

# Smoke Free Europe makes economic sense

A report on the economic aspects of smoke free policies

By the Smoke Free Europe partnership

*Manuscript completed in May 2005*

This report was financed by and prepared for the use of Cancer Research UK, the European Cancer Leagues, the European Heart Network, Ligue Nationale Contre le Cancer and the European Respiratory Society.

For enquiries and sales, please contact: European Respiratory Society Brussels Offices, 39-41 rue d'Arlon, B-1000 Brussels, Belgium. Tel: +32 2 233 38 76; Fax: +32 2 233 38 80; E-mail: [ersinfo.brussels@ersnet.org](mailto:ersinfo.brussels@ersnet.org)

ISBN 1-904097-52-9

© 2005 ERSJ Ltd.

Reproduction is authorised, except for commercial purposes, provided the source is acknowledged.

*Printed in Belgium*

# Contents

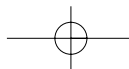
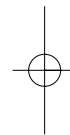
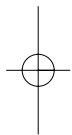
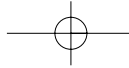
Key points.....	5
-----------------	---

## Chapter 1

Economics of smoke free policies.....	7
1.1. Introduction.....	7
1.2. Economic rationale of smoke free interventions.....	7
1.3. Impact of smoke free policies on the demand for tobacco.....	7
1.4. Economic benefits of smoke free policies.....	12
1.5. Costs of smoke free policies.....	15
1.6. Cost-effectiveness of smoke free policies.....	17
1.7. Conclusions.....	19
References.....	21

## Chapter 2

Economic impact of a smoking ban in bars and restaurants.....	27
2.1. Introduction.....	27
2.2. The literature on the economic impact of a smoking ban in bars and restaurants.....	27
2.2.1. <i>An article reviewing the literature</i> .....	27
2.2.1.1. Results of the review.....	28
2.2.2. <i>The effect of the smoking ban in British Columbia</i> .....	29
2.2.3. <i>The effect of the smoking ban in New York</i> .....	31
2.2.3.1. Bar and restaurant tax receipts in New York.....	32
2.2.3.2. Bar and restaurant employment in New York.....	32
2.2.3.3. Bar and restaurant openings and closings in New York.....	33
2.2.4. <i>The effect of the smoking ban in Ireland</i> .....	33
2.3. Drinking trends in Europe.....	35
2.4. Restaurants, bars and catering in Europe.....	38
2.5. Conclusions.....	41
References.....	44



## Key points

- Research evidence demonstrates that **smoke free policies reduce tobacco consumption.**
- By **reducing the demand for tobacco**, smoke free policies will **reduce both private and social costs** associated with smoking.
- The **benefits of smoke free policies are particularly notable in the private sector of the economy.** The savings come from several sources: **reduced insurance costs; increased productivity** among those who quit smoking and among workers no longer exposed to second-hand smoke; **lower hiring costs** due to a reduced need to replace labour lost due to tobacco-related morbidity and mortality; **lower building maintenance costs**, and **savings due to reduced employers' liabilities** for the impact of second-hand smoke exposure on workers, and for compounding effects of second-hand smoke on workers exposed to other toxins in the workplace.
- The **long-term benefits** of smoke free policies are reduced **mortality and morbidity** due to limiting exposure to second-hand smoke and due to the impact of these policies on smoking prevalence (both quitting and initiation). This will **enhance countries' human capital, leading to further economic growth.**
- The evidence overwhelmingly supports the fact that **smoking bans benefit public health with no negative economic impact.**
- **Tobacco companies** have **always claimed that a smoking ban in bars and restaurants would have a negative impact on business** and lead to fewer sales and to less employment.
- **Independent and reliable research** on the financial impact of smoke free policies in the hospitality industry **provides evidence that counters the tobacco industry's economic claims.**
- A review of almost 100 studies from Canada, UK, USA, Australia, New Zealand, South Africa, Spain and Hong Kong, failed to find a **negative impact or a positive effect in studies based on objective and reliable measures**, such as taxable sales receipts, data several years before and after the introduction of smoke free policies, where

controls for changes in economic conditions were employed, and where statistical tests were used to control for underlying trends and data fluctuations.

- **In New York**, for example, one year after the 2003 Smoke Free Air Act banning smoking in all workplaces came into effect, **business receipts** for restaurants and bars **had increased by 8.7%**, **employment had risen with 10,600 new jobs**, virtually all establishments were complying with the law, and the number of new liquor licenses issued had increased, **all signs that New York City bars and restaurants are prospering.**
- The volume of sales in bars in Ireland increased until 2001, but decreased by 2.8% in 2002, 4.2% in 2003 and 4.4% in 2004. Prior to the Irish law banning smoking in the workplace (including bars and restaurants) which came into force in 2004, drinking habits in Ireland had already changed. **As in British Columbia, the decline in the volume of sales at drinking places in Ireland occurred prior to the enactment of the smoking ban.**
- Drinking habits are changing within Europe, as per capita alcohol consumption is decreasing and more people are drinking at home. Many factors may influence the sales of the hospitality industry. The number of drinking places in countries is, for instance, decreasing in several European countries. **The decrease in the number of bars has been linked to the changing drinking habits (less alcohol intake and more drinking at home), the price of the drinks, the closure of bars and cafes in small villages and the shift from drinking places to places which also serve food.**
- **In Ireland the number of employees in the hospitality sector at the end of 2004 exceeded those employed in 2002 by 0.6%** despite the smoking ban taking effect in all indoor public places in March 2004. Recent data on tourism and travel shows that there was a **3.2% increase in visitors to Ireland in 2004 when compared to 2003.**

# I Chapter

## Economics of smoke free policies

**Hana Ross**

*Research economist, Research Triangle Institute, Research Triangle Park, North Carolina, USA*

### 1.1. Introduction

There are two economic rationales for smoke free policies: 1) to protect non-smokers from the dangers of second-hand tobacco smoke exposure; and 2) to discourage smoking, a behaviour that is a source of market inefficiency imposing economic costs on individuals and businesses. Numerous studies have concluded that comprehensive smoke free policies lead to significant reductions in smoking prevalence and average cigarette consumption among continuing smokers. These policies are cost-effective and the potential cost of their enforcement is often reduced by self-enforcement.

### 1.2. Economic rationale of smoke free interventions

Smoke free policies explicitly transfer "ambient air" property rights from smokers to non-smokers<sup>1</sup>. Smoke free policies can be used by governments to protect non-smokers from harm associated with second-hand smoke and to reduce tobacco consumption. They belong to the category of interventions effecting the demand for cigarettes by increasing the price of smoking. Policies related to cigarette taxes or information dissemination also belong to this intervention category. Smoking restrictions in public places may also send a subtle and consistent message to smokers that smoking is not socially acceptable.

### 1.3. Impact of smoke free policies on the demand for tobacco

There is plenty of research evidence on the effectiveness of smoke free policies: restrictions on smoking in public places and private or government workplaces not only reduce exposure to second-hand smoke, they also reduce smoking prevalence (though cessation and lower initiation) and average daily

cigarette consumption among smokers. In addition, these policies increase quit attempts and intensify quit intentions among current smokers, thus increasing the probability of future successful cessation. Apart from this direct impact of smoke free laws and restrictions, they also have an indirect effect: they convey the message to the public that smoking is a socially undesirable behaviour. This results in less peer pressure to smoke, which leads to further reduction in cigarette consumption by reducing the utility of smoking behaviour. The impact of smoke free policies is greater as they become more restrictive and comprehensive. However, the complex interaction of social forces and the impact of parallel regulatory policies (e.g. when smoke free policies are implemented at or around the time cigarette excise tax is increased) make it difficult to isolate the true impact of clean indoor air laws on smoking behaviour<sup>2</sup>.

Population studies from the USA have found that per capita cigarette consumption was between 5 and 20 per cent lower in states with comprehensive clean air laws compared with states that did not enact these laws<sup>3</sup>. Another study<sup>4</sup> concluded that smoke free laws significantly reduced per capita cigarette consumption, with greater reductions resulting from more comprehensive restrictions. The study predicted that consumption decreased by 4.8 packs per person per year in states that had adopted clean indoor-air laws.

