

# Summary of Studies Assessing the Economic Impact of Smoke-Free Policies in the Hospitality Industry — includes studies produced to 31 January 2008\*

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<http://www.vctc.org.au/tc-res/Hospitalitysummary.pdf>

## Background

Well-designed studies on the economic impact of policy changes: 1. are based on objective measures; 2. use data several years before and after policy implementation; 3. use appropriate statistical analyses which test for significance, controlling for underlying trends and fluctuations in data; and 4. control for changes in economic conditions [1].

A large number of studies have examined the effect of smoke-free policies in the hospitality industry. Studies vary greatly in methodological quality. To facilitate greater analysis of methodological quality and overall trends in findings, we have compiled and summarised the publication details, key features and findings of all available studies.

We attempted to locate all studies in the English language that purported to predict or assess the economic impact of smoke-free policies in the hospitality industry<sup>1</sup>. In late November 2001, we searched Medline, Science Citation Index, Social Sciences Citation Index, Current Contents, PsychInfo, and Healthstar using the terms smok\* and restaurants, bars, hospitality, economic, regulation and law. We also included unpublished studies; these studies were predominantly funded by the tobacco industry or organizations linked to the tobacco industry. These were located from a compilation by the Alberta Tobacco Control Centre [2], by a request to members of the International Union Against Cancer's International Tobacco Control Network (GLOBALink), and an examination of hospitality industry websites and the websites of tobacco companies based in major English speaking countries, including the Philip Morris "Options" website, [www.pmoptions.com](http://www.pmoptions.com). We also conducted an Internet search with the Google search engine, using the terms "smok\* bans" and "restaurants" or "bars", limited by the terms "economic impact" or "study". Since December 2001, we have added further studies as we have become aware of them through monitoring of media reports and alerts on tobacco related publication by the Centers for Disease Control. Each of the on-line searches was repeated in July 2003, September 2007 and January 2008.

Each study was summarised and the following details tabulated: study author and year published; date and location of policy implementation; nature of policy implemented; publisher name and type; funding source indicated; nature of outcome measure used; the type of analysis used; whether economic trends were controlled for; a brief description of the findings; and whether the study was peer-reviewed<sup>2</sup>. Where the source of funding was unclear, we systematically searched previously secret tobacco industry documents made available as part of settlement agreements between tobacco companies the US attorneys general[3, 4] and accessible through [www.tobaccoarchives.com](http://www.tobaccoarchives.com).

Both authors examined each of the reports. Each author made an independent assessment of whether or not study authors had concluded that the actual or potential impact of the smoke-free policies on the measures studied was negative.

## Findings

A range of characteristics and results of each of the studies are tabulated in **Attachment Tables 1 and 2**. **Attachment Table 1** includes studies using objective outcome measures such as sales tax receipts, business registrations, or employment levels. **Attachment Table 2** includes studies using subjective outcome measures such as patron or proprietor predictions and estimates. Some studies included both objective measures and

subjective measures. In this case, findings about objective measures are tabulated in **Attachment Table 1**, and findings about subjective measures in **Attachment Table 2**.

The key characteristics and findings of each of the studies are summarised in **Tables 1 and 2** below, separating out those funded independently and those not funded independently of the tobacco industry.

**Table 3** summarises the number of studies that do or do not meet Siegel’s which do and do not report a negative impact.

In summary,

- No negative economic impact from the introduction of smoke-free policies in restaurant and bars is indicated by 47 of the 49 studies where findings are based on an objective measure such as taxable sales receipts, where data points several years before and after the introduction of smoke-free policies were examined, where changes in economic conditions are appropriately controlled for, and where appropriate statistical tests are used to control for underlying trends and fluctuations in data. One of the two studies meeting all four of Siegel’s criteria that did find a negative impact (Evans 2005)[5] – see page 35, was not peer-reviewed and was based on assessments from a highly selective sample of proprietors. The other (Lal and Siahpush 2008) [6] assessed the impact of smoke-free policies in gaming venues, a measure **intended** to reduce problem gambling in Victoria and introduced in parallel with a number of other measures aimed at reducing worrying levels of spending among low-income earners living in neighbourhoods with high numbers of poker machines in accessible venues such as corner pubs.
- Apart from the notable exception of Lal and Siahpush [6], studies concluding a negative economic impact have predominantly based findings on outcomes predicted before introduction of policies, or on proprietors’ subjective impressions or estimates of changes rather than actual, objective, verified or audited data. These studies were funded predominantly by the tobacco industry or organisations allied with the tobacco industry. Almost none of the studies finding a negative impact are published in peer-reviewed journals.

**Table 1. Studies using objective measures to assess economic impact of smoke-free policies in the hospitality industry**

	<i>Control for economic conditions</i>		<i>Do not control for economic conditions</i>	
	No effect, or positive effect	Negative effect	No effect, or positive effect	Negative effect
<b>Studies funded from sources other than the tobacco industry</b>				
<b>Taxable sales</b>	Alpert et al 2007 [7] Bartosch (2002) [8] Bartosch & Pope, (1995) [9] <b>Bartosch &amp; Pope (1999) [10]</b> <b>Bartosch &amp; Pope (2002) [11]</b> Bialous & Glantz (1997) [12] <b>Blecher 2006 [13]</b> Collins (2005) [14]	Lal & Siahpush 2008 [6]	California State Board of	

	<p>Connolly et al (2005) [15]  Cowan (2004) [16]  <b>Cowling &amp; Bond (2005) [17]</b>  Dai et al (2004) [18]  * Dresser (1999) [19]  Evans &amp; Hyland, 2005 [20]  <b>Luk et al (2006) [21]</b>  <b>Glantz &amp; Charlesworth (1999) [22]</b>  <b>Glantz &amp; Smith (1994) [23]</b>  <b>Glantz &amp; Smith (1997) [24]</b>  Glantz (2000) [25]  Glantz &amp; Wilson-Loots (2003) [26]  <b>Goldstein &amp; Sobel (1998) [27]</b>  Hayslett &amp; Huang (2000) [28]  Huang &amp; McCusker (2004) [29]  <b>Huang et al (1995)[30]</b>  <b>Hyland et al (1999)[31] <sup>a</sup></b>  Hyland (2002) [32]  <b>Hyland et al (2003) [33]</b>  Maroney et al (1994) [34]  Moseley &amp; Schmidt (2003) [35]  Sabry &amp; Patton (2007) [36]  Pacific Analytics (2001)[37]  <b>Parker &amp; Chiang 2007 [38]</b>  Pope &amp; Bartosch (1997)[39]  <b>Sciacca &amp; Ratliff (1998)[40]</b>  Stoltz &amp; Bromelkamp (2007) [41]  <b>Styring (2001) [42]</b>  Taylor Consulting (1993)[43]  <b>Wakefield et al (2002) [44]</b></p>		<p>Equalization (1998)[45]  * City of Boulder (1996) [46]  <b>Edwards et al (2008) [47]</b>  <b>Engelen et al 2006 [48]</b>  Fletcher (1998) [49]  Harrison et al (2006) [50]  * Lawless (2005) “findings do not allow one to say” [51]  New York City Department of Finance (2004) [52]</p>	
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	No effect, or positive effect	Negative effect	No effect, or positive effect	Negative effect
<b>Sales data other</b>	Bourns & Malcomson (2002) [53] Felmingham et al 2003 [54] Lal et al (2003) [55] Lal et al (2004) [56] <b>Mandel, 2005 [57]</b> NZ Ministry of Health 2005 [58]		* Dresser et al (1999) [59] * Thomson & Wilson (2006) [60]	Lund (2006) [61, 62]
<b>Employment levels</b>	(Alpert et al 2007[7]) * Bourns & Malcomson (2001) [63] (Connolly et al (2005)[15]) (*Dai et al (2004)[18]) (Evans and Hyland, 2005 [20]) Hahn et al (2005) [64]and Pyles et al 2007 [65] * Hild et al 2001[66] * Hyland & Cummings (1999) [67] <sup>b</sup> <b>Hyland et al (2000) [68]</b> * Hyland & Tuk (2001) [69] (Hyland (2003)[33])		New York City Department of Health and Mental Hygiene (2003) [70] (New York City Department of Finance (2004)[52]) <b>(* Thomson &amp; Wilson (2006) [60])</b>	
<b>Number of establishments</b>	* (Hyland & Cummings (1999) [67]) <sup>b</sup> (Hahn et al (2005)[64])		(New York City Department of Finance (2004) [52])	
<b>Number of restaurant/bar permits applications</b>			(New York City Department of Finance (2004)[52])	
<b>Bankruptcy data</b>	(Bourns & Malcomson 2001[63]) (Bourns & Malcomson 2002)[53]			
<b>Number of employment insurance claims</b>	(Bourns & Malcomson 2001[63]) (Bourns & Malcomson 2002)[53]			
<b>Financial stress score</b>			Price (2004) [71]	
<b>Value of business on sale</b>	Alamar & Glantz, (2004)[72] and 2007[73]			

<b>Studies for which funding source is unknown</b>				
<b>Taxable sales receipts</b>	Stolzenberg and D'Alessio, 2007 [74]			
<b>Employment levels</b>			Adams & Cotti 2006 [75]	
<b>Sales Data</b>		Evans M (2005) [5]		* Clower & Weinstein (2004) [76] Pakko (2005) [77] and (2006)[78] Pakko (2005) [79]and (2006) [80] Pakko (2007)[81] and (2008) [82] * Pubco (2002) [83] <u>Thalheimer Research Associates (2005) [84]</u>
<b>Employment figures</b>				* Phelps 2006 [85]
<b>Studies conducted by organisations or consultants with links to the tobacco industry</b>				
<b>Taxable sales receipts</b>				* Centre for Economics and Business Research Ltd 2005 [86] * Lilley & De Franco (1996) <sup>b</sup> [87] Kjona 2007 [88] Kuneman 2004 [89] * Kuneman and Mc Fadden 2005 [90] <b>* Masotti &amp; Creticos (1991)*[91] †</b>
<b>Studies funded by tobacco companies or industry groups supported by the tobacco industry</b>				
<b>Taxable sales receipts</b>				* Laventhol et al (1990) [92]
<b>Sales data other</b>				* Applied Economics (1996)[93] Deloitte & Touche LLP 2003 [94]
<b>Employment levels</b>				* Lilley & De Franco (1999)[95] * Lilley & De Franco (1996) [96] <sup>a</sup>
<b>Number of establishments</b>				* (Lilley et al 1999)[95])

**Bold type = peer reviewed;** \* Use discrete rather than continuous data prior to and after the introduction of policies; †Only weak evidence of connection with the tobacco industry; High-lighted **yellow** = study includes both an objective and a subjective component

**Table 2. Studies using subjective measures to assess the economic impact of smoke-free policies in the hospitality industry**

	<i>Control for economic conditions</i>		<i>Do not control for economic conditions</i>	
	No effect or positive effect	Negative effect	No effect or positive effect	Negative effect
<b>Studies funded from sources other than the tobacco industry</b>				
Public self-reported intentions or actual patronage of restaurants/bars			Allen & Markham (2001) [97] August & Brooks (2000) [98] <b>Biener &amp; Fitzgerald (1999) [99]</b> <b>Biener &amp; Siegel (1997) [100]</b> Biener et al (2007) [101] Corsun et al (1996) [102] Decima Research (2002) [103] Decima Research (2001)[104] Dresser et al (1999)[59] Engelen et al (2006) [48] Field Research (1998)[105] Field Research (1997) [106] Blackley, M (2005) [107] Hyland & Cummings (1999) <sup>d</sup> [108] Lam (1995)[109] Lund (2006) [61, 62] McGhee 2002 [110] Miller & Kriven (2002) [111] Miller & Kriven (2002) [112] Shapiro, (2001)[113] Styring (2001)[42] Tang et al, 2003 [114] TNS Mrbi for the Irish Office of Tobacco Control, 2004 [115] * Thomson & Wilson (2006) [60] Wakefield et al 1999 [116]	Adda et al (2007) [117]
Proprietor predictions/ perceptions of sales changes	Hyland & Cummings <sup>c</sup> (1999)[118]		(Allen & Markham (2001)[97]) Binkin et al (2007) [119] Cremieux & Oulette (2001) [120] (Dresser et al (1999)[59]) Edwards (2000)[121]	

			<p>Huron County Health Unit 1999 [122]  <b>Jones et al (1999) [123]</b>  Markham &amp; Tong (2001) [124]  Parry et al (2001) [125]  <b>Sciacca &amp; Eckram (1993) [126]</b>  <b>Sciacca (1996)[126]</b>  <b>Stanwick (1998)[127]</b>  The Conference Board of Canada (1996) [128]  <b>Van Walbeek et al 2007 [129]</b>  Yorkshire Ash (2001) [130]</p>	
<b>Proprietor predictions/perceptions of cost</b>			<p><b>(Cremieux &amp; Oulette (2001)[120])</b>  (The Conference Board of Canada (1996)[128])  Douglas County CHIP (2001) [131]</p>	
<b>Estimated numbers of overseas visitors</b>			<p><u>Hodges &amp; Maskill (2001) [132]</u></p>	

<b>Studies for which funding source is unknown</b>				
Proprietor predictions/ perceptions of sales changes				<u>Economists Advisory Group (1998) [133]</u> Federation of Licensed Retail Trade (2005) [134] International Communications Research [135] PriceWaterhouseCoopers 2005 [136] Pubco (2001) [137] <u>The Publican (2001) [138]</u>
	No effect or positive effect	Negative effect	No effect or positive effect	Negative effect
<b>Studies conducted by organisations or consultants with some links to the tobacco industry</b>				
Proprietor predictions/ perceptions of sales changes			<u>Masotti &amp; Creticos (1991)[91]</u> †	<u>CCG 1996 [139]</u> † Charlton Research (1994) [140]
Economist projections of jobs, wage payments and gross state product as a result of predicted impact of bans			Ridgewood Economic Consultants (2004) [141]	
<b>Studies funded by tobacco companies or industry groups supported by the tobacco industry</b>				
Public self-reported intentions or actual patronage of restaurants/bars			<u>Auspoll (2000)[142]</u> <u>Decima research (1988)[143]</u>	Fabrizio et al (1995) [144] <u>KPMG Barents Group LLC (1997)[145]</u> Marlow (1999)[146] <u>National Restaurant Association (1993)[147]</u> <u>Sollars et al (1999) [148]</u>
Public self-reported spending/time spent				(Fabrizio et al (1995) [144]) <u>Martin Associates (1999) [149]</u>
Proprietor predictions/ perceptions of sales changes				<u>Advantage Marketing Info. (1997) [150]</u> Applied Economics (1996)[151] <u>CCG 1995 [152]</u> <u>Chamberlain Research Consultants (1998) [153]</u> <b><u>Dunham &amp; Marlow (1998) [154]</u></b> EMRS 2001[155] Fabrizio et al (1996)[156] Gambie (1991) [157]^

				KPMG (2001) [158] KPMG Peat Marwick (1998) [159] (Marlow (1999)[146]) <u>Marlow (1998) [160]</u> Mason-Dixon Market Research (1996)[161] Penn & Schoen (1995) [162] <u>Price Waterhouse LLP (1993)[163]</u> Price Waterhouse LLP (1995) [164] <u>Roper Starch (1996) [165]</u> <u>The Craig Group Inc (1998) [166]</u> <u>The Eppstein Group (1997) [167]</u>
<b>Proprietor estimates of impact on employment</b>				<u>(Advantage Marketing Info. (1997)[150])</u> (Applied Economics (1996) [151]) (Fabrizio et al (1996) [156]) <u>(Marlow (1998)[160])</u> <u>(Price Waterhouse LLP (1993)[163])</u> (Roper Starch (1996)[165]) <u>(Sollars et al (1999)[148])</u> <u>(Chamberlain Research Consultants (1998) [153])</u> <u>(The Eppstein Group (1997) [167])</u>
<b>Proprietor predictions/perceptions of cost</b>				<u>(Sollars et al (1999)[148])</u>
<b>Proprietor predictions/perceptions of profit</b>				<u>Dunham and Marlow, 2003 [168]</u>

**Bold type = peer reviewed**; underline = Study based on estimates of predicted changes rather than estimates of actual changes; \* not a random survey;

† Only weak evidence of connection with tobacco industry High-lighted yellow = study includes both an objective and a subjective component

Table 3: Tally of studies classified according to quality indicators and conclusion: 1988 to January 2008

Type of data	Methodological quality	Peer reviewed?	Reported a negative impact?		Total
			No	Yes	
Objective (n=86)	Met all four Siegel criteria (n=49)	Yes (n =21)	20	1[6]	49
		No (n=28)	27	1[5]	
	<i>Total for all studies meeting all four Siegel criteria (n=49)</i>		<b>47</b>	<b>2</b>	
	Met some of Siegel's four criteria (n=37)	Yes (n=3)	3	0	37
No (n=34)		15	19		
<i>Total for all studies meeting only some of Siegel's criteria (n=37)</i>		<b>18</b>	<b>19</b>		
<b>Total objective</b>			<b>65</b>	<b>21</b>	<b>86</b>
Subjective (n=79)	Patron/consumer surveys (n=34)	Yes (n=9 )	8	1	34
		No (n= 25)	19	6	
		<i>Total consumer (n=34)</i>	<b>27</b>	<b>7</b>	
	Owner/Manager surveys(n=45)	Yes (n=10 )	9	1	45
No (n= 35)		10	25		
<i>Total owner/manager (n=45)</i>		<b>19</b>	<b>26</b>		
<b>Total subjective</b>			<b>46</b>	<b>33</b>	<b>79</b>
<b>Total objective plus subjective (n=165<sup>3</sup>)</b>		<b>Total objective and subjective</b>	<b>111</b>	<b>54</b>	<b>165</b>

<sup>3</sup> Note that the following tables include 165 records related to 158 studies. Seven studies (marked yellow in Tables 1 and 2) included both objective and subjective components. These are counted as two separate studies in the above tally.

