [Strengths and limitations] I suggest removing the word “treat effects”. On the “long time period”, what is this referring to? Compliance? Implementation? Economic effect becomes evident?

AUTHOR RESPONSE: I have reworded the first bullet to read “The potential for differential economic effects of smoke-free air laws by employer size is an understudied issue”.

The “long time period” in the now second bullet refers the time period over which data were used in the study. I reworded this to make that more clear, it now reads “This study uses panel data over a long time period, both at the national level (by state, 1990 through 2014) and for North Carolina (by county, 2001 through 2014), to provide a two-pronged examination of this question”.

I also swapped the order of the second and third bullets from the original version to match the order of their appearance in the paper (e.g., Data then Statistical Analysis).

7. [Introduction] In general, too long and I suggest to focus on the economics of smoke-free laws and the hospitality industry.

AUTHOR RESPONSE: I have condensed and combined the first and second paragraph and cut the fourth paragraph in an effort to streamline the Introduction, which has reduced its length by over 250 words.

8. [Introduction] Casinos should also be taken into account.

AUTHOR RESPONSE: I agree that casinos are an interesting setting for assessing the economic impact of smoke-free air laws but they are outside the scope of this study, which focuses on restaurants and bars. Private (non-government) restaurant and bar employment in the U.S. totaled nearly 11 million (10,711,306) in 2016 while casinos and casino hotels employed only 3% of that (350,125). Casinos also attract a fundamentally different clientele (only adults) and are more geographically restricted (states with legalized gambling and/or tribal lands) than restaurants and bars.

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9. [Introduction] Unclear why restaurants should not be treated as a single group. Would this apply the same to bars?

AUTHOR RESPONSE: I have changed the wording from “single group” to “homogeneous group” to clarify that the issue is whether the average effect of smoke-free air laws estimated across the aggregation of all restaurants and/or bars in an area is masking underlying variation in the effect by characteristics of the establishment (e.g., size), which I explore in this study.

10. [Introduction] Please add more detail on why employment data is a good variable to answer the research question.

AUTHOR RESPONSE: Employment and sales are the two most commonly used objective measures for assessing the economic impact of smoke-free air laws (http://onlinelibrary.wiley.com/wol1/doi/10.1111/add.12486/abstract). Sales and/or sales tax data for restaurants and bars are generally gathered by state and/or local taxing authorities but not uniformly across jurisdictions or publicly available, which makes conducting studies over multiple states and/or a long time period quite difficult. Employment data on the other hand are collected using a standardized industry code structure (NAICS) at a regular frequency by state labor and commerce departments for aggregation by the U.S. Department of Labor, which allows researchers to reliably identify similar groups of business (e.g., restaurants and bars) across states and time using data made available by its subagency, the Bureau of Labor Statistics.

In this study, employment is already of particular interest given the focus on potential variation in effects by employer size. Though one could theoretically conduct such an analysis using sales data stratified by employer size, I am not aware of the existence of any such data exist that would allow for a robust national or state-level analysis.

11. [Methods] It would be useful to add how many states implemented smoke-free laws as opposed to city and counties first.

AUTHOR RESPONSE: The number of states with smoke-free air laws covering restaurants and bars is highlighted in the first paragraph of the Introduction.

“Thirty states currently have smoke-free air laws that ban smoking in all restaurants and bars, covering nearly two-thirds (65.7%) of the U.S. population. An additional five states have smoke-free air laws covering only restaurants, representing more than a tenth of the population (12.0%).”

A strength of this study is that it does not rely on crude indicators for a smoke-free law at the state, county, and/or city level but rather captures the percentage of population covered by a law in the state (or county) in each year (or year-quarter), as detailed in the Policy Variables subsection of the Methods. The timing of the implementation of any laws and whether any county or local laws may have preceded a statewide law is captured in the variation of the smoke-free air law variable for each geographic location (i.e., state, county) over time. The final sentence of the Policy Variables paragraph provides direction to the “chronological database of smoke-free air laws published by the American Nonsmokers’ Rights Foundation” that details when and where smoke-free air laws have been passed.

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12. [Methods] On the employer categories by size, how where these chosen? Furthermore, as explained in the results section, nearly all have less than 50 employees. In the last sentence of the second paragraph of page 9, how many values were suppressed to protect employer confidentiality?