Studies focusing on smoking prevalence and smoking cessation in the USA<sup>5,6</sup> have concluded that states with extensive clean air laws had at least 10% lower prevalence rates. In addition, these states also had 12% higher rates of former to current smokers<sup>5</sup> and 38% higher 6-month cessation rates<sup>7</sup>. Smoke free policies also change smoking behaviour among youths and young adults. Research indicates that relatively strong smoking restrictions in public places reduce smoking prevalence among young people, decrease average cigarette consumption and increase the probability of smoking cessation among young smokers<sup>8, 9, 10, 11</sup>.

Several studies have examined the differential impact of smoke free policies on specific socio-demographic groups. A USA study found more prominent effects of smoking bans on males and on those aged 25-44 years<sup>6</sup>. Another study concluded that smoking restriction in private worksites increased the probability of smoking cessation among employed young adult females<sup>12</sup>. Using results from a national survey in the USA Farrelly *et al.*<sup>13</sup> suggested that these restrictions have a smaller impact on smoking rates among low income populations and among those aged 18-24 years compared to those aged 40-65 years<sup>13</sup>.



## Economics of smoke free policies

When evaluating the impact of smoke free policies, it is important to take into account the possible relationship between these policies and local anti-smoking sentiment and/or the local level of tobacco consumption. One study<sup>14</sup> found that the adoption of various smoke free policies was related to cigarette sales: localities with low levels of cigarette sales were more likely to adopt relatively comprehensive smoke free policies. This result is consistent with two other studies<sup>15,16</sup> which reported that regions where smoking is less prevalent are more likely to pass smoke free policies.

The impact of formal policies limiting or banning smoking in the workplace has also been the subject of many studies. Reports based on the experience of particular industries suggest that the quantity smoked by workers decreases in the range 5-25%, and that smoking prevalence falls between 0-20%<sup>17</sup>. Population studies have also found reductions in quantity smoked, but the impact on prevalence is less consistent. A study<sup>18</sup> evaluating the impact of workplace health-promotion programmes between 1968-1994 in the USA found that workplace smoking restrictions were successful in reducing both smoking in the workplace and exposure to second-hand smoke. However, the study did not find any impact of the restriction on smoking prevalence among workers. A study from Australia<sup>19</sup> concluded that a smoking ban across the entire Australian Civil Service reduced cigarette consumption among smokers by 5.2 cigarettes per day but did not significantly affect smoking prevalence. On the other hand, three studies<sup>20,21,22</sup> reported that quit rates were about 10-15% higher in firms with bans. Following the implementation of a national smoke free law in Finland, smoking prevalence and the number of cigarettes smoked per smoker declined by 16-17% in firms previously without bans<sup>23</sup>.

There might be a difference between short- and long-term impacts of smoke free policies in the workplace. Studies measuring the long-term effect of smoke free policies found that quit rates increased over time. For example, the quit rates of workers were more than double in hospitals during the 6 years following a ban, compared to those in hospitals without bans<sup>24</sup>. Another study examining the effect of workplace smoking bans in the USA<sup>25</sup> employed more sophisticated methodology that allowed controlling for the possibility that workers can self-select themselves to their preferable smoke-regulated environment. This study found that workplace smoking bans reduced smoking prevalence by 4-6% and also reduced average daily cigarette consumption among smokers by 10%. Furthermore, the authors of the study found that workplace smoking bans had the largest impact on workers who worked

longer hours, and the smallest impact on part-time workers. The study also examined the possibility that workplace smoking bans might impose economic costs on firms, if talented workers who smoke leave the company to work in places with less strict smoking policies. It did not find any evidence that workers would self-select themselves according to their smoking status.

There is a larger impact from complete smoking bans compared to partial smoking restrictions. A study in the USA<sup>26</sup> found that smoking prevalence among indoor workers decreased by 2.2 percentage points and smoking intensity decreased by 1.6 cigarettes among those who still continued to smoke after the policies restricting smoking were introduced in the workplace. On the other hand, places banning smoking completely recorded 4.0 percentage points decline in smoking prevalence, almost double the impact on prevalence compared to partial restrictions, and a 1.9 cigarette decrease in smoking intensity among those who continued to smoke.

A 2002 review of 26 studies<sup>27</sup> concluded that complete smoking bans in workplaces reduce prevalence of smoking by 3.8% and smoking intensity by 3.1 cigarettes per day among continuing smokers. This represents about a 29% decline in the demand for cigarettes among workers exposed to these complete bans, saving 4,800 lives in the UK<sup>28</sup> and about 6,550 in the USA every year<sup>a,29</sup>. To achieve similar reductions by higher cigarette taxes, the smokers in these firms would have to be exposed to a 73% price increase assuming a price elasticity of cigarette demand of -0.4. For the USA, this would mean increasing its 2002 average cigarette tax from \$0.76 to \$3.05 per pack. The UK would have to increase its 2002 cigarette tax from £3.44 to £6.59 to achieve this reduction in cigarette demand. If all workplaces became smoke free, consumption per capita in the entire population would drop by 4.5% in the USA and 7.6% in the UK. The same effect could be achieved by a relatively smaller tax increase (from \$0.76 to \$1.11 in the USA and from £3.44 to £4.26 in the UK), because taxes also affect smokers who work at home, outdoors, or who are out of the labour force.

Smoke free workplaces encourage workers to make quit attempts and strengthen the intention to quit smoking. Smokers who made a quit attempt and worked in a smoke free workplace were more likely to have achieved successful cessation than those who did not<sup>21</sup>. Total smoking bans are also

<sup>a</sup> Based on extrapolation by the author using the original article, Fichtenberg and Glantz<sup>27</sup> and Warner<sup>29</sup>.

## Economics of smoke free policies

associated with increased intentions to quit, both in the short term and long term<sup>30</sup>. Employer-provided smoking cessation programmes can assist in these efforts and further reduce the prevalence and intensity of smoking<sup>26</sup>. On average, 23.8% of employers in the USA provided smoking cessation programmes between 1992 and 1996. Workplaces that had a 100% smoke free workplace policy were 10.1 percentage points more likely to have smoking cessation programmes to assist employees who want to quit smoking than those with less restrictive policies.

Even though there is some discussion regarding the substitution between smoked and oral tobacco and the smoke free policies, a study published in the USA found that laws restricting smoking in workplaces or other public places discourage both cigarette and snuff use, though the results were less consistent for snuff<sup>31</sup>.

Complete smoking bans at work increase the probability of banning smoking in the home. For example, workers in firms with 100% smoke free policies were 7.7 percentage points more likely to restrict smoking in their homes<sup>26</sup>. In addition, employer-provided smoking cessation programmes are also associated with a 1.6 percentage point increase in the likelihood of having a home smoking restriction<sup>26</sup>. Smoking restrictions at home will reduce the exposure of children to second-hand smoke. In addition, adolescents living in smoke free households have a 26% lower risk of smoking initiation and a 1.8-times better quit rate compared to adolescents living in households without smoke policies<sup>32</sup>.

A study examining smoking behaviour among students in Wales<sup>33</sup> found that both daily and weekly smoking prevalence were lower in schools where pupils' smoking restrictions were always enforced. These findings were confirmed by a USA study<sup>34</sup> which showed that school smoking bans could only slow down smoking uptake among high school students if these bans were strongly enforced. The findings of these studies suggest that the wider introduction of comprehensive school smoking policies in schools that are enforced may help reduce teenage smoking.

Smoke free policies, both in public places, private workplaces and at home reduce levels of second-hand smoke exposure<sup>2,35</sup>. Workplace smoking bans can be particularly effective in this respect since most exposure to second-hand smoke for nonsmokers occurs in the workplace<sup>36</sup>. However, their effectiveness will depend on how easily they may be circumvented by the smoker<sup>37</sup>. Studies have found that companies or restaurants allowing smoking only in designated areas have substantially smaller effects on smoking behaviours than smoke free sites<sup>1,3,22,38</sup>.

The impact of newly adopted smoke free laws will depend on the percentage of the population already covered by private restrictions<sup>39</sup>. However, smoking rates among this group may still be reduced if the new law is stricter and more comprehensive compared to the previous regulations and if the enforcement changes public norms and thereby increase compliance.