# Attachment Table 1: Objective studies

Listed alphabetically, commencing with those funded by sources other than the tobacco industry

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed?*	Record no.m/myy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
<b>Studies funded from sources other than the tobacco industry</b>											
Alamar and Glantz 2004[72] and 2007[73] 1994 onwards United States, various localities	Various policies, including smoke-free restaurants <i>JA – Contemporary Economic Policy</i> Researchers work at the Centre for Tobacco Control Research and Education, University of California at San Francisco	NF	O Price to sales ratio (records of the purchase price of restaurants that are sold, divided by latest annual gross sales)	Y	Y	Y	Restaurants in smoke-free locations sold for higher prices than restaurants with the same sales in smoking locations. This smoke-free premium indicates that business in smoke-free locales operate at a higher margin. The average difference was around \$15,300 or 16%	N	Henderson argues that the price to sales ratio could be higher because competition would be lower if there were fewer restaurants once jurisdictions adopted smoke-free policies.[169]		141 11/07
Alpert et al 2007 [7] 2004, July Massachusetts, US	Smoke-free workplaces including restaurants and bars <i>JA –Journal of Community Health</i> Researchers from the Harvard School of Public Health and the Roswell Park Cancer Institute, with funding from the Flight Attendant Medical Research Institute	NF	O Taxable sales of food from Department of Revenue Employment in food services and drinking places data from US Bureau of Statistics	Y	Y Linear regression analysis, analysed with Stata package	Y	No change in trend occurred in meals tax collections or sale with implementation of the law. The number of workers employed in the accommodation industry increased but the effect was not statistically significant.	N	Authors note that many Massachusetts towns and cities have already enacted complete and partial local smoking regulations prior to the implementation of the state law.	Y	136 11/07

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure ‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation? §	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./m/ly added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Bartosch, 2002 [8] 1998, September 30 City of Boston, Massachusetts US	Smoke-free restaurants CR – Report by Health Economics Research Inc subcontracted by Arnold Worldwide Inc, for the Commonwealth of Massachusetts Department of Public Health MDPH Tobacco Control Program	NF	O Taxable sales	Y	Y Ordinary least squares (OLD) regression analysis	Y	Boston's taxable meals receipts (and meals receipts per capita) grew as the Massachusetts economy thrived through the 19902 with no measurable deviation from the underlying trend following implementation of the City's smoking policy. Nor was there any significant difference in Boston's share of the state's meals receipts or any evidence of a shift of business to neighbouring localities.	N	These findings contradict the Sollars and Ingram study (1998) [148] which analysed data from surveys of restaurants and patrons shortly before implementation of the policy.	Y	130 11/07
Bartosch & Pope, 1995 [9] 1994, July Brookline, Massachusetts US	Smoke-free restaurants GP - Report by Health Economics Research Inc for the Massachusetts Department of Public Health's Tobacco Control Program Health Protection Fund	NF	O Taxable sales receipts for restaurants in Brookline, four comparison cities and the state aggregate	Y	Y Multiple Regression	Y	Between 2 <sup>nd</sup> & 3 <sup>rd</sup> qtrs of 1994 Brookline's taxable sales receipts followed normal seasonal variations dropping 2.5%. This decrease is consistent with changes in the same qtrs in previous years. This drop was also evident in 4 other cities. In 1994 Brookline's ratio of taxable meal receipts to taxable sales receipts was stable between 2 <sup>nd</sup> & 3 <sup>rd</sup> qtr consistent with 1992 & 1993.	N	This study examines the short term impact i.e. 3-month impact of Brookline's smoke free ordinance	N	1 10/01

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./mm/yy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Bartosch & Pope, 1999 [10]  1993 Massachusetts, US	Smoke-free restaurants <i>JA - Public Health Management Practice</i> Health Protection Fund	NF	O  Taxable sales receipts from all eating and drinking establishments. Also included some stores that are not primarily engaged in selling meals but contain a section from which meals are sold	Y	Y  Multivariate regression analysis	Y	The adoption of a local smoke-free restaurant policy did not cause a statistically significant change in town taxable sales receipts.	N		Y	2  10/01
Bartosch & Pope, 2002 [11]  1996 Massachusetts, US	Smoke-free restaurants Center for Health Economic Research for the Massachusetts Dept of Public Health's Tobacco Control Program <i>JA - Tobacco Control</i> Massachusetts Department of Public Health, Tobacco Control Program and the Robert Wood Johnson Foundation	NF	O  Taxable sales receipts of all eating and drinking establishments compared to non-adopting communities from 1992-1998	Y	Y  Fixed effects regression	Y	Local restaurant industries are not substantially affected by highly restrictive restaurant smoking policies	N		Y	3  07/02

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./m/ly added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Bialous & Glantz, 1997 [12]  1997, October Arizona, US	Smoke-free restaurants  UR—Produced by the Institute of Health Policy Studies, School of Medicine, UCSF  Supported by National Cancer Institute, American Cancer Society and Brazilian Ministry of Sciences	NF	O  Taxable sales receipts of restaurants	Y	Y  Multiple Regression	Y	An increase of 2% in restaurant revenues	N		N	4  10/01
Bourns & Malcomson 2001 [63]  2001, August 1 Ottawa, Ontario, Canada	Smoke-free restaurants, bars and pubs  CR—KPMG  Funded by City of Ottawa	NF	O  Employment figures  Number of employment insurance claims  Bankruptcy and insolvency statistics	N	N	N	Employment in the Ottawa accommodation and food services sector appears to have risen 6.5% from June to October 2001 despite a decline in total employment. Employment Insurance claims declined by 9% in October over a year previous. Bankruptcy and insolvency statistics for the period August to November 2001 are lower than they have been for the previous 2 years	N		N	87  02/02
Blecher 2006 [13]  2001 South Africa	Smoking restrictions in restaurants  <i>JA— South African Journal of Economics</i>  Author acknowledges financial support of Research for International Tobacco Control, the American Cancer Society and the Canadian Tobacco Control Research Initiative.	NF	O  Restaurant revenue calculated from tax collections and adjusted for improvement in collection rate	Y	Y  Pooled and fixed effects analysis of data for nine South African provinces using panel data in  LIMDEP econometrics package	Y	Restrictions	N		Y	135  11/07

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed?*	Record no./mmy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Bourns & Malcomson 2002 [53] 2001, August 1 Ottawa, Ontario, Canada	Smoke-free restaurants , bars and pubs CR – KPMG Funded by City of Ottawa	NF	O  Number of establishments, beer sales, number of bankruptcies	Y	N	N	An increase of 33 more bars and restaurants since the law was implemented. The number of insolvencies for restaurants is consistent with previous years. The level of insolvencies for bars taverns and nightclubs increased the year before the by law and increased again in the past year. 10% decrease in beer sales in Ottawa	N	The economic context indicates a disruption in two key elements of its economy- business travel and massive lay offs in the high technology industry	N	98
Californian State Board of Equalization 1998, [45]  1998, January California, US	Smoke-free restaurants and bars GP- Californian State Board of Equalization (state taxation authority)	NF	O  Taxable sales receipts of smallest bars and restaurants in 1997, 1998, and 1999	Y	N	N	Increase of 7% in each of two years following bans, greater than increases in previous years.	N		N	5  10/01
City of Boulder Colorado, 1996 [46] 1995, November Boulder, Colorado US	Smoke-free restaurants GP - The Ontario Campaign for Action on Tobacco, quoting Associated Press story City of Boulder, Colorado	NF	O  Taxable sales receipts from 'eating places'	Y	N	N	Increased by 4% between Jan & Oct following ordinance.	N		N	6  10/01
Collins, 2005 [14] 2004 March Fayetteville, Arkansas	Smoke-free public places UP – Center for Business and Economic Research, University of Arkansas Northwest Arkansas Tobacco-Free Coalition	NF	O  Hotel/motel/ restaurant (HMR) tax collections		Y	Y	Smoke-free ordinance has had no statistically significant effect on the amount of HMR taxes collected.	N	Small number of data points therefore view results with caution	N	112 6/05

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure ‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation? §	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no. mm/yy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Connolly et al, 2005 [15] 2004, July Massachusetts, US	Smoke-free bars UR – Division of Public Health Practice, Harvard School of Public Health	NF	<b>O</b> Meals tax, alcohol excise tax, employment figures, Keno sales	Y	Y Regression, analysis of variance	N	Monthly meals tax collections were unchanged with implementation of the law. No statistically significant change was observed in the alcoholic beverages excise tax collections. No statistically significant changes in no. of workers employed in food services and drinking places. No statistically significant change in net Keno sales		Convenience sample used	N	111 6/05
Cowan et al, 2004 [16] 2003, June Maryville, Missouri US	Smoke-free restaurants GP – Missouri Department of Health and Senior Services	NF	<b>O</b> Taxable sales receipts for eating and drinking places	Y	N	N	Taxable sales receipts increased after the enactment of smoke-free ordinance	N	Pakko [79] finds no statistically significant effect on bar and restaurant sales – see entry 149. Increase assoc with opening of new restaurant chain – see entry 149 below. David Kuneman from smokersclub has also criticized this report.[170]	N	115 7/05
Cowling & Bond 2005 [17] 1995 and 1998, January California, US	Smoke-free restaurants then smoke-free bars <i>JA– Health Economics</i> Tobacco Control Section, California Department of Health Services	NF	<b>O</b> Taxable sales for restaurants and for bars, and proportion that bar sector makes up of total	Y	Y Regression analysis of quarterly reports from 1990 to 2002, at state and county level	Y	The smoke-free restraint law appears to have led to a modest decrease in the bar share of total eating and drinking. The smoke-free bar law led to an increase in bar share and had a positive effect on revenue	N	California has the longest standing policy restricting smoking in bars.	Y	142 11/07

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Dai, 2004 [18] 2003, July  Florida US	Smoke-free workplace laws in hotels, restaurants and tourism  UR - Bureau of Economic and Business Research Warrington College of Business Administration, University of Florida	NF	<b>O</b>  Gross sales of restaurants, lunchrooms, catering services, taverns, night clubs, bars, liquor stores and recreational admissions for Florida.  Employment data	Y	Y  Multivariate regression	Y	There was no significant negative effect of the smoke-free law on sales and employment in the leisure and hospitality industry in Florida. Fraction of retail sales from restaurants, lunchrooms and catering services, fraction of employment in drinking and eating places and in the leisure and hospitality industry went up. Fraction of retail sales from taverns, night clubs, bars and liquor stores, recreational admissions and employment accommodation have no significant changes.	N		N	120  7/05
Dresser et al, 1999 [59]  1998, July Corvallis, Oregon US	Smoke-free bars  GP- Report by the Pacific Research Institute for the Oregon Health Division  Measure 44 (Oregon Tobacco Control Program)	NF	<b>O</b>  Aggregate sales of distilled spirits, sales of malt beverages from a commercial supplier, video sales and commissions, alcohol and food sales	N	N  T tests for continuous variables and chi square tests for categorical variables, ANOVA for pre-post ordinance economic data	N	The smoking ban in Corvallis has had little or no economic impact on most establishments, and has produced no measurable impact on overall alcohol sales. It does appear to be associated with reduced poker revenues, which have effected a few establishments to a small extent. Some migration of smokers to nearby establishments seems to have occurred as expected but the economic impact of this appears to be offset by increased patronage by non-smokers	N		N	7(O)  10/01

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Dresser, 1999 [19]  1993, July Dane County, Wisconsin US	Smoke-free restaurants AR–Tobacco-Free Wisconsin Coalition Wisconsin Smokeless State Program, Robert Wood Johnson Foundation	NF	<b>O</b>  Taxable sales receipts and restaurant revenue	Y	N  Comparison of trends for Dane county and the rest of the state	Y	Between 1992 and 1997, revenue of Dane County restaurants grew by 24% compared to restaurant revenue gains in the rest of the state of 19%. Restaurant expenditure per capita in 1997 increased by \$150 compared to 1992. In the rest of the state the increase was \$100.	N		N	8  10/01
Edwards et al 2008 2004, December New Zealand	Smoke-free restaurants, bars, casinos and members' clubs JA – Tobacco Control Ministry of Health, New Zealand	NF	<b>O</b>  <b>Taxable sales receipts</b>	Y	Y  Regression analysis of quarterly data	N	Patronage and sales for cafes and restaurants have increased steadily since 2002.  A modest reduction in retail sales in bars and clubs was evident in the first quarter of 2005, however the effect was not sustained and subsequent figures were in line with pre-existing trends.	N	Some evidence of a decrease in gambling expenditure.	Y	155  02/08
Engelen et al 2006 [48], same analysis reported in Farrelly et al 2005 [171] 2003, March 26 New York, New York US	Smoke-free workplaces including bars, restaurants, bowling facilities, taverns and bingo halls CR – Research Triangle Institute International with Roswell Park Cancer Institute Prepared for the New York State Department of Health	NF	<b>O</b>  Taxable sales	Y	Y  Time series regressions	N	No statistically significant relationship between sales and the comprehensive clean indoor air laws, either in bars or full-service restaurants.	N	Sales in total retail sector is graphed but not used in analysis, so have rated this as not controlling for economic trends.	N	146 (O)  11/07
Evans & Hyland, 2005[20] 2003, October Montgomery, Maryland US	Smoke-free workplaces including restaurants and bars UR–Department of Economics and the Maryland Population Research Center, University of Maryland MedChi, the Maryland State Medical Society and the Smoke Free Maryland Coalition	NF	<b>O</b>  Taxable sales and employment in restaurants before and after the implementation of law	Y	Y  Compared of trends in counties without ordinances in Maryland and in Virginia	Y	The Montgomery County ordinance had little if any impact on taxable sale or employment in the hospitality industry. Growth in restaurant tax revenue in Montgomery County were virtually identical to growth in revenues in other urban counties in Maryland that were not impacted by the law.	N	Employment in full service restaurants and bars may have increased slightly while employment decreased slightly in restaurants with liquor licenses. This may be reflecting a shift in patronage towards establishments that sell liquor.	N	121  11/07