AUTHOR RESPONSE: These categories were not chosen by the author, they reflect the standard categories used by the Bureau of Labor Statistics (BLS) for its reporting of U.S. employment data by employer size. BLS uses a variety of methods to protect employer confidentiality while limiting the need to suppress data (https://www.bls.gov/osmr/pdf/st110120.pdf). In the national analysis, the maximum number of observations per model would be 1,275—51 (50 states plus DC) multiplied by 25 (years). The <5 category only yields about 750 observations but the remaining categories presented in the main text are close to that upper bound. I cannot distinguish whether observations are missing due to lack of data collection or suppression in this data series. In the North Carolina analysis, the maximum number of observations per model would be 5,600—100 (counties) multiplied by 14 (years) and 4 (quarters per year). At the county level, it is more likely to have a single or small group of employers influencing employment within an employer size group and as a result suppression is more common. However, as noted in Tables 3 and 4, over 90 of the 100 counties are still represented in the models for the first four employer size categories.

13. [Methods] On the policy variables, some laws were first implemented by City. Please address this issue.

AUTHOR RESPONSE: This is addressed in the response to Reviewer 2 Comment 11 above.

14. [Methods] First paragraph of page 10, the first two sentences could be justified and the last sentence linked to restaurants and bars.

AUTHOR RESPONSE: Based on the response to Reviewer 2 Comment 16 below, this is no longer relevant.

15. [Methods] Please address the limitations of using per capita pack sales. Is this as an estimate of smoking prevalence? Smoking intensity? How does this take into account smuggling? Why not use other databases? For example NHANES?

AUTHOR RESPONSE: Per capita pack sales captures both the prevalence and intensity of smoking. Two states could have the same prevalence (e.g., 20%) but one state could have much heavier smokers on average (e.g., 2 packs per day versus 1 pack), which prevalence would ignore (e.g., 146 packs per capita annually versus 73). A limitation of this measure is that it would not capture smuggling since those sales would not be captured in excise tax records. However, there is no qualitative difference in the results when using state smoking prevalence (see Tables R3 and R4 below) so I have left the analysis as is in the manuscript.
The North Carolina analysis already uses county smoking prevalence because pack sales data at the county level are not available in Tax Burden on Tobacco

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Table R3. State accommodation and food services employment models, IV

	State accommodation and food services employment by employer size category, *b* (SE)				
	<5 employees	*5-9 employees*	*10-19 employees*	*20-49 employees*	*50-99 employees*
	(1)	(2)	(3)	(4)	(5)
Percentage of state population covered by any smoke-free air law	–0.4 (1.2)	–1.5** (0.5)	–1.3 (1.5)	–0.6 (4.7)	–4.3 (2.6)
Prior year state accommodation and food services employment *(within employer size category)*	0.8** (0.05)	0.9** (0.01)	0.9** (0.02)	0.8** (0.1)	0.95** (0.1)
State smoking prevalence	–700.9 (1,215.6)	–3,443.8** (955.0)	–4,768.7* (2,154.9)	–3,189.8 (5,176.2)	–750.9 (3,201.2)
Real total cigarette excise tax *(federal plus state)*	81.5 (91.4)	102.4** (32.2)	185.5 (111.1)	1,200.2** (331.9)	508.4* (217.3)
State non-hospitality employment *(in units of 10,000)*	3.8 (2.7)	4.8** (1.1)	14.5** (2.5)	48.6* (22.6)	2.2 (13.7)
Years included	1990-2014	1990-2014	1990-2014	1990-2014	1990-2014
N (states)	51	51	51	51	51
N (state-year observations)	754	1,148	1,215	1,215	1,162

* P < .05, ** P < .01

State non-hospitality employment instrumented for by its lagged value. State fixed effects not shown.

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Table R4. State accommodation and food services employment models, LSDVc

	State accommodation and food services employment by employer size category, *b* (SE)				
	<5 employees	*5-9 employees*	*10-19 employees*	*20-49 employees*	*50-99 employees*
	(1)	(2)	(3)	(4)	(5)
Percentage of state population covered by any smoke-free air law	–0.5 (1.4)	–1.6* (0.7)	–1.4 (1.6)	–1.4 (4.5)	–5.6 (4.1)
Prior year state accommodation and food services employment *(within employer size category)*	0.9** (0.04)	0.95** (0.01)	0.98** (0.01)	0.8** (0.01)	0.9** (0.02)
State smoking prevalence	–670.6 (1,652.4)	–3,123.4* (1,225.8)	–4,025.3 (2,700.5)	–863.6 (7,691.7)	2,276.3 (6,510,6)
Real total cigarette excise tax *(federal plus state)*	65.6 (100.5)	65.1 (39.9)	115.5 (91.3)	1,170.2** (256.9)	612.8* (243.1)
State non-hospitality employment *(in units of 10,000)*	1.9 (1.4)	0.6 (1.1)	0.4 (2.7)	52.2** (7.7)	26.9** (6.7)
Years included	1990-2014	1990-2014	1990-2014	1990-2014	1990-2014
N (states)	51	51	51	51	51
N (state-year observations)	754	1,148	1,215	1,215	1,162

* P < .05, ** P < .01
State fixed effects not shown.