#### I. 4. Economic benefits of smoke free policies

By reducing the demand for tobacco, smoke free policies will reduce both the private and social costs associated with smoking. The long-term impact of these policies will be a better economic performance of the whole economy.

The benefits of smoke free policies are particularly notable in the private sector of the economy. The savings come from several sources: reduced insurance costs (there is a higher insurance cost for smokers, including insurance for health, fire<sup>b,40</sup>, accident and life insurance), increased productivity among those who quit smoking and among workers no longer exposed to second-hand smoke (time saved on smoking breaks and absenteeism), lower hiring costs due to a smaller need to replace labour lost due to tobacco-related morbidity and mortality, lower building maintenance costs, and savings due to reduced employers' liabilities for the effect of second-hand smoke exposure on workers and for compounding effects of second-hand smoke on workers exposed to other toxins in the workplace<sup>41</sup>.

A study from Scotland<sup>42</sup> estimated that not having smokers in the workplace would save all Scottish employers between €437 million and €652 million (in 1997 figures) that they are currently losing due to productivity loss (the loss is between €380 million and €595 million), higher rates of absenteeism (the loss is about €52 million) and due to fire damage (about €5 million loss). This represents 0.51% to 0.77% of Scottish GDP<sup>c</sup> in 1997.

A study from Ireland<sup>43</sup> investigated the costs of smoking in the workplace. It looked specifically at: the excess absenteeism arising from smoking-related

<sup>b</sup> The US Building Owners and Managers Association views smoking as the major cause of fires in office buildings<sup>40</sup>.  
<sup>c</sup> Author's calculation based on Scottish Economic Statistics 2002 at: <http://www.scotland.gov.uk/stats/ses2002/ses2.pdf> and the exchange rate from <http://www.federalreserve.gov/releases/g5a/19980105/>

## Economics of smoke free policies

illness, loss of productivity among smokers, and costs associated with premature mortality and morbidity associated with smoking. The costs that could have been avoided in Ireland if no employees smoked amounted to €1,237-1,886 million, or 1.1-1.7% of Irish GDP in 2000. The study did not consider the costs of excess cleaning or higher insurance premiums. Therefore these potential savings represent a conservative estimate.

A study from Canada calculated some of the costs associated with employing a smoker as compared to an otherwise similar non-smoker, taking into account four cost factors: increased absenteeism, lost productivity, increased life insurance premiums and smoking area costs. The increased absenteeism due to smoking (about 2 days) results in a cost of about \$230 per smoking employee every year<sup>d</sup>. The decreased productivity due to smoking in non-break periods cost an employer about \$2,175 per smoking employee per year. The costs of higher life insurance premiums were about \$75 per smoking employee annually (long-term disability, medical and dental health insurance premium not included). The cost of constructing and maintaining a separately ventilated smoking area is estimated to be \$65 per smoking employee annually. With annual cleaning costs of about \$20, the total cost for the smoking area is estimated to be \$85 per smoking employee annually. Thus, the total saving for employing a non-smoker versus a smoker amounted to \$2,565 per year (table 1).

Table 1: The annual cost of employing smokers (1995 \$ per employee)

Cost factor	Cost
Increased absenteeism	\$230
Decreased productivity	\$2,175
Increased life insurance premiums	\$75
Smoking area costs	\$85
<b>Total</b>	<b>\$2,565</b>

Source: Conference Board of Canada, 1997<sup>d</sup>.

<sup>d</sup> In 1995 Canadian \$.

The US Congressional Office of Technology Assessment estimates that each of the ~15 million employed smokers in the USA cost their respective employers between \$2,000 and \$5,000 annually in higher healthcare and fire insurance premiums, higher absenteeism, lower productivity and property damage<sup>29</sup>. Applying an effectiveness of 3.8% reduction in smoking prevalence from a systematic literature review<sup>27</sup>, the introduction of smoke free policies in all workplaces that currently don't have these policies could save the USA between \$1,140 million and \$2,850 million per year<sup>e</sup>.

A recent analysis<sup>45</sup> investigated the health and economic effects of making all workplaces in the USA smoke free for 1 year. The researchers estimated that this measure would result in about 1.3 million smokers quitting their habit, decreasing cigarette consumption by more than 950 million cigarette packs in a year in the USA. The health benefits accounting only for cardiovascular diseases would result in about 1,500 fewer myocardial infarctions and 350 fewer strokes. The direct medical cost savings would be almost \$49 million. If the smoke free policies continued even after their first year of introduction, the health benefits would amount to 6,250 fewer myocardial infarctions and 1,270 fewer strokes per year in the long run. The saved direct medical costs from these two cardiovascular diseases would be \$224 million annually. Reductions in passive smoking would account for a majority of these savings, about 60% of the costs of myocardial infarctions.

Another study<sup>46</sup> estimated the health and economic impact of the proposed smoke free law in Florida that would ban smoking in all workplaces except for bars and private residences. At the time when the proposal was made (1999), Florida already had 68% of its indoor workers protected from passive smoking. The analysis concluded that in the first year after its implementation, Florida would have 1.5 million fewer people exposed to second-hand smoke and 103,000 fewer smokers. This would result in savings of \$12 million in medical costs, consisting of \$9 million in direct medical cost savings from prevention of cardiovascular diseases, \$2 million in saving from prevention of low birth-weight infants, and \$1 million saved from prevention of excess respiratory illnesses in children aged 0-5 years. Over time, this policy initiative would prevent 2,100 premature deaths and 700 low birth-weight infants. Therefore, the long-term impact would represent \$200 million in healthcare savings, consisting of \$185 million from ex-smokers and at least \$15 million from

<sup>e</sup> Calculation provided by the author.

## Economics of smoke free policies

reduced exposure to second-hand smoke. These estimates did not take into account any population growth, which would result in additional benefits from these policies.

Healthcare costs can also be reduced by limiting children's exposure to second-hand smoke. A World Health Organization report concluded that annual healthcare costs attributable to children's involuntary exposure to tobacco smoke in the USA are approximately US\$ 1,000 million (in 1997 US\$)<sup>47</sup>.

The benefits of smoke free policies will be even more profound in the long term. Reduced mortality and morbidity due to limiting exposure to second-hand smoke and due to the impact of these policies on quitting will enhance countries' human capital, leading to further economic growth. Research shows that as adult male survival between the ages of 15-60 years rose from 70% to 80% in 52 countries between 1965 and 1990, income growth during the same period rose as well, by 0.23% per year<sup>48</sup>. Another study estimated that each additional year of life expectancy may increase GDP per capita by 4%<sup>49</sup>.

### 1.5. Costs of smoke free policies

It is important to secure administrative capacity to introduce and enforce these policies. There are some costs associated with this, but voluntary compliance may reduce these costs if there is sufficient public support for the law<sup>50</sup>. Media publicity is one way to increase voluntary compliance<sup>39</sup>. Compliance with smoke free policies may be problematic in countries lacking public support for the law and in less developed economies<sup>17</sup>.

Higher cigarette excise taxes and funding for state tobacco-control programmes are both positively and significantly associated with strong support for 100% smoke free bars, restaurants, and indoor work areas<sup>30</sup>. There may be a feedback mechanism between public support for smoking restrictions and the existence of these laws.

Another study<sup>26</sup> showed that the anti-tobacco attitude index among indoor workers increased by 3.7% as a response to workplaces adopting complete bans of smoking in workplaces, independent of the existence of employer-

provided smoking cessation programmes. Smokers and non-smokers did not differ in their attitudes toward public smoking restrictions as a result of 100% smoke free workplace policies. However, the effect of workplace cessation programmes on workers' attitudes toward public smoking restrictions was larger among smokers than nonsmokers.

In addition, there are costs related to building smoking lounges (in the case of partial bans), but the benefits of workplace restrictions include fewer fires, reduced cleaning costs, and productivity improvements, through lower absenteeism and health-related costs<sup>35</sup>. A strong argument against separately ventilated smoking rooms is that they significantly increase lung cancer mortality risks among smokers<sup>51</sup>. However, there is limited research on the potential health effects of second-hand smoke on smokers and the actual level of exposure in smoking lounges. It is not clear, for example, whether the increased cancer risk is due to exposure to second-hand smoke in lounges or to a higher incidence of smoking. Repace *et al.*<sup>52</sup> illustrates that under all conditions of typical smoking and ventilation, the annual average level of the US National Ambient Air Quality Standard (NAAQS) for fine particles (PM<sub>2.5</sub>), which defines clean air, is violated. The NAAQS is designed to protect against air-pollution induced morbidity and mortality.