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Felmingham et al, 2003 [54] 2001, September 1 and 2006, January 1 Tasmania, Australia	Smoke-free hospitality venues with and without exemptions for bars that do not serve food	NF	<b>O</b> Sales (seasonally adjusted) in hotels and clubs as reported in Australian Bureau of Statistics Retail Trade surveys	Y	Y Multiple regression methods applied to quarterly time series	Y	No measurable revenue impact on hotels and clubs has been found attributable to the introduction of partial smoking ban. The extension of the smoking ban to bar areas in hotels and clubs will, based on the estimation... have not measurable long term negative effect on hotel and club revenue.	N			131 11/07
Fletcher, 1998 [49] 1997, Jan Chico, California US	Smoke-free bars AR - Report prepared for American Lung Association of California Californian Department of Health Services grant	NF	<b>O</b> Sales tax receipts from eating and drinking establishments	Y	N	N	Total sales tax receipts for all 118 Chico establishments holding licenses to serve alcohol declined by 4% in 1996 over 1995, but increased by 10.3% in 1997 over 1996. All of the 1997 increase was from establishments that serve beer and wine. In contrast, establishments which serve beer, wine & liquor have been experiencing a steady decline in sales tax receipts since 1995. The decline began prior to implementation of the ordinance.	N	Other variables are likely to have contributed to this decline since it began prior to implementation of the ordinance	N	9 10/01

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Glantz & Charlesworth, 1999 [22]  1994, 95 & 96  US states (3) (California; Utah & Vermont); and 6 US cities (Boulder, Colo; Flagstaff, Ariz, Los Angeles, Calif; Mesa, Ariz, NewYork, NY and San Francisco CA.	Smoke-free restaurants  <i>JA - Journal of the American Medical Association</i>  National Cancer Institute and gift from E & H Everett	NF	O  Taxable sales receipts  As a measure of tourism – Hotel room revenues and hotel revenues as a fraction of total retail sales compared with pre-ordinance revenues and overall US hotel revenues	Y	Y  Multivariate linear regression	Y	Statistically significant increase in rate of change of hotel revenue in 4 localities, no significant change in 4 localities, and a significant slowing of rate of increases (but not a decrease) in 1 locality.	N	Dire predictions were made prominently in media in each of these locations before the implementation of smoke-free policies.  In no case were predictions accurate. In no case has either the hospitality or the tobacco industry reported on actual sales.	Y	10  10/01

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Glantz & Smith 1994 [23] and 1997	Smoke-free restaurants <i>JA - American Journal of Public Health</i>	NF	<b>O</b>	Y	Y	Y	Ordinances had no significant effect on the fraction of total retail sales in communities with ordinances and sales in comparison communities. Ordinances requiring smoke-free bars had no significant effect on the fraction of revenues going to eating and drinking places that serve all types of liquor.	N	Otto Mueksch of Californians for Smokers Rights has claimed that restaurant and bar permits decreased by 3.3% after the policy was introduced while permits for fast food outlets increased 12.7% [172]. No detail is provided about establishment classification methods over the period, and no analysis is provided about wider national trends in consumer preferences towards fast food.	Y	11  12/01
Various from 1985 to 1992 California and Colorado US (15 cities)	Cigarette and Tobacco Surtax Fund of California (Tobacco Related Diseases Research Program, administered by the University of California)		Taxable sales receipts for restaurant and retail sales		Multiple regression including time and a dummy variable for the ordinance						
Glantz & Smith, 1997 [24]	Smoke-free restaurants <i>JA - American Journal of Public Health</i>	NF	<b>O</b>	Y	Y	Y	Ordinances had no significant effect on the fraction of total sales that went to restaurants or on the ratio of restaurant sales in communities with ordinances compared with those in the matched control communities.	N	Erratum published in response to critics (Evans from NSA 1996) finding errors in effective dates of ordinances. This led to only minor changes in the results.	Y	12  10/01
Various from 1985 to 1992 California and Colorado (15 cities)	National Cancer Institute grant		Taxable sales receipts  Total restaurant sales were analysed as fraction of total restaurant and retail sales		Multiple regression including time and dummy variables for whether an ordinance was in force						

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Glantz 2000 [25]  1998 California, US	Smoke-free bars JL - Tobacco Control  National Cancer Institute grant	NF	<b>O</b>  Total revenues from eating and drinking establishments licensed to serve all forms of alcohol	Y	Y  Multiple linear regression analysis	Y	No significant effect of the restaurant provisions of the law on bar revenues as a fraction of total retail sales. There was a small but significant positive change in bar revenues as a fraction of retail sales associated with the bar provisions going into effect. Implementation of the smoke-free restaurant provisions was associated with an increase in the fraction of all eating and drinking establishment revenues that went to venues with liquor licenses, and a larger increase following implementation of smoke-free bar provisions.	N		N	13  10/01
Glantz & Wilson-Loots 2003 [26]  Various Massachusetts, US	Smoke-free bingo halls JL - Tobacco Control National Cancer Institute grant	NF	<b>O</b>  Net profits/losses from games	Y	Y  General linear model implementation of a time series analysis	Y	While adjusted profits fell over time, this effect was not related to the presence of an ordinance. The analysis in terms of the fraction of the population living in communities with ordinances yielded the same result.	N		Y	106 12/03
Goldstein & Sobel, 1998 [27]  1993, July North Carolina, US	Separate non-smoking areas in restaurants <i>JA - North Carolina Medical Journal</i> No funding source stated. Authors are affiliated with the Department of Family Medicine. U of North Carolina School of Medicine	NF	<b>O</b>  Taxable sales receipts as a fraction of restaurant sales/retail sales	Y	Y  Paired t- tests and regression analyses	Y	Little fluctuation in fraction of restaurant sales to retail sales over 5 years in counties with and without ETS ordinances. No consistent changes in restaurant sales of 10 counties after ETS ordinances took effect.	N	Nth Carolina is the number one tobacco-producing state.	Y	14 10/01

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Hahn et al, 2005 [64] updated by Pyles et al 2007 [65] April 2004 Lexington, Kentucky US	Smoke-free public buildings including restaurants, bars, bingo parlours, pool halls, public areas of hotels/motels  UR- University of Kentucky University of Kentucky Internal Research Grants Program	NF	O  Employment, payroll withholding taxes, business opening/closings in restaurants, bars, and hotels/motels	Y	Y  Not specified but states an economic model was used	Y	Restaurant employment has increased, bar employment has remained stable and hotel/motel employment has decreased in the five months after the law went into effect compared to the pre-law period from January 1999 to April 2004	N	TRA Inc [84] finds a decrease in wholesale alcohol sales see entry.	N	116  7/05
Harrison et al 2006 [50] 2006 March Minneapolis Minnesota, US	Smoke-free indoor areas including restaurants, clubs, bars and bowling alleys  GP – Minneapolis Department of Health and family Support and Regulatory Services Licensing Division  Funded by publisher	NF	O  Taxable sales receipts	N	N	N	Revenues for alcohol and food sales combined increased 7.08 percent for the second and third quarters of 2005 (post-ordinance) compared with the same period in 2004. This rate of increase was greater than the 6.26 percent increase from 2003 to 2004.  Food sales revenues increased 8.59% from 2004 to 2005 compared with 7.23 percent from 2003 to 2004. Alcohol sales increased 1.8 percent from 2004 to 2005 compared with a 2.99 percent increase from 2003 to 2004.	N	Different patterns were observable for different types of venues. Two state laws went into effect four months after the ordinance that may have influenced revenues. Under one of these, the maximum allowable blood alcohol limit was lowered.	N	145  11/07
Hayslett & Huang , 2000 [28]  1994-6 Texas, US	Smoke-free restaurants  GP- Bureau of Disease, Injury and Tobacco Prevention, Texas Department of Health  Texas Department of Health	NF	O  Taxable sales receipts of restaurants and retail outlets from 1987-1999	Y	Y  Linear regression	Y	No detrimental effect on restaurant sales, either in total or was a proportion of total retail sales	N		N	88  5/02

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Hild et al 2001[66] July 2000 Anchorage, Alaska US	Smoke-free eating and drinking places  UR – Institute for Circumpolar Health Studies, University of Alaska, Anchorage  Funded by Municipality of Anchorage	NF	O  Employment figures	N	Y  Mean and standard deviation of percent change in employment	N	Those establishments that changed their smoking status to non-smoking after the ordinance grew 10%. Relative growth rates not significantly different to those who allowed smoking before and after the ordinance	N		N	83  2/02
Huang & McCusker 2004 [29] January 2002 El Paso, Texas US	Smoke-free bars and restaurants  JL □ <i>Morbidity and Mortality Weekly</i>	NF	O  Sales tax reports and beverage tax receipts	Y	Y  Multiple linear regression analysis	Y	No decline in total restaurant and bar revenues occurred after the ban was implemented.	N		N	107  4/04
Huang et al 1995 [30]  1993, June West Lake Hills (suburb of) Austin, Texas US	Smoke-free restaurants  JL □ <i>Morbidity and Mortality Weekly</i>  No funding source stated (authors work at the Texas Department of Health)	NF	O  Taxable sales receipts	Y	Y  Linear regression model	Y	The regression coefficient for the ordinance variable was positive suggesting total sales of restaurants did not decrease after implementation of the ordinance.	N		Y	15  10/01
Hyland & Cummings 1999 [67]  1995, April 10 New York City, boroughs of Manhattan, Bronx, Brooklyn, Richmond, Queens	Smoke-free indoor dining area in restaurants with more than 35 indoor seats. Smoking permitted in separate bar areas of restaurants.  <i>JA - Journal of Public Health Management Practice</i>  Robert Wood Johnson Foundation grant	NF	O  Number of restaurants, employment rates	Y	N  Comparisons of absolute and relative county specific changes in the number of restaurants and restaurant employees	Y	Increase in number of restaurants in 9 out of 10 locations. Increase in number of restaurant employees in all locations.	N		Y	16  10/01

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Hyland & Tuk, 2001 [69]  March 2001 New York City, New York US	Smoke-free indoor restaurants <i>JL - Tobacco Control</i>  No Funding Source Stated – Author advises, National Cancer Institute, Comprehensive Cancer Center Core Grant for the Roswell Park Cancer Institute.	NF	<b>O</b>  Number of employees	N	N	N	22,000 additional employees were employed between 1994 and 1999 and per capita employment increased by 18%.	N		N	17  10/01
Hyland et al 1999 [31]  1995, April 10  New York City, New York US	Smoke-free indoor dining area in restaurants with more than 35 indoor seats. Smoking permitted in separate bar areas of restaurants <i>JA - Journal of Public Health Management and Practice</i> Robert Wood Johnson Foundation grant	NF	<b>O</b>  Taxable sales receipts  Total taxable sales from eating and drinking establishments.  Total taxable sales from hotels	Y	Y  Multivariate linear regression	Y	Real taxable sales from eating and drinking places and hotels in NYC increased by 2% and 37% respectively. Real taxable sales for eating and drinking venues and hotels in the rest of the state experienced 4% decrease and 2% increase in sales respectively.	N	Policies extended to most indoor public places; did not cover public bars.	Y	18  10/01
Hyland et al, 2000 [68]  1997, 1998 Erie County, New York US	Smoke-free restaurants <i>JA - Journal of Public Health Management Practice</i> National Cancer Institute, Comprehensive Cancer Center Core Grant for the Roswell Park Cancer Institute.	NF	<b>O</b>  Number of employees	Y	Y  Multivariate modelling	Y	No significant change in the number or percentage of employees. Numbers increased relative to other counties.	N	Higher unemployment in winter months.	Y	19  10/01

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Hyland, 2002 [32] 1995 □ 2000 New York City, Suffolk, Erie, Monroe and Westchester	Smoke-free dining areas in restaurants unless area has a separate ventilation system AR- Roswell Park Cancer Institute Robert Wood Johnson Foundation and New York State Department of Health	NF	O  Taxable sale receipts of eating and drinking establishments	Y	Y  Multivariate linear regression	Y	The presence of smokefree legislation was not associated with changes in taxable sales from eating and drinking establishments in all five counties	N		N	92  6/02
Hyland et al 2003 [33] 1995 □ 1999 New York City, Suffolk, Erie, Monroe and Westchester	Smoke-free dining areas in restaurants unless area has a separate ventilation system <i>JA- Cornell Hotel and Restaurant Administration Quarterly</i> Robert Wood Johnson Foundation, the New York State Department of Health, the Flight Attendants Medical Research Institute	NF	O  Taxable sales receipts of restaurants.  Hotel Employment	Y	Y  Multivariate linear regression	Y	In all 5 counties, smoke-free legislation was not associated with adverse economic outcomes in restaurants and hotels	N		Y	99  7/03
Lal et al 2003 [55] July 2001 Victoria, Australia	Smoke-free restaurants <i>JL - Australian and New Zealand Journal of Public Health</i> VicHealth Centre for Tobacco Control	NF	O  Self report of sales	Y	Y  Interrupted time series analysis	Y	The results suggest that the smoke-free policy in restaurants and cafés has had no negative impact on sales turnover in these venues	N		N	105  12/03

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Lal et al 2004[56] 2001, September  Tasmania (island state), Australia	Smoke-free enclosed places including restaurants and bars, but with exemptions for bars and gaming areas not serving food  <i>JL –Tobacco Control</i>  VicHealth Centre for Tobacco Control	NF	O  Monthly sales as reported to the Australian Bureau of Statistics Retail Trade Survey	Y	Y  Interrupted time series analysis	Y	Smoke-free policy had no negative impact on monthly turnover either in restaurants and cafes or in pubs and clubs	N		N	122  11/07
Lal and Siahpush 2008 [6] 2002 September Victoria, Australia	Smoke-free policies in areas containing electronic gaming machines  JA J Epidemiol Community Health	NF	O  Net monthly expenditure on electronic gaming machines	Y	Y	Y	The smoke-free policy resulted in an abrupt long-term decrease in the level of EGM expenditure. Mean expenditure fell by 14%	Y	Some of the long-term decline would have been due to other measures introduced shortly after the ban that were also intended to reduce problem gambling.	Y	156  02/08
Lawless 2005[51] 2005, March 31 Hennepin County, Minnesota	Smoke-free bars and restaurants  GP–Office of Budget and Finance of the Hennepin County  Hennepin County Board of Commissioners	NF	O  Sales in second quarter of 2003, 2004 and 2005 and number of business	N	N  Comparison of changes in sales between 2003 and 04 and 2004 and 05	N	Overall liquor sales grew less between 2004 and 2005 than between 2003 and 2004	Y/N	As the author acknowledges, the analysis performed was not sufficiently powerful to determine any effects of the policy.	N	123  11/07
Lund 2006[61] and Lund & Lund 2006[62] Jun 2004 Norway	Smoke-free bars and restaurants  UR – SIRUS Norwegian Institute for Alcohol and Drug Research	NF	O  Sales	N	N  None	N	6% decrease in beer sales to bars and restaurants	Y	As statistical analysis was not undertaken these results should be viewed with caution. Authors note decrease may also be due to other factors. Contradicts other results of subjective measures. See results in subjective measures section	N	113 (O)  7/05