16. [Methods] Maybe the Measurement section could be better placed in the Discussion. The second paragraph on this section is not very clear why it is relevant. On the third paragraph, please clarify what “state level employment data” refers to. Only bars and restaurants? On page 12, please expand on the three states with “better” data. Unclear if employer size was available only for states. Smoke-free air laws, the ones that are comprehensive, should impact all workplaces, not “specific types of businesses.”

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AUTHOR RESPONSE: I appreciate this suggestion and have removed the Measurement subsection from the manuscript, condensing and distributing its content to both the Data subsection of the Methods and the Discussion. State-level data by employer size through federal reporting was only available at the 2-digit NAICS code level by year but a few states provided better data on one or both dimensions. As detailed in the Appendix Table A1, California and Washington both had data available at the 3-digit NAICS code level but unfortunately the first years of data available for those two states was after their statewide smoke-free air laws had already taken effect, which made using them for this type of analysis impossible.

17. [Methods] On page 14, the last paragraph is hard to follow with the rest of the Methods section, similar to the first on page 15.

AUTHOR RESPONSE: As noted in response to Reviewer 2 Comment 1 above, the final paragraph of the Methods (the section referenced in this comment) in the original submission has been deleted.

18. [Results] What does more than 90% mean? This means that nearly all are less than 50 employees. So what about how are these distributed? Franchises? The results focus on those "representing employers with fewer than 100 employees" but more than 90% have less than 50. Please clarify why this was chosen as opposed to focusing only on those below 50 (or even less).

AUTHOR RESPONSE: "More than 90%" is how it was reported in the source material from the National Restaurant Association with no distributional information shown in their Pocket Factbook. However, in looking at the national QCEW data in the last year of the analysis (2014), I was able to provide a more compelling rationale and the first two sentences of the Results section now read as follows.

"The results presented below focus on employment in the employer size categories of fewer than 100 employees (<5, 5 to 9, 10 to 19, 20 to 49, and 50 to 99). 98.8% of restaurants and 99.8% of bars had fewer than 100 employees nationally in 2014."

The results for all nine employer size categories are estimated for the national analysis, the categories not shown in the main text are in the Appendix. For the North Carolina analysis, the number of counties with any restaurant and bar employment (non-missing) became low enough after the 50 to 99 employee category that the results would not reliably reflect a statewide effect and therefore were not estimated (as noted in the first paragraph of the Results).

19. [Discussion] Please be more specific on what you mean by "economic impact" on the first sentence and over the Discussion. Does this refer to revenue? Number of employees? State? North Carolina.

AUTHOR RESPONSE: I have reworded and condensed the beginning of the Discussion and "economic impact" no longer appears in the first sentence. Generally, economic impact is used to describe the effect that smoke-free air laws may have on economic outcomes, like employment and sales. All appearances of "economic impact" in the manuscript are now only referencing the existing body of evidence rather than a specific outcome or geographic setting presented in this study.

20. [Discussion] I suggest removing any reference to cities as these were not part of the analysis. In addition, casinos are not included.

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AUTHOR RESPONSE: Cities were only mentioned in the context of discussing prior research but following revision no longer appears. However, for clarification, local (i.e., city, town) and county level laws are captured in the smoke-free air law variables used in this study. There is no mention of casinos because this study is focused on restaurants and bars as noted in response to Reviewer 2 Comment 8 above.

21. [Discussion] More references are needed, for example, paragraph two of page 18 lacks any literature context.

AUTHOR RESPONSE: As page 18 contains various disclosure statements, I assume that the reviewer was referencing page 17 (the end of the Discussion section). I have added several citations in support of the statements made in that final paragraph using a combination of sources already cited earlier in the Introduction and the Nevada study mentioned in response to Reviewer 2 Comment 2 above.

VERSION 2 – REVIEW

REVIEWER	Stanton Glantz UC San Francisco, USA
REVIEW RETURNED	26-Sep-2017

GENERAL COMMENTS	The authors have done a nice job of responding to the previous reviews,

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