The tobacco industry often claims that smoke free policies have a negative impact on revenues in the entertainment industry<sup>53</sup>. A number of studies indicate that the economic impact is minimal to non-existent. An article by Glantz and Smith<sup>54</sup> compared sales tax data from 15 cities with smoke free restaurant ordinances and 15 similar non-smoke free control cities in California and Colorado and concluded that there was no statistically significant impact of local non-smoking ordinances, either on restaurant sales as a percentage of total retail sales, or on restaurant sales in smoke free versus non-smoke free cities<sup>54</sup>. A further study from the USA compared taxable sales for eating and drinking places and hotels in New York City before and after the imposition of restrictions on smoking in 1995 and found that sales increased after the smoke free law was implemented, by 2.1% for eating and drinking places, and by 37% for hotels, compared with modest decreases in the rest of the State, which did not adopt such a law<sup>55</sup>. A Canadian report<sup>56</sup> demonstrates that the implementation of 100% smoke free by-law in Ontario on August 1, 2001 had no negative impact on sales in bar and restaurant sales.



## Economics of smoke free policies

A study of smoke free policy in cafes in an unregulated city in Europe<sup>57</sup> concluded that despite the current generation being raised in smoking friendly environments, customers look for smoke free opportunities, while paradoxically adhering to the tobacco industry paradigm of promoting “tolerance” rather than smoke free policies. Given the clear preference of a large number of customers, hospitality businesses could, however, greatly profit from offering smoke free environments, even in the absence of regulatory policies.

### 1. 6. Cost-effectiveness of smoke free policies

Cost-benefit analyses of federal non-smoking legislation have been conducted in Canada and in the USA. The 1989 Canadian study<sup>58</sup> estimated that \$32.2 million could be saved from reduced smoke and related property damage, depreciation, maintenance and cleaning costs and savings to the healthcare system through reduced ill-health effects of second-hand smoke exposure. Setting up separately ventilated smoking rooms was projected to cost \$19.77 million during 1990, the first year of the Act.

The US Environmental Protection Agency (EPA) also conducted a cost-benefit analysis to evaluate the impact of the proposed Smoke Free Environment Act<sup>59</sup>. The bill asked for bans or restrictions on smoking in all non-residential indoor air spaces. The study concluded that the legislation would result in net benefits of between \$39 and \$72 billion. These benefits would be the result of increased organisational efficiency due to lower absenteeism, as smokers have about 50% more workdays lost compared with non-smokers, and former smokers reduce this disadvantage to about 30% more workdays lost compared with non-smokers. The efficiency of organisations will also improve due to reduced conflicts between smokers and non-smokers. The study further estimated the cost of building separate smoking lounges under the assumption that only 10-20% of buildings would construct them, due to cost and feasibility. These costs would be between \$0.3 and \$0.7 billion.

The WHO CHOICE<sup>f</sup> project provided estimates for cost effectiveness of 1-year clean indoor air law enforcement in various regions of the world in terms of the population-level health gains<sup>60</sup>. The results are summarised in table 2.

<sup>f</sup> CHOosing Interventions that are Cost Effective (CHOICE).

Table 2: Cost effectiveness of clean indoor air law enforcement

European Region		DALYs saved	Costs per DALY saved (in international \$)
(EUR) - A	Andorra, Austria, Belgium, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom	770,402	358
(EUR) - B	Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Cyprus, Georgia, Kyrgyzstan, Poland, Romania, Slovakia, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan, Yugoslavia	242,990	283
(EUR) - C	Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine	249,322	201

Source: WHO-CHOICE, World Health Organization, 2002<sup>60</sup>. DALY: disability-adjusted years of life saved.

## Economics of smoke free policies

The regions are divided according to their stage of development, region A being most developed. The analysis shows that the interventions have a larger impact on population health in regions with a high prevalence of tobacco use, especially those in the second or third stage of the tobacco epidemic (regions B and C)<sup>61</sup>. The cost-effectiveness can also vary across regions due to the degree of anti-tobacco sentiment<sup>62</sup>.

The cost effectiveness of the enforcement of clean indoor air laws is superior to a variety of public health interventions. The US guidelines for smoking cessation intervention consider an intervention costing \$2,587 (1995 US\$) or less per life-year gained as cost effective<sup>63</sup>. Individually based interventions usually have higher costs. Introducing driver-side air bags costs \$30,000 per life-year gained<sup>64</sup>. Breast cancer screening through mammography has been found to cost ~\$60,000 per life-year gained<sup>65,66</sup>. Screening of asymptomatic, average-risk women between 20-75 years, every 3 years, for cervical cancer costs \$14,000 per life-year gained, and annual screening costs \$40,000 per life-year gained compared to no screening<sup>67</sup>.

Neither of these cost-benefit analyses assessed the enhanced quality of life accruing from reduced smoking or the reduced exposure of non-smokers to second-hand smoke, therefore these estimates can be considered conservative.

### 1.7. Conclusions

Research evidence demonstrates that smoke free policies, whether imposed by public laws or private firms, reduce tobacco consumption. Private workplaces' smoking restrictions and smoking bans reduce rates of consumption and smoking prevalence by 5-15% in populations. Younger and lower income socio-demographic groups may be less influenced by these policies, because they work more outside, at home, or don't work at all.

Non-price based tobacco-control measures such as smoke free policies and their enforcement are most effective as part of comprehensive tobacco-control programmes that include regular tobacco tax increases above the inflation level<sup>68</sup>. Importantly, restrictions in public smoking decrease the social acceptability of tobacco use which, in the medium and long term, leads to decreased prevalence and incidence of tobacco use and increased public support for tobacco control<sup>69</sup>.

Smoke Free Europe makes economic sense

In the long term, smoke free policies reduce mortality and morbidity both by limiting exposure to second-hand smoke and by reducing smoking prevalence. Research demonstrates that 10 percentage point improvement in male survival rate can lead to 0.23% income growth per year. Thus, healthier citizens provide higher quality of human capital, which translates into the economic growth.

## References:

- <sup>1</sup> National Cancer Institute (NCI). Health effects of exposure to environmental tobacco smoke. The Report of the California Environmental Protection Agency. Smoking and Tobacco Control Monograph No. 10. Bethesda, MD, US Department of Health and Human Services, National Institutes of Health, National Cancer Institute, 1999, NIH Pub. No. 99-4645.
- <sup>2</sup> U.S. Department of Health and Human Services (USDHHS). Reducing tobacco use: a report of the U.S. Surgeon General. Atlanta, GA, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.
- <sup>3</sup> Levy D, Friend K. Clean air laws: a framework for evaluating and improving clean air laws. *J Public Health Manag Pract* 2001; 7: 87-97.
- <sup>4</sup> Yurekli A, Zhang P. The impact of clean indoor-air laws and cigarette smuggling on demand for cigarettes: an empirical model. *Health Econ* 2000; 9: 159-170.
- <sup>5</sup> Emont SL, Choi WS, Novotny TE, Giovino GA. Clean indoor air legislation, taxation and smoking behavior in the United States: an ecological analysis. *Tob Control* 1992; 2: 13-17.
- <sup>6</sup> Ohsfeldt RL, Boyle RG, Capilouto EI. Tobacco taxes, smoking restrictions, and tobacco use. NBER Working Paper 6486, March 1998.
- <sup>7</sup> Moskowitz J, Lin Z, Hudes E. The impact of California's smoking ordinances on smoking cessation. *Am J Public Health* 2000; 90: 57-62.
- <sup>8</sup> Chaloupka FJ, Wechsler H. Price, tobacco control policies and smoking among young adults. *J Health Econ* 1997; 16: 359-373.
- <sup>9</sup> Chaloupka FJ, Grossman M. Price tobacco control policies and youth smoking. NBER Working Paper 5740, September 1996.
- <sup>10</sup> Tauras JA, Chaloupka FJ. Price, clean indoor air laws, and cigarette smoking: evidence from longitudinal data for young adults. NBER Working Paper 6937, February 1999.
- <sup>11</sup> Tauras JA. The transition to smoking cessation: evidence from multiple failure duration analysis. NBER Working Paper 7412, November 1999.
- <sup>12</sup> Tauras JA, Chaloupka FJ. Determinants of smoking cessation: an analysis of young adult men and women. In: Grossman M, Hsieh C.R, eds. *The Economic Analysis of Substance Use and Abuse: The Experience of Developed Countries and Lessons for Developing Countries*. Cheltenham, UK, Edward Elgar Publishing Limited, 2001, pp. 365-390.
- <sup>13</sup> Farrelly MC, Evans WN, Sfekas A. The impact of workplace smoking bans: results from a national survey. *Tob Control* 1999; 8: 272-277.
- <sup>14</sup> Chaloupka FJ, Saffer H. Clean indoor air laws and the demand for cigarettes. *Contemp Policy Issues* 1992; 10: 72-83.