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Luk et al 2006 [21] updating Ferrence, 2003 [173]  Aug 2001 Ottawa, Ontario Canada	Smoke-free workplace and public places  <i>JA – Addiction</i>  Ontario Ministry of Health and Long term care	NF	<b>O</b>  Sales in licensed restaurants, including bars, unlicensed restaurants and goods and services	Y	Y  Intervention time series, regression	Y	No statistically significant impact of the bylaw on sales of restaurants and bars	N		Y	100  7/03
Mandel et al 2005 [57]  Nov 2002  Delaware, USA,	Smoke-free gaming venues  <i>JA – Tobacco Control</i>  National Cancer Institute Grant CA 61021	NF	<b>O</b>  Total gaming revenue per establishment and per machine	Y	Y  Regression	Y	Smoke-free law was associated with no effect on total revenue or average revenue per machine.	N	Erratum published results were unchanged. Regression analysis conducted by Pakko [77] suggests a decline in revenue. Alamar and Glantz have disputed Pakko's criticism.[174]	Y	109  6/05
Maroney et al 1994 [34]  1990s, early  California, 17 cities, 3 counties	Smoke-free restaurants  UR–Report by the Claremont Institute for Economic Policy Studies, The Claremont Graduate School  Proposition 99, the California Tobacco Tax Initiative of 1988 under a grant from the California Department of Health Services	NF	<b>O</b>  Taxable sales receipts of restaurants.  Non-restaurant taxable sales receipts as measure of local economic community	Y	Y  Linear regression model using sales tax data for 19 communities and 87 control communities	Y	Restaurant revenue changes could not be attributed to ordinance smoking restrictions. Surrounding cities without ordinance restrictions had significant fluctuations in revenues that could not be distinguished from cities with ordinances. Significant shifts in restaurant patronage between ordinance and surrounding cities could not be attributed to smoking restrictions. The time of the ordinance adoption and other city-specific characteristics such as geographic location, dining opportunities in surrounding cities and determinants of smoking prevalence could not be held responsible for significant revenue changes.	N	Results imply that other variables not accounted for in the model affecting one or more cities in a local area also contributed to revenue changes during the time ordinance effects were assessed.	N	20  10/01

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Moseley & Schmidt 2003 [35] 1 Jan 2002	Smoke-free restaurants  UR –Report by the Minot State University College of Business and the North Dakota Center for Disabilities  Minot State University	NF	<b>O</b>  Restaurant Taxable Sales and Purchases and Total Taxable Sales and Purchases	Y	Y  linear regression analysis	Y	The implementation of the smoke-free ordinance had no significant effect on the fraction of sales that went to restaurants in Minot. The results of the study showed the smoke-free ordinance had no impact on restaurant sales for the City of Minot	N		N	101  7/03
New York City Department of Finance 2004 [52] 2003, March 30 New York	Smoke-free restaurants and bars  GP –New York City Department of Finance, New York City Department of Health and Mental Hygiene, New York City Department of Small Business Services, New York City Department of Economic Development Corporation	NF	<b>O</b>  Bar and restaurant tax receipts, employment, openings and closings	Y	N	N	Tax receipts were up 8.7% April 2003-Jan 2004 on same period 2002-3. March to Dec 2003 increase in jobs was 2800 seasonally adjusted, an absolute gain of 10,600. Number of bars and restaurants unchanged between third quarter 2002 and third quarter 2003. At end of 2003 there was a net gain of 234 active liquor licenses from 2002.	N		N	108  4/04
New York City Department of Health and Mental Hygiene 2003 [70] 2003, March 30 New York	All establishments and businesses with employees smoke-free  GP □ New York City Department of Health and Mental Hygiene	NF	<b>O</b>  Number of jobs	Y	N	Y	Absolute gain of 10,000 jobs or 1500 seasonally adjusted jobs since the implementation of the smoke-free air act.	N		N	103  8/03
NZ Ministry of Health 2005 [58] 2004, December 10 New Zealand	All indoor workplaces including restaurants and bars to be 100% smoke-free  GP □ NZ Ministry of Health  NZ Ministry of Health	NF	<b>O</b>  Sales data as reported to Statistics New Zealand in NZ Retail Trade Survey	Y	Y	N	Cafes and restaurants showed a 11.7% increase in revenue and a 13.8% increase in accommodation. Liquor retailing showed a 2.5% increase and sales in bars and clubs went up 2%.	N	Used same model as that used by Felmingham et al in Tasmania [54]	N	124  11/07

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Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Pacific Analytics 2001[37]  1 Jan 2000  British Columbia, Canada	Smoke-free hospitality and public entertainment venues including stand-alone and hotel based restaurants, pubs, cabarets  GP □ Report by Pacific Analytics Inc for the Workers Compensation Board of British Columbia  No Funding Source Stated, but assume WCBBC	NF  No links with tobacco industry could be established in search of documents	O  Cost data for monthly liquor purchases, monthly taxable accommodation on revenues, restaurant, caterer and tavern receipts, number of employment insurance recipients	Y	Y  Ordinary least squares regression	Y	A negative impact was apparent in total hotel/resort alcohol purchases, total dining establishment alcohol purchases and total Marine and neighbourhood pub purchases during Jan 2000 but not in months of Feb or Mar. Being close to a border did not result in greater loss of business. No long-term loss of business in another jurisdiction that had similar ordinance since Jan 99. Therefore in the longer term, no measurable impact on either employment or sales would be likely. Some regions in the province would be affected to a greater degree, however the same conclusions are apparent: some short term impacts but generally no longer-term effects.	N		N	21  10/01
Parker and Chiang, 2007 [38]  1995 then 1998  California, USA	Smoke-free restaurants and then smoke-free bars  JA – <i>Applied Economic Letters</i>  Work undertaken by academics working at Graduate College of Business New Mexico State University and Department of Economics Florida Atlantic University	NF	O  Restaurant and bar revenues from 298 cities between 1991 to 2003	Y	Y	Y	Revenue was affected by employment, income and age composition of population, but not by the imposition of smoke-free policies. Introduction of smoke-free policies in bars resulted in a significantly positive increase in revenue.	N	Analysis of data over this long period, with much various between cities included over 3,495 data observations.  This is an extremely powerful study.	Y	134  11/07

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./mm/yy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Price 2004 [71] 2003, Dec Ohio, US	Smoke-free bars, restaurants and bowling alleys UR – Department of Public Health, University of Toledo Ohio Tobacco Use and Prevention and Control Foundation	NF	O Financial stress score based on historical payment info, type of industry, size, corporate structure, net profit, financial ratios.	Y	Y Repeated measures analyses of variance	N	Toledo compared to its control city and 3 suburban communities had no significant difference in financial stress pre or post ordinance for bars, bowling alleys or restaurants. The same as found for bowling green compared to its control city.	N	Limitations due to no long term historical data	N	114 7/05
Pope & Bartosch 1997 [39] Various from 1992-1995 Massachusetts	Smoke-free restaurants GP–Report by Health Economics Research for Massachusetts Dept of Public Health Tobacco Control Program Health Protection Fund	NF	O Taxable sales receipts	Y	Y Multivariate regression	Y	All models indicate that smoke-free restaurant restrictions increased restaurant receipts in towns adopting smoke-free policies by 5 to 9%	N		N	22 10/01
Sabry & Patton 2007 [36] 2007, January 2 Village of Tinley Park, Illinois US	Smoke-free restaurants and bars CR–Report for Tinley Park Council	NF	O Taxable sales receipts	Y	Y Not clear	Y	Apparent decline in sales immediately after ban s were introduced in comparable communities were generally not significant and were in line with seasonal patterns. By second quarter after ban, sales recover.	N		N	152

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./m/yy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Sciacca & Ratliff 1998 [40]  1993, June  Flagstaff, Arizona and six Arizona comparison areas	Smoke-free restaurants <i>JA—American Journal of Health Promotion</i>  Center for Prevention and Health Promotion, Arizona Dept of Health Services	NF	O  Taxable sales receipts ratio of restaurant sales to total retail sales, hotel/motel sales.	Y	Y  Least squares regression lines as indicators of sales trends.	Y	All analyses resulted in same conclusions: prohibiting smoking in restaurants did not affect restaurant sale.	N	Flagstaff was the first city in Arizona to require restaurants to be smoke-free.	Y	23  10/01
Stoltz & Bromelkamp 2007 [41]  Beltrami (2005 January), Hennepin (2005 March 31) and Ramsay (2005 March 31) County, and Cities of Bloomington (2005 March 31), Golden Valley (2005 March 31), Minneapolis (2005 March 31), and Moorhead (2004 November 15) all in Minnesota, US	Smoke-free restaurants and bars  AR –Minnesota Institute of Public Health  ClearWay Minnesota	NF	O  Aggregate sales and number of establishments	Y	No  Data graphed and compared to total retail sales	N/ Y	No apparent economic impact in any of the areas studied.	N	Data adjusted for inflation and expressed per capita, but not expressed as a percentage of total retail sales	N	151  11/07
Styring, 2001[42]  Jan 1999  Fort Wayne, Indiana	Smoke-free restaurants  CR–Hudson Institute  Smokefree Indiana and the Centers for Disease Control	NF	O  Food and beverage tax collections	Y	Y  Multiple Regression	Y	The existence of a restaurant smoking ban cannot be said to have had any impact on Allen County restaurant sales.	N	Results are consistent with the second part of this report examining customer estimates of patronage	N	90 (O)  06/02

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./mmyy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Taylor Consulting Group 1993 [43]  1990, August San Luis Obispo, California	Smoke-free restaurants and bars GP – Report by Taylor Consulting Group For the City of San Luis Obispo Smoking Ordinance Economic Steering Committee	NF  No links with tobacco industry could be established in search of documents	O  Taxable sales receipts	Y	Y  Regression	Y	No significant effects on the profitability of restaurants and bars. No impact on sales tax revenues.	N	Although no impact on sales, smokers are going to out of town restaurants while non-smokers more likely to go to San Luis Obispo venues. The shifts offset each other.	N	24  10/01
Thomson & Wilson 2006 [60]  2004, December New Zealand	Smoke-free restaurants and bars <i>JA – BMC Public Health</i> Department of Public Health, Wellington School of Medicine and Health Science, University of Otago with funding from the Wellington Division of the Cancer Society of New Zealand	NF	O  Retail sales data and employment numbers from Statistics New Zealand	N	N	N	Seasonally adjusted sale change little between the first three quarters of 2004 and of 2004. Compared to the same period in 2004, average employment during the first three quarters of 2005 was up 24% for “pubs, taverns and bars” up 9% for café/restaurants and down 8% for clubs.	N		Y	143 (O)
Wakefield et al 2002 [44]  1999, Jan South Australia	Smoke-free restaurants <i>JA – Australian &amp; New Zealand Journal of Public Health</i> Department of Human Services of South Australia	NF	O  Restaurant sales data	Y	Y  Interrupted Time Series Analysis	Y	There was no significant change in the ratio of a) Sth Aus. restaurant turnover to Sth Aus retail turnover or b) Sth Aus restaurant turnover to Australian turnover.	N		Y	25  11/01

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact?¶	Comments	Peer Reviewed?*	Record no./mm/yy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective								
Location	Funding source indicated				Type of analysis						
<b>Studies for which funding source is unknown</b>											
Adams & Cotti 2006 [75] 2001 to 2004 All counties introducing policies over this period	Variety of policies mandating smoke-free restaurants and bars UP – authors are undertaking research at the University of Wisconsin Paper was published by the Wisconsin Policy Research Institute which is a Free Market Think Tank.	UK	County level employment numbers from quarterly census of employment and wages	Y	Y	N	No evidence that employment levels fall in restaurants. Employment in bars fell by around 5.3% with areas characterized by high smoking prevalence more negatively affected than areas with a lower percentage of smokers.	N/Y	Analysis appeared to focus only on short-run impact	N	147 11/07
Clower and Weinstein, 2004 [76] 2003, March City of Dallas, Texas US	Smoke-free restaurants, hotels, bingo halls and bowling centres No funding source stated	UK	O Sales in alcohol	N	N	N	Alcohol sales fell by 3.6%, almost three times as much as they had fallen in previous year whereas they increased in other cities	Y	The study failed to account for adverse economic conditions in Dallas that year. Subsequent analysis indicated no change in sales and an increase in the number of restaurants.[175]	N	129 11/07
Evans MK, 2005[5] 2000, 2001 and 2003 Kitchener, Ottawa, Kingston and London, Ontario Canada	Smoke-free bars AR – Pubco No funding source stated	UK	O Sales and tax receipts from a sample of bars and clubs	Y	Y Regression	Y	After the imposition of the smoking ban, sales at bars and pubs were 23.5% lower in Ottawa, 18.75 lower in London, 24.3% lower in Kingston and 20.4% lower in Kitchener than would have been the case with no smoking ban	Y	Sample selection and analysis is unclearly described in parts. It appears that data relating to many establishments affected by the policy were not included.	N	125 11/07
Phelps, 2006 [85] 1990 Various counties throughout the US	Smoke-free policies in restaurants and bars at the county level UR – Center for Business and Economic Research, University of Kentucky	UK	O Employment data	Y but only annual	N	N	Banning smoking in bars is likely to lead to a 17% reduction in industry employment. Banning smoking in restaurants reduced employment by 1.9% in large counties and .27% in smaller counties.	Y	Author noted that average employment and population levels tended to be much higher in counties with 100% smoking bans	N	144 11/07

Pubco, 2002 [83] 2001, Sept Ottawa, Ontario, Canada	Smoke-free enclosed public places including bars.  AR – Report done on behalf of the Pub and Bar Coalition of Ontario  No funding source stated	UK	O	N	N	N	An average decline in sales of 10.5% when compared to the same 10 months a year earlier	Y		N	95  8/02
Stolzenberg and D'Alessio, 2007 [74]  1995, January 1 restaurants  1998 January 1 bars and casinos  California, US	Smoke-free workplaces including restaurants from 1995 and bars and casinos from 1998  JA – Evaluation Review  No funding source stated	UK	O	Y	Y	N	Taxable sales of food and alcohol in alcohol and non- alcohol serving restaurants, 99 quarters from Jan 1980 to Sept 2004  Univariate analysis using ARIMA model	N	Non-alcohol serving restaurants were not affected at all. The ban had a short-lived negative effect on alcohol-serving restaurants. Revenues returned to preexisting levels rather quickly.	Y	138  11/07

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./mmyy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
<b>Studies conducted by organisations or consultants with links to the tobacco industry</b>											
Centre for Economics and Business Research Ltd [86] 2004, March 29 Ireland	Smoke-free public places including bars CR—Prepared for a group created to oppose ban in Scotland Study commissioned by the Against an Outright Ban Group	Strong indications that the Scottish Licensed Trade Association was working in concert with tobacco companies to oppose the legislation.[176]	O Retail sales index for bars	N	Y Authors claim to use time series analysis, but no data or statistics are presented.	Y	The smoking ban decreased sales volume by 10.7% and sales value by 7.3%.	Y	Analysis based on only seven months of data after policy was introduced	N	133
Kjona N 2007 [88] 2006, July Colorado, US	Smoke-free restaurants and bars AR—Report prepared for Forces International, a major smokers' rights group		O Retail sales of spirits, wine and beer	Y	N Data from the Colorado Department of Revenue is tabulated and graphed	N	The rate of increase in liquor sales has declined modestly since imposition of the ban.	Y	Doesn't include a full year of data. Trend-line based on limited data. A well-designed study is needed to properly assess impact.	N	150
Kuneman 2005 [89] 2003, July 1 Pueblo City Colorado, United States	Smoke-free bars and restaurants AR—Report prepared by Smokers Club, a smoker's rights group Funding source not stated but see Kuneman and Mc Fadden below	It is not known whether the Smokers Club receives funding from the tobacco industry. Kuneman discloses that he worked for 6 years 1980s as chemist for Seven-Up which was owned by Philip Morris.	O Taxable sales in restaurants in whole county (city plus surrounding areas)	Y	N Authors present tables and figures highlighting percentages and percentage changes	N	Sales in Pueblo County as a percentage of statewide restaurant sales dropped after introduction of the policy.	Y	The author's own materials show a huge apparent recovery in the following year. The introduction of smoke-free bars at the same time could have resulted in some shift from restaurant to bar trade.	N	137 11/07

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation?§	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./m/yy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Kuneman and McFadden 2005 [90] 1998 onwards Smoker-unfriendly US states such as California, New York, Massachusetts and Utah compared with smoker-friendly states such as Alabama, Kentucky, Mississippi, and North Carolina	Smoke-free restaurants and bars AR–Report prepared by Smokers Club, a smoker’s rights group  The authors state they have no links with established tobacco companies. They used their own time and funds to prepare the report. McFadden is a member of the Smoker’s Club an author of a guide to stopping a smoking ban.	It is not known whether the Smokers Club receives funding from the tobacco industry. Kuneman discloses that he worked for 6 years 1980s as chemist for Seven-Up which was owned by Philip Morris.	O  Total retail sales in bars and restaurants from US Dept of Commerce	Y	N  Comparison of average growth in sales in smoker-unfriendly versus smoker-friendly states	N	Smoking bans hurt restaurant and bar businesses 80% of the time	Y		N	127 11/07
Lilley & DeFranco, 1996 [96]  1995, April New York City, New York	Smoke-free restaurants AR–Report by In Context Inc, for the Empire State Restaurant and Tavern Association  <b>No Funding Source Stated</b>	STF, EC  Evidence from tobacco industry docs reveal that authors collaborated with Philip Morris in developing methodology [177]. Subsequent work by authors was funded by PM [95] The <i>New York Times</i> reported that the Tobacco Institute funneled \$443,072 in lobbying money through the Empire State Restaurant and Tavern Association to wage its 1995 clean indoor air preemption campaign.[178]	O  Number of restaurant jobs from Jan 1993 to Mar 96	N	N	N	2,779 restaurant jobs lost or 4% of restaurant job base	Y	They attribute job losses to policies but their data shows that losses came before policy implementation. Data for period immediately prior to introduction of policy was not reported. Other researchers have queried quality of Dun and Bradstreet lists to select retailers	N	26 10/01

Author and Year Published  Date policy implemented  Location	Type of policy examined (as described in study)  Report type* and publisher  Funding source indicated	Nature of relationship with tobacco industry - refer codes †	Outcome Measure ‡  Objective/ Subjective  Description	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation? §  Type of analysis	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no. mm/yy added/updated
Masotti & Creticos 1991[91]  1990  San Luis Obispo, California, US	Smoke-free eating and drinking establishments  UR – Northwestern University  <b>No Funding Source Stated</b>	EC- weak; UK  Masotti subsequently received hospitality from Philip Morris [179] [180]	O  Taxable sales receipts 1989 to 1990	N	N  Comparison of quarterly figures	N	Decline in sales for eating and drinking establishments in last two quarters. Changes in tax receipts for apparel and general merchandise were less than those of eating and drinking establishments	Y	When several years of data were analysed and appropriate controls were used no negative economic impact is revealed.[24] Part 2 of this study used a subjective measure which showed no adverse economic impact	N	27 (O)  10/01
Pakko 2005[78, 181]  2002, 27 Nov  Delaware, US	Smoke-free gaming venues  CR – Michael R Pakko	UK  Pakko is chair of the St. Louis County Libertarian Central Committee which has links to TI <a href="http://www.smokefree.net/doc-alert/messages/247094.html">http://www.smokefree.net/doc-alert/messages/247094.html</a>	O  Revenue from 'racinos' (gaming facilities at racetracks)	Y	Y  Regression	Y	Suggests that smoke-free policy resulted in statistically significant revenue losses at the 3 racinos.	Y		N	119  7/05
Pakko 2005 [79] and 2006 [80]  2003, June 9  Maryville, Missouri US	Smoke-free restaurants and bars  CR– Michael R Pakko	UK  Pakko is chair of the St. Louis County Libertarian Central Committee which has links to TI <a href="http://www.smokefree.net/doc-alert/messages/247094.html">http://www.smokefree.net/doc-alert/messages/247094.html</a>	O  Taxable sales in bars and restaurants	Y	Y  Regression analysis	Y	No significant effect of the smoking ban on bar and restaurant sales. Evident increase in sales at end of study period corresponded to opening of new franchise outlet.	N	Author notes that many of largest bars were exempted from law.	?	149  11/07

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes †	Outcome Measure ‡	Continuous data before and after policy intro?	Statistical analysis controlling for trend & fluctuation? §	Economic trends?	Findings	Conclusion of - ve Impact? ¶	Comments	Peer Reviewed? **	Record no./m/yy added/updated
Date policy implemented	Report type* and publisher		Objective/ Subjective		Type of analysis						
Location	Funding source indicated		Description								
Pakko 2007 [81] and 2008 [82]  Columbia, Missouri US	Smoke-free restaurants and bars CR- Michael R Pakko	UK Pakko is chair of the St. Louis County Libertarian Central Committee which has links to TI <a href="http://www.smokefree.net/doc-alert/messages/247094.html">http://www.smokefree.net/doc-alert/messages/247094.html</a>	O Taxable sales in bars and restaurants	Y	Y Regression analysis	Y	A slowdown in dining tax receipts partly related to a slow-down in overall general economic activity and adverse weather conditions	Y	This analysis relates only to the first seven months of the policy.	N	154
Thalheimer & Associates Inc 2005 [84] 2004, April Lexington, Kentucky USA	Smoke-free public buildings including restaurants, bars, bingo parlours, pool halls, public areas of hotels/motels CR – Report by TRA Inc for Lexington Fayette County Food and Beverage Association	EC, UK Consults for American Gaming Assoc.	O Beer sales from wholesale distributors	Y	Y Econometric model	N	The smoke-free policy was estimated to have resulted in a reduction of alcoholic beverage sales of 11%, 13.3% and 9.8%.	Y	Data obtained from 3 of 6 distributors, does not control for national economic conditions	N	118 7/05

Studies funded by tobacco companies or industry groups supported by the tobacco industry											
Applied Economics 1996 [93]  1996, June Mesa, Arizona	Smoke-free work places and public places  GP – Report prepared by Applied Economics for Finance Department, City of Mesa.  <b>Funded by a Philip Morris Accommodation Program grant</b>	TF	O  Sales in restaurants, bowling alleys and pool halls, tobacco stores, hotel/motel, bars	N	N  Comparison of 2 months of sales figures between July/August 1995 and July/August 1996	N	Overall, adjusted sales for July and August 1996 ranged from 3% to 12% lower than the two-month period the year before, except for bars and tobacco stores.	Y	This analysis omitted 2/3 of the restaurants in Mesa. Including all of the restaurants revealed a increase of 2% [12]	N	28  10/01
Deloitte & Touche 2003 [94]  Various United States	Smoke-free restaurants and smoke-free dining areas  CR - Deloitte & Touche  <b>Funded by the National Restaurant Association</b>	TO  Evidence of R J Reynolds Tobacco Company, Philip Morris and the Tobacco Institute were working “in partnership” with the National Restaurant Association [182, 183]	O  Self reported sales and profits of restaurants	N	Y  Regression analysis	Y	Majority of specific ordinance types had negative effects but a few had positive effects.	Y	Note from authors that "estimates should be interpreted with caution"	N	104  12/03
Lilley & De Franco, 1999 [95]  1998, January California	Smoke-free restaurants and bars  CR – Report by In Context Inc  <b>Funded by Philip Morris Management Corporation</b>	TF	O  Number of bar jobs and bar businesses on 1 Jan 1997 and 1 Jan 1999	N	N	N	Jobs decreased by 9.7% and 12.7% on a per capita basis (from 1997, a year before ban). The number of bar businesses decreased by 7.4%.	Y	Comparing two points in time is invalid [1]. Several years of data are needed to establish baseline and to account for any random fluctuations	N	29  10/01
Laventhol & Horwath, 1990 [92]  1987, March  Beverly Hills, California, USA	Smoke-free restaurants  AR – Report for Restaurants for Sensible Voluntary Policy (RSVP), LA California  <b>No Funding Source Stated</b>	TO  RSVP was created for Philip Morris and the Tobacco Institute [184]  Reynolds Tobacco Company has also supported RSVP [185]	O  Taxable sales receipts for restaurants	N	N  Comparison of Beverley Hills figures from Apr, May, June in 1987 to same qtr in 1986	N	Sales declined by 6.7% in 1987.	Y	The authors could have just as easily compared the 2 <sup>nd</sup> qtr of 1987, the 3 <sup>rd</sup> or 4 <sup>th</sup> qtrs of 1986 or 1 <sup>st</sup> qtr or 1987 where they would have found increases [1]	N	30  10/01

Lilley & DeFranco, 1996 [96]  Massachusetts, USA	Smoke-free restaurants  AR – Report by In Context Inc, for the Massachusetts Restaurant Association  <b>No Funding Source Stated</b>	TO, EC, STF  Evidence from tobacco industry docs reveal that authors collaborated with Philip Morris in developing methodology[177]. Subsequent work by authors was funded by PM[95]. The RA has admitted that it has received funds from Philip Morris and RJ Reynolds Tobacco Co. [183].	O  Number of restaurant jobs from 1993-1995	N	N	N	During the period , 14 communities enacted 100% smoking bans. Of those communities, 71% lost jobs and 27% gained jobs. The average job loss was 21%.	Y	Several of the towns enacted their smoke-free law after the study period [186]  Studies using taxable sales receipts in restaurants show no negative economic impact [9, 10]	N	31  10/01

#### Notes associated with these tables:

Report type (AR = report published by a hospitality industry of public health advocacy group; CR = Report published by a consultant or consultancy company; GP = Government publication; JA = article in a peer-reviewed journal; JL = letter in a peer-reviewed journal; ME = Media report, MR = Report produced by a market research company; UR = report produced by a University)

† Financial relationship with tobacco industry (NF = Funding source other than tobacco industry specified, TF= funded by the tobacco industry; TO = funded by organisations in receipt of financial support from the tobacco industry); EC = Funding source not disclosed and not discovered, but evidence of collaboration with the tobacco industry; PTF = previous work funded by tobacco company; STF = subsequent work funded by a tobacco company; UK = Unknown

‡ Objective v. Subjective measure (O = objective or actual data, S= subjective or survey data)

§ Statistical analysis to test significance and control for trend and fluctuation in the data (Y = Yes, N = No)

|| Control for economic trends (Y = Yes, adequate control or adjustment for economic trend; N = No control or inadequate control or adjustment for economic trends)

¶ -ve Impact- Negative Impact found N = No (desired result), Y = Yes (i.e. an adverse effect). N/a = data presented, but no conclusion drawn.

\*\* Peer Reviewed? (Y = Yes, N = No)

# Attachment Table 2 Subjective studies

Listed alphabetically, commencing with those funded by sources other than the tobacco industry

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes	Outcome Measure	Prospective or Retrospective study?	Statistical analysis to test for significance of change or difference? §	Economic trends?	Findings	Conclusion of -ve impact? ¶	Comments	Peer Reviewed? **	Record no.mm/yy added/updated
Date policy implemented	Report type* and Publisher		Objective/ Subjective ‡		Type of analysis						
Location	Funding source indicated		Description								
<b>Studies funded from sources other than the tobacco industry</b>											
Adda et al, 2007 [117] 2006, March 26 Scotland, United Kingdom	Smoke-free public houses  JA – International Journal of Epidemiology Researchers are employed at the University College, the Institute of Fiscal Studies and the London School of Economics, all based in London.  The study was funded with a grand from the Nuffield Foundation and the ESRC	NF	S  Proprietors of public houses reports on sales and numbers of customers	R	Y	N	The Scottish ban led to a short-run 10% decrease in reported sales (p = 0.02, CI 95% -19% to -2%) and a 14% decrease in the reported numbers of customers (p=0.02, 95% CI -26% to -2%).	Y	As pointed out by Glantz in his critique of this study,[187] proprietor reports are likely to be negatively biased, particularly so soon after introduction of a policy	Y	148 11/07
Allen & Markham, 2001 [97]  2002, Jan (review) Western Australia	Smoke-free licensed premises  AR – Report by Australian Council on Smoking and Health  ACOSH	NF	S  Proprietor opinions of effect on business  Patron predictions of attendance rates	P	N	N	88% of proprietors believed the introduction of smoke-free policy would have a detrimental effect on their business. 10% believed it may initially have a negative effect but no significant effect over time. 2% thought it would have a positive effect.  Of the patrons, 72% said there would be no change in patronage, 20% would go more often and 8% less often	N		N	32 11/01

Author and Year Published Date policy implemented Location	Type of policy examined (as described in study) Report type* and Publisher Funding source indicated	Nature of relationship with tobacco industry - refer codes	Outcome Measure Objective/ Subjective ‡ Description	Prospective or Retrospective study?	Statistical analysis to test for significance of change or difference? § Type of analysis	Economic trends?	Findings	Conclusion of -ve impact? ¶	Comments	Peer Reviewed? **	Record no./mm/yyyy added/updated
August & Brooks 2000 [98]  2000, July California	Smoke-free bars GP – California Department of Health Services CDHS grant	NF	S  Patron estimates of change in frequency of visiting bars  Patron approval of smoke-free bars policy	R	N	N	>90% of patrons either go more often or have not changed frequency.  Increase in approval among patrons from 59% in 1998 to 72% in 2000	N		N	33  10/01
Biener & Fitzgerald 1999 [99]  1996, August Massachusetts	Smoke-free bars and restaurants <i>JA – Journal of Public Health Management Practice</i> Health Protection Fund, Massachusetts Department of Health	NF	S  Reported avoidance of going to a public place	P	N	N	46% of non-smokers reported avoiding smoky places. 31% had avoided restaurants, 22% bars, 14% gambling places, 14% entertainment places, 2% concerts or arenas.	N		Y	34  10/01
Biener & Siegel 1997 [100]  1996, August Massachusetts	Smoke-free restaurants and bars <i>JA – American Journal of Public Health</i> Health Protection Fund, Massachusetts Department of Health	NF	S  Community estimates of likelihood of patronizing	P	Y Chi-square	N	61% predicted no change in their use of restaurants, 30% predicted increased use, 8% decreased use. 69% predicted no change in patronage of bars, 20% predicted increased use and 11% decreased use.	N	Results indicate the likelihood of an increase in overall patronage of bars and restaurants.	Y	35  10/01

Author and Year Published	Type of policy examined (as described in study)	Nature of relationship with tobacco industry - refer codes	Outcome Measure		Statistical analysis to test for significance of change or difference? §			Findings	Conclusion of -ve impact? ¶	Comments	Peer Reviewed? **	Record no./mm/yyyy added/updated
Date policy implemented	Report type* and Publisher		Objective/ Subjective ‡	Prospective or Retrospective study?		Economic trends?						
Location	Funding source indicated		Description		Type of analysis							
Biener et al 2007 [101]  2004, July Boston, Massachusetts	Smokefree bars  <i>JA -J Public Health Manag Pract</i> Health Protection Fund, Massachusetts Department of Health	NF	S  Community reports of patronage	R	Y	N	Compared to changes over the same time period among smokers in towns where smoking in bars was permitted, smokers in Boston were significantly less likely to observe smoking and less likely to decrease their bar patronage after the smoking ban was implemented. Changes in support for smoke-free bars, smoking patterns at home, and exposure to secondhand smoke at home did not differ between the groups. Conclusion: Expectations about noncompliance, declines in patronage, and displacement of smoking to the home as a consequence of extending smoking restrictions to bars are not supported by the data.	N			Y	158
Binkin et al 2007 [119] 2005, January Italy	Smoke-free public places including restaurants and bars  <i>JA-Int J Tuberc Lung Dis</i> <i>Authors from the Istituto Superiore di Sanita</i>	NF	S  Proprietors assessment of effect on profits	R	N	N	The percentage of owners believing that the policy had caused a significant loss declined from 12 and 14% one month and six months after introduction to 7% 12 months after introduction.  The majority thought that the policy had resulted in no effect or a gain (55, 72 and 61% one, six and 12 months after introduction).	N	Almost 80% reported that their clients were generally very positive about the law, and that only 4% were negative.		Y	139  11/07
Blackley 2005 [107] March 2006 Scotland	Smoke-free bars ME – The Scotsman Newspaper	NF	S  Community estimates of likelihood of patronising	P	N	N	25% said they would go to pubs and clubs more often, 16% would go less regularly. 56% said the ban would make no difference, 3% were not sure.	N	Research carried out by HI Europe a market research company		N	117  7/05