- 15 Warner KE. State legislation on smoking and health: a comparison of two policies. *Policy Sciences* 1981; 13: 139-152.
- 16 Warner KE. Cigarette smoking in the 1970's: the impact of the anti-smoking campaign on consumption. *Science* 1981; 221: 729-731.
- 17 Woolery T, Asma S, Sharp D. Clean indoor-air laws and youth access restrictions. Chapter 11. In: Jha P, Chaloupka F. *Tobacco Control in Developing Countries*. Oxford, Oxford University Press, 2000, pp. 273-286.
- 18 Eriksen MP, Gottlieb NH. A review of the health impact of smoking control at the workplace. *Am J Health Promot* 1998; 13: 83-104.
- 19 Borland R, Chapman S, Owen N, Hill D. Effects of workplace smoking bans on cigarette consumption. *Am J Public Health* 1990; 80: 178-180.
- 20 Burns DM, Anderson C, Major J, Vaughn J, Shanks T. Cessation and cessation measures among adult daily smokers: national and state-specific data. In: *Population Impact of Smoking Cessation: Proceedings of a Conference on What Works to Influence Cessation in the General Population*. Smoking and Tobacco Control Monograph No. 12. Bethesda, MD, U.S. Department of Health and Human Services, National Institutes of Health. National Cancer Institute. NIH Publication Number 00-4892, November 2000; 25-98.
- 21 Farkas A, Gilpin E, Distefan J, Pierce JP. The effects of household and workplace smoking restrictions on quitting behaviors. *Tob Control* 1999; 8: 261-265.
- 22 Glasgow RE, Cummings KM, Hyland A. Relationship of worksite policies to changes in employee tobacco use: Findings from COMMIT. *Tob Control* 1997; S2: 44-48.
- 23 Heloma A, Jaakkola MS, Kahkonen E, Reijula K. The short-term impact of national smoke free workplace legislation on passive smoking and tobacco use. *Am J Public Health* 2001; 91: 1416-1418.
- 24 Longo DR, Johnson JC, Kruse RL, Brownson RC, Hewett JE. A prospective investigation of the impact of smoking bans on tobacco cessation and relapse. *Tob Control* 2001; 10: 267-272.
- 25 Evans WN, Farrelly MC, Montgomery E. Do workplace smoking bans reduce smoking? *Am Econ Rev* 1999; 89: 728-747.
- 26 Farrelly MC, Thomas KY. Smoking behavior in the workplace: exploring the current population surveys. RTI International. Research Triangle Park, North Carolina, Report prepared for CDC, November 2001.
- 27 Fichtenberg CM, Glantz SA. Effect of smoke free workplaces on smoking behaviour: systematic review. *BMJ* 2002; 325: 188-191.
- 28 Workplace ban "is best way to stop smoking" *The Independent* 26 July 2002. <http://news.independent.co.uk/uk/health/story.jsp?story=318446>
- 29 Warner D. 'We do not hire smokers': may employers discriminate against smokers? *Employee Responsibilities Rights Journal* 1994; 7: 129-140.
- 30 Loomis B, Farrelly M, Ellison R. The effect of local 100% smoke free ordinances on smoking behaviors among adults. RTI International, October 2004.

## Economics of smoke free policies

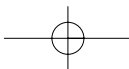
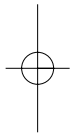
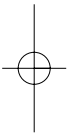
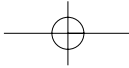
- 31 Ohsfeldt RL, Boyle RG, Capilouto EI. Tobacco Taxes, Smoking Restrictions, and Tobacco Use. *The Economic Analysis of Substance Use and Abuse: An Integration of Econometric and Behavioral Economic Research*. The University of Chicago Press, September 1999.
- 32 Farkas AJ, Gilpin EA, White MM, Pierce JP. Association between household and workplace smoking restrictions and adolescent smoking. *JAMA* 2000; Vol 284: 717-722.
- 33 Moore L, Roberts C, Tudor-Smith C. School smoking policies and smoking prevalence among adolescents: multilevel analysis of cross-sectional data from Wales. *Tob Control* 2001; 10: 117-123.
- 34 Wakefield MA, Chaloupka FJ, Kaufman NJ, Orleans CT, Barker DC, Ruel EE. Effect of restrictions on smoking at home, at school, and in public places on teenage smoking: cross sectional study. *BMJ* 2000; 321: 333-337.
- 35 Hopkins DP, Briss PA, Ricard CJ, et al. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. *Am J Prev Med* 2001; 20: Suppl 2, 16-66.
- 36 Gottlieb NH, Eriksen MP, Lovato CY, Weinstein RP, Green LW. Impact of a restrictive worksite smoking policy on smoking behavior, attitudes, and norms. *J Occup Med* 1990; 32: 16-23.
- 37 Repace JL. Risk management of passive smoking at work and at home. *St. Louis University Public Law Review* 1994; 13: 763-785.
- 38 Brauer M, Mannetje A. Restaurant smoking restrictions and environmental tobacco smoke exposure. *Am J Public Health* 1998; 88: 1834-1836.
- 39 Levy D, Friend K. The effectiveness of policies directed at youth access to cigarettes: results of the SimSmoke Simulation Model. *Tob Control* 2001; 10: 108-116.
- 40 Garland WS. BOMA supports smoking bans in buildings. <http://no-smoke.org/html/page.php?id=10>. Accessed: May 2005.
- 41 Max W. The financial impact of smoking on health-related costs: a review of the literature. *Am J Health Promot* 2001; 15: 321-331.
- 42 Parrott S, Godfrey C, Raw M. Costs of employee smoking in the workplace in Scotland. *Tob Control* 2000; 9: 187-192.
- 43 Madden D. Setting the appropriate tax on cigarettes in Ireland. Working paper series, Wp02/05, Centre for Economic Research, October, 2002.
- 44 Lok P. Smoking and the bottom line. The costs of smoking in the workplace. Ottawa, The Conference Board of Canada, 1997.
- 45 Ong MK, Stanton A, Glantz SA. Cardiovascular Health and Economic Effects of Smoke Free Workplaces. *Am J Med* 2004; 117: 32-38.
- 46 Ong M, Lightwood JM, Glantz SA. Health and economic impacts of the proposed Florida Smoke free for Health Initiative (November 1, 2003). Center for Tobacco Control Research and Education. Tobacco Control Policy Making: United States. Paper FL2002. <http://repositories.cdlib.org/ctcre/tcpmus/FL2002>. Accessed: May 2005
- 47 Consultation Report. International Consultation on Environmental Tobacco Smoke