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Corsun et al 1996 [102] 1995, April New York City	Smoke-free indoor dining area in restaurants with more than 35 indoor seats. Smoking permitted in separate bar areas of restaurants <i>JA – Cornell Hotel and Restaurant Administration Quarterly</i> Cornell University's Center for Hospitality Research	NF	S  Community estimates of frequency and time spent dining out, purchasing take-out food and patronising bars, spending patterns	R	N	N	24% of smokers are patronizing stand alone bars more frequently, purchasing take out food (28%) and dining outside of NYC more frequently (16%). Smokers are dining out less and eating faster, non-smokers are dining out more, balancing out any negative impact. Despite high individual spending as a group smokers account for 2.5 times less overall restaurant revenue than non-smokers.	N	Evans of National Smokers Alliance (NSA) claims this study is invalid. Authors argue that what have been identified as errors flaws and biases are findings that do not support the NSA's position.	Y	36  10/01
Cremieux & Oullette 2001 [120] Quebec, Canada	Separate ventilated smoking areas in all restaurants except bars. Smoking bans if required changes considered too expensive <i>JA – Tobacco Control</i> Ministere de la Santer et des Services Sociaux of Quebec	NF	S  Proprietors' perceived and actual costs of smoking regulation.  Proprietor estimates of revenue expectations	R/P	N  For revenue expectations chi-square to test for difference in proportion between samples for any policy vs. no policy	N	Annualised non- recurrent costs of compliance with law were less than 0.15% of annual revenues or 3% of profits. The anticipated building costs by non-compliant firms were 2.7 times higher than that actually incurred by those already in compliance. Responses varied significantly regarding potential impact on revenues according to their current smoking policy. 80% of proprietors with some form of tobacco regulation in place did not anticipate a decrease in revenues. None of the restaurants in compliance expected decreased revenues.	N	The expectations of non-compliant firms are likely to be overstated.	Y	37  10/01

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Decima Research 2001 [104] 2001, Sept Ottawa, Canada	Smoke-free bars MR – Decima Research Inc  Independently funded (K. Neuman, email, 8 Nov 2001)	NF PTF  Did a job for Imperial Tobacco in 1988 – see below.	S  Community estimates of patronage	R	N	N	Most (70%) residents say they are going to these establishments about as often as they had before, while the remainder are evenly split between those now going out less often (14%) and those going out more (13%)	N		N	38  10/01
Decima Research Inc 2002 [103] 2001, Sept Ottawa, Canada	Smoking prohibited in enclosed smoke-free public places MR- Decima Research Inc  Independently funded (K. Neuman, email, 27 August 2002)	NF PTF  Did a job for Imperial Tobacco in 1988 – see below.	S  Community estimates of patronage	R	N	N	Overall, only 8 percent of area residents specifically identify the smoking by-law as a reason why they are spending less time in Ottawa restaurants and bars, compared with 7 percent who say this is a reason why they are visiting such establishments more often.	N		N	96  08/02

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Dresser et al, 1999 [59] 1998, July Corvallis, Oregon	Smoke-free bars GP – Report by Pacific Research Inst for the Oregon Health Division Measure 44 (Oregon Tobacco Control Program)	NF	S  Restaurateurs estimates of revenue  Community estimates of patronage	R	N	N	Majority of respondents reported no losses of customers or revenues. About 70% of all residents reported continuing to frequent the same bars after the ordinance.	N	Smokers who transferred their patronage to bars outside Corvallis have been offset by non-smokers	N	7 (S)  10.01  See also record 7 in Table 1
Douglas Community Health Improvement Project, 2001 [131]  Douglas County, Colorado	Smoke-free restaurants AR – Report by the Douglas Community Health Improvement Project (CHIP) CHIP	NF	S  Reported effects of being smokefree	R	N	N	Of the 15 restaurants who were smokefree 47% noticed no effect of being smokefree, 33% said a better environment and 20% indicated “other”.	N		N	39  12/01
Edwards, 2000 [121]  Nth East England, UK	Smoke-free areas in pubs, restaurants, cafes, hotels, cinemas and theatres AR – Report by the Newcastle University Department of Epidemiology and Public Health for North East Against Tobacco NEAT	NF	S  Proprietors opinions of impact on business	R	N	N	25% of businesses reported a boost in trade, majority a neutral effect. In pubs 58% reported an increase in trade.	N		N	40  10/01

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Location	Funding source indicated		Description		Type of analysis							
Engelen et al 2006 [48], same analysis reported in Farrelly et al 2005 [171] 2003, March 26 New York, New York US	Smoke-free workplaces including bars, restaurants, bowling facilities, taverns and bingo halls  CR – Research Triangle Institute International with Roswell Park Cancer Institute  Prepared for the New York State Department of Health	NF	S  Patron reports	R	N	N	Percentage of New York adults who report being more likely to visit a bar as a result of the CIAA increased slightly from 17.9% before the law in Q3 2003 to 22.4% in Q2 2004. I similar trend is seen with respect to restraint patrons (35.3% up from 26%).	N			N	146 (S)  11/07
Field Research Corporation, 1997 [106]  California	Smoke-free bars  GP – Report by Field Research Corporation for California Department of Health Services  CDHS	NF	S  Community intended choices of smoke-free bars, time spent in bars and patronage	P	N	N	77% would either prefer smoke-free bars or not be affected. 59% would not be affected by overall amount of time spent in bars, 27% would stay longer. 65% say patronage would not be affected, 22% are more likely to visit bars.	N			N	41  10/01
Field Research Corporation, 1998 [105]  California	Smoke-free bars  GP – Report by Field Research Corporation for California Department of Health Services  CDHS	NF	S  Community reports of bar patronage	P	N	N	85% of bar patrons reported the new law would not affect patronage or they would be more likely to go to a smoke-free bar.	N			N	42  10/01

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Hodges & Maskill, 2001 [132]  New Zealand	Smoke-free bars and restaurants  AR – Report to ASH, Smokefree Coalition and ATAK  ASH, Smokefree Coalition and ATAK	NF	S  Estimated overseas visitor numbers	P	N  Comparison of smoking rates from Overseas visitors to NZ smoking rates	N	Most visitors come from countries where male and female smoking rates are quite similar to, or only slightly higher than NZ. This suggests that NZ's inbound tourist market is dominated by non-smokers, most of whom are likely to support smoking bans or restrictions in restaurants and bars	N		N	43  12/01
Huron County Health Unit 1999 [122]  Huron County, Ontario Canada	Smoke-free restaurants  AR- Huron County Health Unit  Funded by Huron County Health Unit	NF	S  Restaurateur reports of effect on business	R	N  Odds ratios	N	Compared to restaurants that allow smoking in the restaurant, restaurateurs that do not allow smoking in the restaurant are 2.61 times more likely to report an increase in business. Compared to restaurants without a separately enclosed smoking section, restaurants that do have a separately enclosed smoking section or that are 100% smoke-free are 3.15 times more likely to report an increase in business.	N		N	85  02/02

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Hyland & Cummings 1999 c [118] 1995 April 10 New York City, New York	Smoke-free indoor dining area in restaurants with more than 35 indoor seats. Smoking permitted in separate bar areas of restaurants <i>JA – Journal of Public Health Management Practice</i> Robert Wood Johnson Foundation grant	NF	S Proprietor estimate of sales changes	R	Y Bi-variate association between being under jurisdiction of the smoke-free restaurant law and reported business decreases examined using Chi-square. Logistic regression to control for independent factors related to report of lost business.	Y	The presence of a smoke-free policy or lack of bar area was not associated with reports of decreased revenue.	N		Y	44 1/01
Hyland & Cummings 1999 d [108] 1995, April 10 New York City, New York	Smoke-free restaurants <i>JA – Journal of Public Health Management Practice</i> Robert Wood Johnson Foundation grant	NF	S Community reports of dining out behaviour	R	Y Logistic Regression models to identify variables associated with less dining out behaviour	N	78% of consumers reported dining out about the same, 14% dined out less frequently and 7% dined out more frequently. Higher income and typically dining at casual or fine dining places were each associated with a decreased likelihood of reporting any negative outcome.	N		Y	45 10/01

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Jones et al, 1999 [123]  1991 South Australia	Voluntary Code of Practice to provide at least a third of their restaurant as smokefree  <i>JA Tobacco Control</i> South Australian Health Commission	NF	S  Proprietor reports of effect of policy on business	PR	Y  Chi Square tests	N		There was a mismatch between expected consequences and the actual effects on business. Most restaurants with some provision for non-smokers (84%) or a total ban (78%) reported no effect on business or a gain in business. Losses reported were 6% and 11% respectively. Of those who had no provision, 33% believed it would have no effect or a gain and 47% thought it would lead to a loss.	N		Y	46  12/01
Lam et al, 1995 [109]  Hong Kong	Smoke-free restaurants UR – Report by Department of Community Medicine, University of HK Health Services Research Committee	NF	S  Community intentions to patronise more or less often	P	N	N		70% would choose a restaurant with a no-smoking area. 23% would go more often to restaurants with no-smoking area. If choice was available 65% would choose smoke-free restaurants when with children	N		N	47  10/01
Lund, 2006 and Lund and Lund 2006 [61, 62] June 2004 Norway	Smoke-free bars and restaurants  <i>UR – SIRUS Norwegian Institute for Alcohol and Drug Research</i>	NF	S  Customer reports of frequency of visits	R	N	N		Customer self reported visiting frequency seems unchanged	N	Contradicts other results of objective measures. See results in objective measures section.	N	113 (S)  7/05
Markham & Tong, 2001 [124]  1999 Western Australia	Enclosed areas of restaurants and cafes to be smoke-free. Smoking allowed in alfresco areas  AR – Report done on behalf of the Australian Council on Smoking and Health ACOSH	NF	S  Proprietors estimates of impact on business	R	N	N		64% of owners stated the regulations had a positive impact on business, 8% considered it to be negative and 28% observed no change.	N		N	48  10/01

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Location	Funding source indicated		Description		Type of analysis						
McGhee et al, 2002 [110]	Smoke-free areas in restaurants, cafes, bars and karaokes	NF	S	P	N	N	66% would not change their visiting rate to HK, 30% would come more often and 4% would make fewer visits and <1% would make no visits. The number who would not be affected by smoke-free policies in restaurants was similar to that in cafes 55 % - 58%, with 36%-39% saying they would visit more often and 5-6% less often. Weighted average change in spending in catering venues for all visitors is an increase of 19% with a range of 12% up to 25%.	N		N	91
Hong Kong	UR – Health Services Research Group, Department of Community Medicine, University of HK Health and Welfare Bureau of the Government of the Hong Kong SAR		Tourist reports of impact of visiting rate								06/02
Miller & Kriven, 2002 [111]	Smoke-free enclosed indoor restaurants and cafes	NF	S	R	N	N	The number who reported going out for coffee less often (2.7%) was outweighed by respondents who started going out for coffee more often (4.1%). 6.3% started dining out whereas they wouldn't have bothered before compared to 1.2% who stopped eating at restaurants completely. Overall over 90% said the ban had made no difference	N		N	93
1999	AR- Tobacco Control Research and Evaluation Unit		Community reports of changes to dining out practices								06/02
South Australia	Department of Human Services										
Miller & Kriven, 2002 [112]	Smoke-free bar and gaming venues	NF	S	P	N	N	Most said the ban would make 'no difference' (72% for bars; 93% for gaming areas) and more said they would go out more often (20% bars; 4% gaming) then said they would go less often (8% bars; 3% gaming).	N		N	94
South Australia	AR- Tobacco Control Research and Evaluation Unit Department of Human Services		Community predictions of changes to patronage								06/02

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Parry et al , 2001 [125]  1999 Staffordshire, UK	Smoke-free areas in pubs <i>JL- Tobacco Control</i>  Staffordshire Smoke-free Alliance	NF	S  Sales at each pub and income before the intervention from landlords	R	N	N	Monthly sales for 6 pubs do not indicate adverse effects. One pub showed a 10% increase on a similar period to last year.	N		N	49  11/01
Sciacca & Eckram 1993 [126]  1989, June Flagstaff, Arizona	Restaurants required to post signs reflecting one of the following policies (a) no smoking permitted in any area (b) smoking permitted only in designated areas (c) smoking permitted in all areas <i>JA – Journal of Community Health</i> Arizona Department of Health Services	NF	S  Proprietor opinion on effect of smoke-free policy on business	R	N	N	None of the restaurant respondents felt it had affected their business.	N		Y	50  10/01
Sciacca, 1996 [126]  1993, June Flagstaff, Arizona	Smoke-free restaurants <i>JA – Journal of Community Health</i> Center for Prevention and Health Promotion, Arizona Dept of Health Services	NF	S  Proprietor estimate of sales changes	R	N	N	15% believe ordinance has decreased business, 68% believe that it has increased or had no effect on business.	N	Actual sales data from Sciacca and Ratliff indicate no negative impact.[40]	Y	51  10/01

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Shapiro, 2001 [113] 2001, June South Africa	Separate smoking and non-smoking areas, the latter not exceeding 25% of floor space <i>ME – Business Day</i> Funded by ACNielsen	NF	S  Community reports of predicted eating out frequency	P	N	N	Just over half said the legislation would not alter their eating out habits, 23% said they would eat out less often and 24% said more often.	N		N	86 02/02
Stanwick et al, 1988 [127] 1983, Sept Winnipeg, Manitoba, Canada	Separate non-smoking sections in restaurants <i>JA – Canadian Journal of Public Health</i> Manitoba Interagency Council on Smoking and Health and Manitoba Jobs fund	NF	S  Proprietor estimates of sales changes in restaurants and retail shops	R	Y Chi-square tests	N	Less than 2% of merchants felt the bylaw had an adverse effect on their business, 96% indicated no effect.	N		Y	52 10/01
Styring, 2001 [42] 1999 Fort Wayne, Indiana	Smoke-free restaurants CR- Hudson Institute Smokefree Indiana and the Centers for Disease Control	NF	S  Customer estimates of patronage	R	N	N	68.9% said it made no difference to whether they would visit a restaurant, 16.4% said the ban made it less likely and 14.7% said it made no difference. More likely and less likely roughly cancel each other out and majority do not care either way.	N	Results are consistent with the first part of the report, examining objective tax data where no impact in sales was found	N	90(S) 06/02
Tang 2003 [114] 1998 California US	Smokefree bars <i>JA - AJPB</i>	NF	S	R	Y	N	Likelihood of visiting a bar or not changing patronage increased from 86% to 91%	N		Y	157