- (ETS) and Child Health, 11-14 January 1999. Geneva, World Health Organization, 1999.
- 48 Jamison DT, Sandbu M, Wang J. Cross-country variation in mortality decline, 1962-87: The role of country-specific technical progress, CMH Working Paper Series Paper No. WG1: 4 April 2001. [http://www.cmhealth.org/docs/wg1\\_paper4.pdf](http://www.cmhealth.org/docs/wg1_paper4.pdf). Accessed: May 2005.
  - 49 Bloom DE, Canning D, Sevilla J. The effect of health on economic growth: theory and evidence. NBER Working Paper 8587, November 2001.
  - 50 Jacobson PD, Wasserman J. Tobacco control laws: implementation and enforcement. Santa Monica, CA RAND Corporation, 1997.
  - 51 Siegel M, Husten C, Merritt RK, Giovino GA, Eriksen MP. Effects of separately ventilated smoking lounges on the health of smokers: is this an appropriate public health policy? *Tob Control* 1995; 4: 22-29.
  - 52 Repace J, Kawachi I, Glantz S. Fact sheet on secondhand smoke. Geneva, UICC, 1999. <http://repace.com/SHSFactsheet.pdf>. Accessed: May 2005.
  - 53 Maroney N, Sherwood D, Stubblebine W. The impact of tobacco control ordinances on restaurant revenues in California. Claremont, California, The Claremont Institute for Economic Policy Studies, 1994.
  - 54 Glantz SA, Smith LRA. The effect of ordinances requiring smoke free restaurants on restaurant sales. *Am J Public Health* 1994; 84: 1081-1085.
  - 55 Hyland A, Cummings KM, Nauenberg E. Analysis of taxable sales receipts: was New York City's smoke free air act bad for restaurant business? *J Pub Health Mgmt Prac* 1999; 5: 14-21.
  - 56 Ontario Tobacco Research Unit. The Tobacco Control Environment: Ontario and Beyond. Special Reports: Monitoring and Evaluation Series, 2003-2004. Toronto, ON, Ontario Tobacco Research Unit, November 2004; Vol. 10, No. 1.
  - 57 Künzli N, Mazzeletti P, Adam M, et al. Smoke free cafe in an unregulated European city: highly welcomed and economically successful. *Tob Control* 2003; 12: 282-288.
  - 58 Labour Canada's Regulatory Impact Analysis Statement. Prepared for the federal Non-smokers' Health Act. Ottawa, Minister of Supply and Services, Canada Gazette, 1989: 4540.
  - 59 Environmental Protection Agency (EPA). The costs and benefits of smoking restrictions: an assessment of the Smoke Free Environment Act of 1993 (H.R. 3434). Washington, Indoor Air Division, Office of Radiation and Indoor Air, 1994.
  - 60 WHO-CHOICE. CHOosing Interventions that are Cost Effective. Geneva, World Health Organization. <http://www3.who.int/whosis/menu.cfm?path=evidence,cea&language=english>. Accessed: May 2005.
  - 61 Torgerson DJ, Raftery J. Economic notes. *BMJ* 1999; 319: 914-915.
  - 62 The world health report 2002 - Reducing Risks, Promoting Healthy Life. Geneva, World Health Organization, 2002. <http://www.who.int/whr/2002/en/>



## Economics of smoke free policies

- 63 Cromwell J, Bartosch WJ, Fiore MC, Hasselblad V, Baker T. Cost-effectiveness of the clinical practice recommendations in the AHCPR guideline for smoking cessation. *JAMA* 1997; 278: 1759-1766.
- 64 Harvard Centre for Risk Analysis. Comprehensive table of cost-utility ratios 1976-2001. Cost-utility analyses published from 1976 to 2001, with ratios converted to 2002 US dollars, Harvard Center for Risk Analysis, Boston.
- 65 Elixhauser A. Costs of breast cancer and the cost-effectiveness of cancer screening. *Int J Technol Assess Health Care* 1991; 7: 604-615.
- 66 White E, Urban N, Taylor V. Mammography utilization, public health impact, and cost-effectiveness in the United States. *Annu Rev Public Health* 1993; 14: 605-633.
- 67 Eddy DM. Screening for cervical cancer. *Ann Intern Med* 1990; 113: 214-226.
- 68 U.S. Centers for Disease Control and Prevention (CDC). Best Practices for Comprehensive Tobacco Control Programs, August 1999. <http://www.cdc.gov/tobacco/bestprac.htm>. Accessed: May 2005.
- 69 Tobacco Free Initiative (TFI) World Health Organization. <http://www.who.int/tobacco/research/economics/restrictions/en/>. Accessed: May 2005.



## 2 Chapter

# Economic impact of a smoking ban in bars and restaurants

**Luk Joossens**

Advocacy officer, Association of European Cancer Leagues, Brussels, Belgium

## 2.1. Introduction

Tobacco companies have always claimed that a smoking ban in bars and restaurants would have a negative impact on business and lead to less sales and less employment. By using this argument, they have been successful in delaying or annulling smoking bans in bars and restaurants in some countries or regions. What is the review of the literature on the impact of smoking bans? What are the main changes within the sector of bars and restaurants in Europe?

In this paper we will discuss the research on the economic impact of a ban of smoking in bars and restaurants on the hospitality industry.

## 2.2. The literature on the economic impact of a smoking ban in bars and restaurants

### 2.2.1. An article reviewing the literature

M. Scollo and colleagues did a review of studies on the economic effects of the smoke free policies on the hospitality industry (for studies published before 31 August 2002). A total of 97 studies were located<sup>1</sup>.

The authors of the review used the Siegel's criteria<sup>2</sup> to judge study quality:

- use of objective data (for example, tax receipts or employment statistics);
- inclusion of all data points after the law was implemented and several years before;
- use of regression or other statistical methods that control for secular trends and random fluctuation in the data;
- appropriate control for overall economic trend.

An outcome measure was deemed “objective” if it was based on data collected routinely by an independent agency covering the periods both before and after the smoke free policy was in force. Objective measures included: sales figures provided for the purposes of taxation assessment; employment figures provided to government agencies generally for insurance purposes; and numbers of new or existing establishments based on business permit applications or registrations to the government agency that issues such permits, and bankruptcy data.

Unverifiable predictions of future changes or estimates of recent changes in patronage or spending were deemed “subjective”. Subjective measures included anecdotal reports and self-report data collected in polls of, or interviews with, patrons or owners of restaurants, bars or similar businesses, conducted either before or after the policy was put in place.

Another indicator of the quality of a study is whether it has been subject to peer review. A study was deemed to have been peer reviewed if it was an article published in an academic journal.

Funding sources for each paper were noted after completion of all the other classification tasks.

#### **2.2.1.1. Results of the review**

Less than a quarter (21) of the 97 studies met all four of Siegel's quality criteria. None of these 21 studies reported a negative impact. In fact, four of the studies report a positive impact on taxable sales receipts of restaurants, bars, hotels, or tourism.

## Economic impact of a smoking ban in bars and restaurants

Only a handful of studies, based on objective data only, conclude a negative impact. None of these meets more than one of Siegel's other three criteria for methodological quality. Only one peer-reviewed study concluded a negative impact. This study relied on subjective data and was funded by a tobacco company.

Scollo and colleagues<sup>1</sup> concluded in the following way:

“Siegel's criteria are a valuable tool for assessing the quality of studies on the economic impact of smoke free policies in the hospitality industry. Our findings suggest that policymakers can make a quick preliminary assessment of study quality by asking three questions:

- Was the study funded by a source clearly independent of the tobacco industry?
- Did the study objectively measure what actually happened, or was it based on subjective predictions or assessments?
- Was it published in a peer reviewed journal?

Of the 35 studies on this topic published that concluded a negative impact, none have been funded by a source clearly independent of the tobacco industry, and none have both used an objective measure and been peer reviewed. In fact, 80% of these studies passed none of these basic tests of quality. With all 21 of the well designed studies finding that smoke free restaurant and bar laws had no negative impact on revenue or jobs, policymakers can act to protect workers and patrons from the toxins in second hand smoke confident in rejecting predictions that there will an adverse economic impact.”

### 2.2.2. *The effect of the smoking ban in British Columbia*

A 2004 report of the Ministry of Management services in British Columbia looked at the declining revenues at drinking places<sup>3</sup>. According to the report, British Columbia's food and beverage service industry has been enjoying strong growth in revenues in recent years. However, one sector of the industry, drinking places, has been sharply battered over the last half decade.

Revenues at drinking places in British Columbia have plummeted by 29% in the period 1998-2003. This is in striking contrast with establishments that

primarily serve food. At full service restaurants, revenues have expanded 23%. At limited service “fast food” restaurants, revenues are up 19%. Even food service contractors and caterers have seen revenue growth (+9%). Thus, drinking places are the one weak spot in the food and beverage service industry.