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The Conference Board of Canada 1996 [128]  Canada	Smoke-free restaurants CR – Report by the Conference Board of Canada Canadian Tourism Research Institute and the Custom Economic Services Group	NF, PTF  The Conference Board of Canada received a \$7,000 grant from Brown and Williamson in 1991 [188]	S  Cost/Benefit analysis based on -Gross and net sales before and after restaurant became smoke-free -reasons for change in sales -Construction costs related to the conversion -Maintenance and cleaning costs prior to the conversion -Productivity changes -Change in market share -Customer and employee satisfaction -Marketing and training	R	N	N	80% had a successful conversion. 74% reported no adverse effect on sales. Those reporting sales declines indicated other benefits such as increased employee and customer satisfaction, attracting a new customer base, resulting in them being pleased overall.	N	Limitation of this cost benefit analysis is ETS restrictions have a time dimension, many of the benefits come later.	N	53  10/01
TNS mrbi, 2004[115] 2003 Ireland	Smoke-free workplaces, all enclosed workplaces including bars and restaurants CR–Office of Tobacco Control Office of Tobacco Control, Ireland	NF	S  Community predictions of changes in patronage in pubs and cubs	P	N	N	Most said ban would make no difference to frequency of going out to eat (65%) or drink (64%). Among total population (smokers and non-smokers combined), 20% said they would eat out more frequently compared to 7% who predicted they would eat out less frequently. 13% predicted they would go out more to drink compared to 12% who predicted they would go out less.	N		N	110  11/07

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Location	Funding source indicated		Description		Type of analysis						
Thomson & Wilson 2006 [60]	Smoke-free restaurants and bars	NF	S	R	Y	N	Bar visits by smokers remained static, but bar visits by non-smokers increased markedly from 2004 to 2004, from 35.4 to 49.4% (95% CI 47.1-51.7).	N		Y	143 (S)
2004, December	<i>JA – BMC Public Health</i>		Reported visits to cafes and bars by non-smokers and smokers		Paired t-tests		Both reported smoker and non-smoker visits to cafes increased from 2004 to 2005 (smokers from 65.8% to 69.2% (95%CI: 65.6 to 72.8) and non-smokers from 65.5 to 73.4 (95% CI: 71.4 to 75.4)				11/07
New Zealand	Department of Public Health, Wellington School of Medicine and Health Science, University of Otago with funding from the Wellington Division of the Cancer Society of New Zealand										
Wakefield et al, 1999 [116]	Smoke-free restaurants	NF	S	P	Y	N	Overall 82% thought the ban would make no difference to their likelihood of dining out, 14% would be more likely to dine out and 4% would be less likely.	N		Y	54
1999, January	<i>JA – Preventive Medicine</i>		Patrons predictions of frequency of dining out		Chi Square						11/01
South Australia	South Australian Smoking and Health Project and the SA department of Human Services										
Van Walbeek et al, 2007 [129]	Smoke-free public places including restaurants	NF	S	R	N	N	Around 19% of owners felt that the policy had been associated with a decline in revenue, compared with 22% who said revenue had increased, and 59% who indicated no change	N	Independent restaurant owners were more likely to report being negatively affected compared with those working in franchise restaurants.		140
2001, implemented January, effectively from July	<i>JA – SAMJ</i>		Proprietor assessments of the effects of policy								11/07
South Africa	Grant from Research for International Tobacco Control at the IDRC, Ottawa, the American Cancer Society and the Canadian Tobacco Control Research Initiative										

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Yorkshire ASH 2001 [130]  Yorkshire, UK	Smoke-free restaurants and bars AR – Report by Yorkshire Ash Yorkshire Ash	NF	S  Proprietor estimates of effect on sales	R	N	N	Almost 2/3 (65%) of respondents thought trade had increased as a result of the no-smoking policy, 29% thought trade had increased 'a lot'. Only 5% thought trade had decreased 'a little', none thought it had decreased by 'a lot'. Eighteen out of 28 pubs (64%) thought trade had increased as a result of providing smoke-free areas. None thought it had decreased.	N		N	55  12/01
<b>Studies for which funding source is unknown</b>											
Economists Advisory Group Ltd, 1998 [133]  United Kingdom	Smoke-free restaurants AR – Report by Economists Advisory Group Ltd for the Restaurant Association of Great Britain <b>No Funding Source Stated</b>	UK	S  Proprietors estimates of effect on business and employee lay offs	P	N	N	1% thought turnover would increase by up to 20%, 39% believed there would be no change, 30% thought there would be a decrease of up to 20%, 24% thought there would be a decrease by more than 20% and 6% didn't know.	Y	The questionnaire was sent to all 922 RAGB members and 351 responded, giving a response rate of 38%.	N	56  12/01
Federation of Retail Licensed Trade, 2005 [134] Ban proposed in 2005 Northern Ireland	Smoke-free restaurants and pubs AR –Report by Federation based on its own survey of members No funding source stated	UK	S  Proprietors estimates of effect on sales	P	N	N	Only 1% thought sales would increase and 3% would expect more customers. In contrast 86% believe that their business would decrease and 84% thought that their customer numbers would decrease.	Y		N	126  11/07

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International Communication research [135] 2003, March New York City, New York US	Smoke-free indoor public places including bars and nightclubs CR – Survey results summarised by ICR for the Vintners' Federation of Ireland No funding source stated	UK	S Proprietor estimates of effect on sales	R	N	N	More than 3/4s of 300 managers/owners surveyed claimed that the ban had a negative effect on customer numbers and revenue. On average, respondents attributed 49% of an average 5% decline in staffing over the period.	Y	Results at odds with government data on sales revenue and employment [70]	N	132 11/07
PriceWaterhouseCoopers 2005 [136] 2002 November Delaware, USA	Smokefree gaming venues CR – Report for unknown client associated with Atlantic City	UK	S Adjustments and estimates based on proprietor interviews	R	N	N		Y	Little explanation of assumptions	N	158
Pubco, 2001 [137] 2001 Ottawa, Ontario, Canada	Smoke-free areas in bars and pubs AR – Report done on behalf of the Pub and Bar Coalition of Ontario No funding source stated.	UK	S Proprietor estimates of impact on sales and employee lay offs in September figures versus one year ago	R	N	N	On average sales down 22%. 77 employees have been laid off from 54 establishments	Y		N	57 11/01

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The Publican, [138] England, UK	Smoke-free bars ME – Quantum Business Media <b>No Funding Source Stated</b>	UK The Publican Newspaper supports the Atmosphere Improves Results (AIR) Initiative [189]. Market Report carries advertising. Survey questions are designed by an editorial board	S Proprietor estimates of loss of trade	P	N	N	On average pubs would lose around 41% of their custom if they were forced to ban smokers	Y		N	58 12/01

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Location	Funding source indicated		Description		Type of analysis							
<b>Studies conducted by organisations with some links to the tobacco industry</b>												
CCG Consulting Group, 1996 [139]	Smoke-free restaurants and bars	EC – weak UK	S	P	N	N		Annual revenues predicted to fall by between 8.8% and 12.2% . Closures of 660 to 915 establishments. Total employment impacts of average 8850 jobs. Decrease in annual purchases from other industries between \$85m and \$115m.	Y		N	59
Toronto, Ontario, Canada	AR – report by CCG Consulting group for the Hotel and Restaurant Employees Union, Ontario Hotel and Motel Association, Ontario Restaurant Association  The Hotel and Restaurant Employees Union, Ontario Hotel and Motel Association, Ontario Restaurant Association	CCG has done work for the Lower Mainland Hospitality Industry Group see entry below. The Canadian Tobacco Manufacturers Council has admitted providing around \$800,000 in 2000 to the Courtesy of Choice Program which hospitality industry groups may access for support and funds.[190] The Lower Mainland Group has since provided strategic advice to other hospitality groups [191]	Patron estimates of frequency of visits and spending levels		Ratios based on population, patronage frequency, spending levels  Aggregate expenditure							12/01

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Charlton Research Co, 1994 [140] ? 1993  Los Angeles, California	Smoke-free restaurants  AR - Report by Charlton Research Group for the Southern California Business Association  <b>No Funding Source Stated</b>	PTF, EC  Evidence of authors doing previous work for Philip Morris and collaborating in survey design [192]  The SCBA has ties with organisations known to work with the tobacco industry [193].	S  Proprietors opinions of impact on business	R	N	N	50% said smoke-free law has had an impact, of those 94% say it has decreased the amount of business. Average decrease is 24%.	Y		N	60  10/01
Masotti & Creticos [91]  1990  San Luis Obispo, California	Smoke-free eating and drinking establishments  UR - Northwestern University  <b>No Funding Source Stated</b>	STH  Masotti subsequently received hospitality from Philip Morris [179, 180]	S  Proprietors opinions of effect on business	R	N	N	Interviews did not reveal discernible effects stemming from the smoke-free policy	N ... but	Part 1 of the study compared taxable sales data. Overall the authors conclude a negative effect.	N	27 (S)  10/01  See also record no 27 in Table 1

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Date policy implemented	Report type* and Publisher		Objective/ Subjective ‡								
Location	Funding source indicated		Description		Type of analysis						
<b>Studies funded by tobacco companies or industry groups supported by the tobacco industry</b>											
Advantage Marketing Information, 1997 [150]	Smoke-free restaurants AR - Conducted by Advantage Marketing International for Rhode Island Hospitality & Tourism Association  <b>Funded by Philip Morris Accommodation Program Grant</b>	TF	S  Restaurant, bowling alley and hotel/motel proprietors estimates of impact on business, employee lay offs	P	N	N	More than 50% believed sales would decline. Of those, over half estimated a sales decline of over 20%. 47% believed layoffs would occur and 39% believed layoffs would not occur. 39.6% of mid-scale restaurant owners predicted that their restaurant revenue would "decrease a lot," 28.6% of upscale restaurant owners predicted the same and 16.9% of hotel/motel owners predicted this as well.	Y		N	61  10/01
Applied Economics, 1996 [151]	Smoke-free work places and public places GP - Report by Applied Economics, for Finance Department, City of Mesa.  <b>Funded by Philip Morris Accommodation Program Grant</b>	TF	S  Proprietor estimates of % change in sales, time of day of change in sales, estimates of employment impacts, predictions of sales impacts by suppliers	R	N	N	All but one business reported declines in sales. Restaurants generally down 25-35%, bowling alleys down 10-20%, pool halls down 30-40% hotel bar business down 40-50% for bars frequented by locals. Drop off in happy hour and late night crowd. People had been laid off and report declines in tips. Decline in sales by food and beverage suppliers.	Y	Only businesses that complained about the ordinance were included in the survey, yielding a heavily biased sample [12]  Appendices missing with the survey and respondent details.  Actual percentages or number of participants unclear	N	62  10/01
Auspoll –pm 2000 [142]	Smoke-free restaurants. Smoke-free eating areas in pubs and clubs MR - Report by Auspoll  <b>Funded by Philip Morris Australia</b>	TF	S  Community estimates of likelihood of patronizing	P	N	N	93% of respondents would be much more likely, more likely or it would make no difference in attending family restaurants This figure was 91% for licensed restaurants, 89% for hotel bars, 90% for hotel bistros, 89% for nightclubs, 91% for cafes, 91% for gaming clubs, 94% takeaway food shops	n/a	Author indicates caution advised in assuming any particular economic impact. Further research is necessary.	N	63  10/01

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Date policy implemented	Report type* and Publisher		Objective/ Subjective ‡								
Location	Funding source indicated		Description		Type of analysis						
CCG Consulting Group, 1995 [152]	Smoke-free restaurants and bars AR - report by CCG Consulting group for the Lower Mainland Hospitality Industry Group Lower Mainland Hospitality Industry Group	TO	S	P	N	N	As the average intensity of response to a ban is four times greater among smokers than non-smokers (who would spend a smaller amount), the net overall reduction in annual sales revenue would be \$104 million or \$69 million under two different sets of response assumptions. These declines, applied to 1991 census labour force data, and to 1990 Input-Output Model employment ratios, translate into four estimates of job losses in a range from a low of 1,937 to a high of 3,505, with a mean average of 2,733. Expansion of the hospitality sector in the interim period to 1995 would increase this number to close to 3,300.	Y		N	64 12/01
Vancouver, British Columbia, Canada		A tobacco industry organiser traveled to the province to help establish the group. The Canadian Tobacco Manufacturers have provided the group with ongoing strategic advice. [194] The Lower Mainland Group has since provided strategic advice to other hospitality groups [191]	Patron predictions of frequency of visits used to calculate annual spending, employment impact, impact on purchases								
Chamberlain Research Consultants, 1998 [153]	Smoke-free restaurants AR - Conducted by Chamberlain Research Team for the Wisconsin Restaurant Association <b>Funded by Philip Morris Accommodation Grant Program</b>	TF	S	P	N	N	63% said businesses would decrease if ban enacted, 72% said would decline by over 20%. 64% of restaurants would lay off employees, 40% of hotels/motels	Y		N	65 10/01
Wisconsin			Proprietor prediction of impact of smoke-free policy on business, employee lay offs								

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Decima Research, 1988 [143] Canada	Smoke-free public places MR - Report by Decima Research Inc <b>Funded by Imperial Tobacco Ltd</b>	TF	S  Community response when faced with having to compromise in the workplace or in public areas	P	N	N	Smokers did not consider switching jobs or patronizing a more receptive restaurateur as alternative actions.	N/a		N	66  10/01
Dunham and Marlow, 2000 [154] US	Separate non-smoking sections in restaurants  <i>JA – Contemporary Economic Policy</i>  John Dunham is described on the report Manager of Fiscal Issues, <b>Philip Morris Management Group</b>	TF	S  Proprietor estimates of sales changes.  Estimate of the probability that an owner with a given set of attributes predicts that smoke-free policies lower revenues	P	Y  Chi square.  Logit model – a qualitative choice model estimates the probability that an owner with a given set of attributes predicts that smoke-free policies lower revenues.	Y	6% of restaurant owners expect higher revenues, 39% expect lower revenues and 51% predict no change. Owners in smoking law states do not differ significantly from those in no law states. 2% of bar owners expect higher revenues, 83% lower revenues and 13% no change. Higher shares of non-smoking seating lower the probability that owners expect adverse revenue effects, chain members less likely to expect revenues to reductions, older firms more likely to expect revenue falls, bar owners more likely to expect revenues to fall than restaurant owners.	Y	The authors predict 38% of establishments will experience lower revenues, however aggregate revenue data based on sales taxes shows no such effect. Of the 32 states the authors claim restricted smoking in 1996, only 5 had specific requirements for the size of the nonsmoking section, and some preempt local ordinances. These errors in the assessment of state laws render their data meaningless. [195]	Y	67  10/01

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Dunham and Marlow, 2003 [168] Wisconsin, USA	Smoke-free restaurants and bars <i>JA</i> □ <i>Applied Economics</i> <b>Funded by Philip Morris Management Corp</b>	TF	S Proprietor estimates of predicted and actual changes in profits	P/R	Logit estimations of predicted or estimated change in profits	N	Smoking bans exert effects on profits with bars much more likely to experience profit losses than restaurants.		Authors fail to highlight the very low percentages of restaurants that introduce measures adversely affecting consumers or workers. They gloss over the fact that perceptions of negative effects are significantly lower among restaurant owners already subject to bans than among those anticipating them. They fail to report how long smoke-free policies have been in place for those restaurants that are subject to bans.	Y	153 02/08
KPMG, 2001 [158] Hong Kong	Smoke-free restaurants bars and cafes AR – Report by KPMG for the HK Catering Industry Association Funded by HK Catering Industry Association	TF The president of HK Catering Association, Tommy Cheung, admitted on a television interview that the tobacco industry provided this money [196]	S Customer predictions of change in patronage and spending	P	N	N	Receipts would fall by 10.6% in restaurants, bars, cafes and hotel food and beverage outlets	Y		N	89 06/02