According to the report, there are several possible factors in the decline of drinking places in British Columbia, including general trends in prices and consumption of alcohol, the ban on smoking in bars, and growing competition from licensed restaurants.

Overall spending on alcoholic beverages has shown relatively slow growth in recent years. In addition, the price of served liquor (+9.7%) has been rising much faster than the price of store-bought liquor (+1.3%) over the past 5 years. However, neither of these facts provides an adequate account of why drinking places have seen such a steep decline in revenues.

The introduction of the smoking ban, which might be expected to be a particular burden on drinking places, was a possible factor. However, the report concluded that “the downturn in revenues largely occurred before the smoking ban was enacted.”

Competition from licensed restaurants has probably been the main factor in the declining revenues and market share of drinking places.

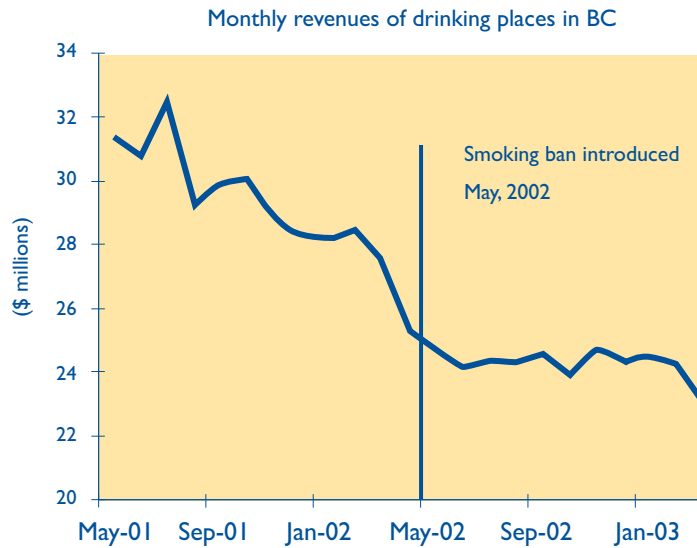
The impact of the smoking ban is explained in the report<sup>3</sup> and figure I in the following way:

“The smoking ban on the food and beverage service industry is another possible factor in the decline of drinking places. Drinking and smoking are often done together, which could make a smoking ban in bars and nightclubs particularly burdensome.

When the Workers Compensation Board (which acts on behalf of the Ministry of Labour) first imposed the ban in January 2000, it provoked a sharp reaction from industry. Two and a half months later, the BC Supreme Court ruled that the WCB had failed to adequately consult with stakeholders, and overturned the ban. A study commissioned by the Workers Compensation Board (which was based on provincial liquor sales, rather than establishment revenues) concluded that the two and a half month ban did produce a short-term decline in the liquor service industry.

## Economic impact of a smoking ban in bars and restaurants

Figure 1: The smoking ban did not spark a decline in revenues



Source: Ministry of Management Services<sup>3</sup>.

The smoking ban was re-introduced in May 2002. However, this date does not correspond to a drop in the revenues of drinking places.

The decline in revenues at drinking places occurred prior to the enactment of the smoking ban, and revenues have been relatively stable since then. It seems that the smoking ban did not have a negative impact on the revenues of BC drinking places.”

### 2.2.3. The effect of the smoking ban in New York

The Smoke Free Air Act banned smoking in all workplaces in the city of New York, including the hospitality industry. When the Smoke Free Air Act went into effect on March 30, 2003, questions were raised about how the law would affect the City's restaurants and bars. Would the law hurt business? Would some establishments have to lay off workers or close?

According to a report published by the city of New York, the data are clear one year later. Since the law went into effect, business receipts for restaurants and bars have increased, employment has risen, virtually all establishments are complying with the law, and the number of new liquor licenses issued has increased, all signs that New York City bars and restaurants are prospering<sup>4</sup>:

- business tax receipts in restaurants and bars are up 8.7%;
- employment in restaurants and bars has increased by 10,600 jobs (about 2,800 seasonally adjusted jobs) since the law's enactment;
- 97% of restaurants and bars are smoke free;
- New Yorkers overwhelmingly support the law.

#### **2.2.3.1. Bar and restaurant tax receipts in New York**

Data from the New York City Department of Finance show that the amount of money spent in New York City's bars and restaurants has increased over the past year. From April 1, 2003, through January 31, 2004, the most recent data available, bar and restaurant business tax receipts were up 8.7% from the same period in 2002-2003. From April 2003 through January 2004, the City collected \$17,375,688 in tax receipts from bars and restaurants; in the same period one year previously, the City collected \$15,984,811.

#### **2.2.3.2. Bar and restaurant employment in New York**

New York City's improved financial climate has translated into employment gains for the bar and restaurant industry. Now, as a result of the Smoke Free Air Act, these workers can also enjoy a safer, smoke free workplace.

Employment data from the New York State Department of Labor, and seasonally adjusted by the New York City Economic Development Corporation, show that the City's restaurant and bar industry is expanding once again after a downturn at the end of 2001 and throughout 2002 (prior to the implementation of the Smoke Free Air Act). More people are employed in the City's bars and restaurants with an average number of workers employed in the industry during 2003 of 164,000, the highest number recorded in at least a decade.



## Economic impact of a smoking ban in bars and restaurants

In the months following the law's enactment from March 2003 to December 2003, employment in New York City's restaurants and bars increased by about 2,800 seasonally adjusted jobs, amounting to an absolute gain of about 10,600 jobs.

### **2.2.3.3. Bar and restaurant openings and closings in New York**

According to the New York State Department of Labor, the number of New York City bars and restaurants remained essentially unchanged between the third quarter of 2002 and the third quarter of 2003. This is an improvement compared with the same period in 2002, during which 280 more bars and restaurants closed than opened.

Furthermore, the New York State Liquor Authority issued 1,416 new liquor licenses to New York City bars and restaurants in 2003, compared with 1,361 issued in 2002, prior to the passage of the Smoke Free Air Act. At the end of 2003, citywide, there were 9,747 active liquor licenses, a net gain of 234 from 2002. Bar and restaurant owners as well as investors remain confident in the strength of the industry and of their ability to flourish in this vibrant and varied sector of the City's economy.

### **2.2.4. The effect of the smoking ban in Ireland**

The Irish law which bans smoking at the workplace (including bars and restaurants) came into force on 29 March 2004. The Licensed Vintners Association (LVA) which represents 95% of Dublin publicans commissioned research to evaluate the economic impact of the ban. In a press release of 9 July 2004 the association says: "Research carried out by marketing Research Company, Behaviour and Attitudes, confirms the negative economic impact of the Smoking Ban on the Dublin licensed trade, with turnover down by as much as 16%, and overall employment levels cut by up to 14% since the introduction of the Smoking Ban"<sup>5</sup>. These figures have been quoted and misquoted by tobacco companies and hospitality industry in other countries. The British tobacco industry would refer to the Vintners Association in its September 2004 briefing and say "the Dublin (pub) trade has been down between 15% and 25% since the ban was enforced"<sup>6</sup>. The French hospitality industry would quote a figure of 20% loss<sup>7</sup> and the Flemish hospitality industry quoted a loss of 25%<sup>8</sup>.

While it is too soon to evaluate the total economic impact of the ban, figures released by the Central Statistics Office of Ireland would deny the claims made by the Licensed Vintners Association. Data on the revenues of bars in Ireland are available at monthly basis. The Retail Sales Index (RSI) is the official short-term indicator of changes in the level of consumer spending on retail goods and is published every month by the Central Statistics Office (CSO). The official figures show that the average value of bar sales in Ireland were at 106.6 in the period after the ban (from April 2004 to March 2005) compared to 110.2 in the equivalent period a year earlier (from April 2003 to March 2004)<sup>a</sup>. A decrease of revenues of 3.3% and not 15%, 20% or 25%. The decrease in the value of the sales of 3.3% is in line with the decrease of the volume of sales in the bars in Ireland which had already started in 2002. Retail sales volume indices exclude the effects of retail price changes. They are calculated by deflating the trading-day adjusted value indices using specially constructed retail price indices derived from the Consumer Price Index (CPI). The volume of sales in bars in Ireland increased until 2001, but decreased by 2.8% in 2002, 4.2% in 2003 and 4.4% in 2004<sup>9</sup>.