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KPMG Peat Marwick , 1998 [159] 1998, January California	Smoke-free restaurants AR - Report by KPMG for the American Beverage Institute <b>Funded by a Philip Morris Accommodation Program Grant</b>	TF	S Proprietor estimates of sales changes, tips/gratuities, patronage, customer complaints	R	N	N	7% report business has increased, 59% report a decrease. Average decrease in sales was 26%. 59% indicated a loss in gratuities, 3% report an increase in weekday customers, 58% report a decrease, with an average decrease of 33%. 8% reported an increase in weekend customers while 51% report a decrease, with an average decrease of 28%. 65% indicate a loss of regular customers. 50% indicated an increase in customer complaints.	Y		N	68 10/01
Marlow, 1998 [160] United States	Smoke-free restaurants UR - Department of Economics, California Polytechnic State Uni <b>Study conducted for Philip Morris Management Corporation</b>	TF	S Proprietor estimates of expected revenue effects, expected effects on employment	P	N Extrapolation of predicted outcomes	N	82% of owners of bars and taverns predict revenues to fall, 2% predict a rise. Losses of 9% of restaurants jobs and 44% of bar & tavern workers. 44% of restaurants predict a lower overall revenues	Y	The analysis is based on a survey conducted in 1996 for the National Licensed Beverage Association, a major tobacco industry ally. Such surveys almost always show that people predict ill effects; the actual data on what happens has never confirmed these predictions.	N	69 10/01

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Marlow, 1999 [146]  1999, Sept Maine	Smoke-free restaurants and restaurant bars  UR - Californian Polytechnic State Uni  <b>Report funded by Philip Morris Management Group</b>	TF	S  Community predicted and reported estimates of patronage, time spent dining, purchasing of take-out food. Restaurateur predicted effects on revenues, wages and salaries, tips number of employees	P/R	N	N	80% of smokers have not lowered visits to restaurants, whilst 40% of smokers have. More than 50% of smokers spent less time dining per visit, while 22% of non-smokers increased time dining. Smokers purchased on average 45% more take-out food. Same number of venues reported gains and losses in revenue. Revenue gains averaged 8%, losses averaged 20%. 30% of bars report losses, 12% report gains. 12% of restaurant bars report lower wages, 6% report increases. 9% of restaurant bars report lower no. of employees, 4% reported higher. 13% of restaurants and 25% of restaurant bars report lower tips, 5% of restaurants and 6% of restaurant bars report higher tips	Y	Authors fail to mention that because there are only about 25% smokers, the drop in smokers visits and time spent in restaurants is offset by the number of non-smokers that have shown an increase.  The restaurant and bar revenue, employment, wage and tips figures are not supported by any official figures.	N	70  10/01
Martin Associates, 1999 [149]  Phoenix, Arizona	Smoke-free airport terminal concessions (businesses)  CR - Martin Associates  <b>Funded by Philip Morris Accommodation Grants Program</b>	TF	S  Amount spent on food by smokers v. non-smokers, alcohol spending, time and amount spent in smoking v non-smoking venues	P	N	N	Smokers spent more on food, alcohol, for business travelers smokers spend more time in a session, on average total food and beverage consumption is \$11.00 compared to \$10.90 in a non-smoking facility.	Y		N	71  10/01
Mason-Dixon Market Research, 1996 [161]  Washington, Maryland	Policy not stated  AR - Report for the Restaurant Association of Metropolitan Washington.  <b>Funded by Philip Morris USA</b>	TF	Proprietor estimates of impact on business	R	N	N	36% said their business had decreased, 4% said increased, 60% said it had no effect. 34% think they are losing customers to nearby states without restrictions	Y		N	72  10/01

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Penn & Schoen Associates Inc, 1995 [162]  April 10, 1995  New York City	Smoke-free restaurants  AR - New York Restaurant and Tavern Association  <b>Funded by Philip Morris USA</b>	TF [197]	Proprietor estimates of impact on business	R	N	N	63% say new smoking regulations are hurting their business, 8% say rules are helping and 27% say there has been no effect	Y		N	102  07/03
Price Waterhouse LLP, 1993 [163]  San Diego, California	Smoke-free workplaces.  AR - Report by Price Waterhouse sponsored by the San Diego Tavern and Restaurant Association  <b>Funded by Philip Morris Accommodation Program Grant</b>	TF	S  Proprietor and managers of estimates of effect on sales, potential impact on sales, jobs, compensation, business closings, sales tax and income tax	P	N	N	For eating and drinking establishments, 34% of those surveyed expect that a smoking ban would cause a decrease in sales; 55% expected no change in sales; and 6% thought sales might increase. For Hotels and other lodging places 54% of expected a decrease in sales; 45% t expected no change and 1.3% thought sales might increase. Of those who would expect a sales decline, the average expected decrease was 25%. This expected 25% decrease was then converted to \$ figures.	Y	These predicted impacts have not been substantiated by any study using objective data	N	73  10/01
Price Waterhouse LLP, 1995 [164]  1995, April  New York City	Smoke-free restaurants  AR - Report by Price Waterhouse for New York Restaurant and Tavern Association  <b>Funded by Philip Morris Accommodation Program Grant</b>	TF	S  Proprietor estimates of change in sales	R	N	N	41% said sales receipts were lower, 9% higher, 34% same. Of those reporting falls, 83% said they were more than 5% lower, and 52% said they were more than 15% lower	Y	Surveys conducted a month or less after the policy implemented. Studies based on objective data from New York City show no economic impact	N	74  10/01

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Ridgewood Economic Associates Ltd 2004 2003, April  United States	Smoke-free workplaces including restaurants and bras  CR – Ridgewood Economic Associates Ltd  Prepared for the New York Nightlife Association and the Empire State Restaurant and Tavern Association	PTF –see entry for Lilley and De Franco above	S  Projected impact on jobs, wages and gross state product seem to be based on an estimate of the extent to which the policy affected employment	P	N	N	The smoking ban resulted in losses of 2650 jobs, \$50m in worker earnings and \$71.5m in gross state product	Y	“Employment losses from the anti-smoking regulations are estimated by comparing two versions of industry employment <b>predictions.</b> ” ... The difference between these two estimates indicates that approximately 2,000 jobs (10.7%) of actual employment were lost in New York State last year.”	N	128  11/07
Roper Starch, 1996 [165]  United States	Proposed federal smoking ban  AR - Report by Roper Starch for the National Licensed Beverage Association (NLBA).  <b>Funded by Philip Morris Accommodation Program Grant.</b>	TF	S  Proprietor and manager estimates of effect on patronage, revenues, employment impact	P	N	N	58% predict smoking customers would come less often, 19% predict non-smokers would come more often. 50% predict smokers would spend less money, 9% said non-smokers would spend more. 39% expect lower revenues, 51% expect no change, 22% expect revenue loss of at least 11%. 66% expect no layoffs of employees; 24% expect at least one layoff.	Y		N	75  10/01

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Date policy implemented	Report type* and Publisher		Objective/ Subjective ‡								
Location	Funding source indicated		Description		Type of analysis						
Sollars & Ingram, 1999 [148]  1998, September 30  Boston, Massachusetts	Smoke-free restaurants but smoking allowed in bar areas of restaurants  AR - Report sponsored by the International Society of Restaurant Association Executives and  <b>funded by Philip Morris Accommodation Program Grant</b>	TF	S  Community estimates of patronising restaurants and bars, estimates of patronising restaurants and bars outside the city of Boston, estimates of frequency of purchasing takeaway food, estimates of patronising smoke-free and smoking permitted restaurants, estimate of time spent dining, estimate of average size of restaurant bill.  Proprietor estimates of expected and actual dollars spent making changes to bar facilities.  Proprietor estimates of changes in total wages, number of people employed, Proprietor estimates of amount of gratuities received.	P	N  Change in demand = % of sample spending money x  sample population x av. annual expenditure x  average % change	N	Estimates \$40million lost restaurant sales, \$2million bar sales. Smoke-free restaurants should experience an increase of \$23.6 million. In smoking permitted restaurants sales revenue expected to drop by \$36million.  An average of \$1558.33 spent on making changes to their facilities. In restaurant bars there was an estimated 14% drop in liquor sales, 6% decrease in wages paid to employees, average decrease in employment of 3 people per restaurant bar and tipping decreased by 15%. In restaurants, an estimated decrease in restaurant revenue of 5%. 22 % of total estimated decrease in employment attributable to the smokers ban and estimated decreased in tipping of 10%.	Y		N	76  10/01

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The Craig Group Inc, 1998 [166] West Virginia	Smoke-free restaurants and taverns AR - The Craig Group Inc for the Club Association of W. Virginia an affiliate of the NLBA <b>Funded by Philip Morris Accommodation Grant</b>	TF	S Proprietors opinions of future impacts on business	P	N	N	59% believe smoking customers would spend less money, more than 30% thought it would make no difference and less that 2% thought attendance would increase	Y		N	77 10/01
EMRS 2001[155] September 2001 Tasmania, Australia	Smoke-free licensed premises including where food is served MR – Enterprise Marketing and Research Services Australian Hotels Association	TO The AHA website lists Philip Morris and British American Tobacco (BAT) as sponsors [198]. Both Philip Morris and BAT provided funding to assist in compilation of information used by the AHA to oppose the legislation [199].	Proprietors opinions of effect on business	R	N	N	54% believed the smoke-free policy had an effect on business. 31% report an increase in sales from their bottle-shops compared with the same period last year, 17% say sales have fallen, 13% report no change. 49% reported falling sales, 20% reported rising sales, 28% said no change. 48% report a decrease in customers, 21% report an increase and 21% say no change. The majority of the 38% who changed their staff have reduced employment	Y	Included as events that also affected hoteliers' business in September were the collapse of Ansett Airlines (71%), the attack on the World Trade Centre (34%) and the meningococcal scare (24%)	N	84 03/02

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The Eppstein Group, 1997 [167] Texas	100% smoke-free indoor public places AR - The Eppstein Group, Sponsored by Texas Restaurant Association <b>funded by Philip Morris Accommodation Program Grant</b>	TF	S Restaurant, bowling alley and hotel/motel proprietors' predictions of impact on business, employee lay offs	P	N	N	24% said business would decrease a lot, 28% said it would decrease somewhat, 54% said business would decrease by 20% or more., 56% would have to lay off employees.	Y		N	78 10/01
Fabrizio, McLaughlin and Associates, 1995 [144] United States	Smoke-free restaurants AR – Report by Fabrizio, McLaughlin and Associates, for the National Smokers Alliance <b>No Funding Source Stated</b>	TO Documents from Philip Morris reveal a letter from the president of the NSA to the legal dept of PM in 1994 with its budget and operating plans [200]. PM were receiving weekly meeting reports from NSA[201]	S Smokers predictions of frequency of dining out, change in spending	P	N	N	Nearly two-thirds of these adult smokers (64.0%) state that they would dine out less often if smoking were banned at restaurants and taverns in their community. More than eight in ten of those smokers (82.6%) who currently only dine in restaurants where smoking is allowed say they would dine out less frequently. Among those who say they would dine out less often, they claim their spending would be cut by g 75% (Mean = 75.12%). 33.0% state that they would stop dining out altogether.	Y		N	79 12/01

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Date policy implemented	Report type* and Publisher		Objective/ Subjective ‡								
Location	Funding source indicated		Description		Type of analysis						
Fabrizio, McLaughlin and Associates, 1996 [156] 1995, April New York City	Smoke-free restaurants AR – Report by Fabrizio, McLaughlin and Associates, for the National Smokers Alliance <b>No Funding Source Stated</b>	TO  Documents from Philip Morris reveal a letter from the president of the NSA to the legal dept of PM in 1994 with its budget and its operating plans [200] PM were receiving weekly meeting reports from NSA[201]	S  Restaurateurs estimates of effect on sales, employee lay offs.	R	N	N	Of the operators in the current survey who have experienced a decrease in sales the average revenue loss was 19.9%. This represents an increase from the 16.3% mean in the Sept 1995 survey. Only 4.7% of restaurateurs stated that their sales had increased since the smoking ban went into effect. Among these restaurateurs, the average revenue increase was 11.2%. Among the restaurateurs whose sales have declined, 45.8% state that they have been forced to lay off employees This represents a slight increase over the 42.4% in the Sept 1995 survey.	Y		N	80  12/01
Gambie, 1991 [157]  1991 Bellflower, California	Smoke-free restaurants AR - Paper has been used by the California Restaurant and Business Alliance. <b>No Funding Source Stated</b>	TO  The PR firm, the Dolphin Group, was paid by Philip Morris and reported to the Tobacco Institute. CRBA is operated by the Dolphin Group[202, 203]	S  Owners' and managers' opinions of effect on business	R	N	N	Average decline in customer volume 31%. Average decline for restaurants serving alcohol 34%	Y	Non-random survey with 33 responses. Many of the opposing restaurateurs worked with CBRA to oppose ordinance. Findings were presented to the Bellflower City Council by a representative from RSVP [204]	N	81  10/01

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Date policy implemented	Report type* and Publisher		Objective/ Subjective ‡								
Location	Funding source indicated		Description		Type of analysis						
KPMG Barents Group LLC, 1997 [145] Spain	Smoke-free Hotels, restaurants and cafes CR- Barents Group Spanish Federation of Restaurants Cafes and Bars	TO Spanish Federation of Restaurants Cafes and Bars signed a proposed program of joint action with Philip Morris The agreement states 10 million pesetas were to be paid in 1995[205].	S  Patrons predictions of dining out and spending	P	N	N	Loss of sales of 7% in restaurant sector, direct revenue loss expected to be 154, 000 million pesetas.	Y		N	97 09/02
National Restaurant Association 1993 [147] United States	Smoke-free restaurants AR - National Restaurant Association <b>No Funding Source Stated</b>	TO Evidence of R J Reynolds Tobacco Company, Philip Morris and the Tobacco Institute were working "in partnership" with the National Restaurant Association [182, 183]	S  Community reports of predicted eating out frequency,	P	N	N	73% said a ban would have no impact on frequency of dining out, 16% said they would eat out less often & 10% said more often.	Y		N	82 10/01

### Notes associated with these tables:

Report type (AR = report published by a hospitality industry of public health advocacy group; CR = Report published by a consultant or consultancy company; GP = Government publication; JA = article in a peer-reviewed journal; JL = letter in a peer-reviewed journal; ME = Media report, MR = Report produced by a market research company; UR = report produced by a University)

† Financial relationship with tobacco industry (NF = Funding source other than tobacco industry specified, TF= funded by the tobacco industry; TO = funded by organisations in receipt of financial support from the tobacco industry); EC = Funding source not disclosed and not discovered, but evidence of collaboration with the tobacco industry; PTF = previous work funded by tobacco company; STF = subsequent work funded by a tobacco company; UK = Unknown

‡ Objective v. Subjective measure (O = objective or actual data, S= subjective or survey data)

§ Statistical analysis to test significance and control for trend and fluctuation in the data (Y = Yes, N = No)

|| Control for economic trends (Y = Yes, adequate control or adjustment for economic trend; N = No control or inadequate control or adjustment for economic trends)

¶ -ve Impact- Negative Impact found N = No (desired result), Y = Yes (i.e. an adverse effect). N/a = data presented, but no conclusion drawn.

\*\* Peer Reviewed? (Y = Yes, N = No).

1. A number of studies relevant to the issue of the economic impact of smoke-free policies in the hospitality industry were examined but not included in the tabulations. Studies by Reeder [206], Ross et al [207] and the Health Sponsorship Council [208] examining opinions of restaurateurs and hoteliers about the likely impact of policies were excluded because these were not attempting to quantify the likely impact of bans, but merely to scope the extent of concerns and misconceptions among proprietors.

A study by Chapman et al [209] was excluded because, while staff and proprietors about the perceived impact of policies in the first week of operation, their perceptions were collected and interpreted as a measure of the smoothness of implementation rather than as an indicator of the likely economic impact of the policy.

Numerous studies have assessed public opinions about smoke-free policies. These have showed very high levels of support for such measures, increasing over time and following introduction of policies. These were excluded except where the study included a question asking specifically whether people would attend venues more or less frequently were such policies to be introduced.

Several media releases were located that included estimates of likely or actual changes in sales or employment levels. In each case, attempts were made to locate reports on which such releases were based but, in no case was further information obtained. For instance, the Hospitality Association of New Zealand refused to provide a copy of a survey of members, results of which had been reported in the media.

### Acknowledgement:

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