As in British Columbia, the decline in volume at drinking places in Ireland occurred prior to the enactment of the smoking ban. One important factor which may explain the decline is the high price of beer in Ireland:

- The price of drinks increased in June 2004 after the introduction of smoking ban<sup>10</sup>.
- The beer price in Ireland was the fourth highest in European region in 2002<sup>11</sup>.
- The price of a pint of beer has grown more rapidly in Ireland in the period 2000-2003 than the general price index<sup>12</sup>.
- The price of beer was particularly high in Dublin. According to a survey of the Central Statistics Office in 2004 the prices for alcohol consumed in licensed premises were consistently higher in Dublin. The greatest difference was for a pint of lager where average prices in Dublin were 13.2% higher than elsewhere in Ireland<sup>13</sup>.

<sup>a</sup> Central Statistics of Ireland: Retail sales index (Monthly) RSCM0130 Bars Value. Base 2000=100. <http://www.eirestat.cso.ie/diska/RSCM0130.html>. Accessed: 6 May 2005.

## Economic impact of a smoking ban in bars and restaurants

The Central Statistics Office (CSO) also publishes statistics on employment in the hospitality sector in its Quarterly National Household Survey. Employment rates in this sector are traditionally susceptible to fluctuations. The data shows a decline of 2.4% between the end of 2003 and 2004. However, the numbers employed in the sector at the end of 2004 exceeded those employed in 2002 by 0.6%. The most recent CSO data on tourism and travel (published February 2005) shows that there was a 3.2% increase in visitors to Ireland in 2004 when compared to 2003<sup>14</sup>.

### 2.3. Drinking trends in Europe

There are differences between Member States in relation to the prevalent drinking cultures. In fact, at least three groups of Member States can be identified: the wine drinking south, the beer drinking of the centre and the spirit drinking of the North<sup>15</sup>. While this is a characterisation of the regions, regions have changed over the last 30 years such as Northern Europe now drinking more beer than spirits<sup>b</sup>. Trends in alcohol consumption vary around Europe: per capita alcohol consumption decreased since the 1980s in the period 1980-2000 in the wine drinking countries such as France (-35%), Italy (-34%) and Spain (-37%), but remained high in countries such as Luxembourg, Ireland, Denmark, Czech Republic and Hungary. Per capita consumption rose in Ireland by 48% in the period 1980-2002.

Per capita alcohol sales figures do not discriminate between men, women, age and factors such as tourism, cross border sales, import/export and non-commercial production, and therefore should be interpreted with caution<sup>b</sup>.

Table 1 is from the Organisation for Economic Cooperation and Development (OECD) Health Data 2004<sup>16</sup>. Luxembourg gets the number 1 rank for alcohol consumption from the OECD, followed by Ireland, Hungary, Czech Republic and Spain. As explained above, the first place for Luxembourg may be explained by factors such as cross-border sales due to the low taxes on alcohol in Luxembourg.

<sup>b</sup> Personal communication, Baumberg Ben, Policy and Research Officer, Institute of alcohol studies, London, UK, February 2005.

Table I: Alcohol consumption - Litres per capita (pop. aged 15+)

	1960	1980	1990	1995	2000	2002	Change % in the period 1980-2000
Austria	9.4	13.8	12.6	11.9	11.3		-18%
Belgium	8.9	14	12.1	11.1	10.2		-27%
Czech Republic		11.8	11.3	11.6	11.8	11.9	-
Denmark	5.5	11.7	11.7	12.1	11.5	11.2	-2%
Finland	2.7	7.9	9.5	8.3	8.6	9.2	+9%
France		16.1	12.7	11.5	10.5		-35%
Germany	7.5		13.8	11.1	10.5	10.4	-24%
Greece		13.2	10.7	10.6	9.4		-29%
Hungary	8.2	14.9	13.9	12.2	12.3		-17%
Ireland	4.9	9.6	11.2	11.5	14.2	14.3	+48%
Italy	16.6	13.2	10.9	10.4	8.7		-34%
Luxembourg	13.1		14.7	14.8	14.9		-
Netherlands	3.7	11.3	9.9	9.8	10		-12%
Poland			8.3	8.2	8.5		+2%
Portugal		14.9	16.1	14.6	13		-13%
Slovak Republic	6.9	14.5	13.4	14.6	13		-10%
Spain		18.5	13.5	11.4	11.7		-37%
Sweden	4.8	6.7	6.4	6.2	6.2		-7%
UK		9.4	9.8	9.4	10.4	11.1	+11%

Source: Organisation for Economic Cooperation and Development (OECD)<sup>16</sup>.

## Economic impact of a smoking ban in bars and restaurants

In addition to the decrease of alcohol consumption, a second factor may influence the sales of alcohol in the hospitality sector: the trend to drink more at home (table 2).

Table 2: The trend to drink more at home. Estimated share of total beer sales consumed in private homes.

	1980	1995	2000	2001	2002	2003
Austria	45	63	66	65	65	65
Belgium	-	36	41	42	43	44
Denmark	77	75	75	75	75	-
Finland	65	69	72	73	73	75
France	-	-	-	-	70	72
Germany	60	65	65	65	68	70
Greece	-	35	35	35	35	35
Ireland	6	11	12	12	20	23
Italy	49	58	59	58	59	59
Luxembourg	-	-	63	63	-	-
Netherlands	60	63	63	63	-	-
Portugal	24	35	37	31	33	34
Spain	20	32	32	32	32	-
Sweden	85	79	79	79	79	79
UK	12	27	33	35	37	39

Source: Brewers of Europe<sup>17</sup>.

In most European countries there is a trend to consume more alcohol at home. Only Ireland had very low levels of beer consumption at home: the estimated share of total beer consumed in private homes is 12% in Ireland in 2000, but the share increased over recent years to 23% in 2003. Ireland is also the country of the highest market share for draught beer in relation to total beer sales: 78%. In other words, when they drink beer, they do it mostly in the hospitality industry, such as pubs. But again, Ireland is changing, but only recently. According to the statistics of The Brewers of Europe, per capita beer consumption in Ireland remained at a high level of 125 litres in the period 2000-2002, but decreased to 118 litres in 2003<sup>17</sup>.

## 2.4. Restaurants, bars and catering in Europe

Economic activities in the European community are classified according to the classification system NACE. The activities of the sales of meals and beverages for consumers are classified under NACE groups 55.3 (restaurants), 55.4 (bars) and 55.5 (canteens and catering).

In 2001 there were 1.2 million restaurants, bars and catering enterprises which generated a total value added of €92.4 billion, representing 3.8% of the non-financial services total. Ireland and Spain reported a relatively high specialisation in restaurants, bars and catering, evidenced by a noticeably higher contribution of this sector to the non-financial services added, respectively 6.1% and 5.7%. Among the new Member States, in contrast, only Slovenia reported that this sector had a higher share of non-financial services than the European Union (EU) average, while all other central and European countries were at the bottom of the ranking. More than two thirds of the EU value added in this sector originated from just four countries: UK, Germany, Italy and Spain<sup>18</sup>.

The restaurants, bars and catering sector is a labour intensive sector and employs 5.6 million persons in 2001 in the EU-25 countries. The UK alone accounted for more than one quarter, with 1.4 million persons employed. Ireland, Portugal and Spain reported a high concentration of employment in this sector, mirroring their specialisation in terms of value added<sup>18</sup>. In relation to the total number of persons employed in each country the employment in restaurants and bars is the highest in Cyprus (5.5%), Luxembourg (5.4%), UK (5.2%), Spain (5.1%), Ireland (4.8%), France (4.8%) and Portugal (3.9%) (table 3). The number of people employed is generally speaking much higher in restaurants than in bars. In 2000 there were 54,002

## Economic impact of a smoking ban in bars and restaurants

people in Belgium employed in restaurants compared to 16,183 people in bars<sup>19</sup>. In the same year there were 392,489 people in France employed in restaurants compared to 99,797 people in bars<sup>20</sup>.

Table 3: Employment in restaurants, bars, canteens and catering (NACE groups 55.3, 55.4 and 55.5) in 2001

Country	Employment in restaurants and bars (thousands)	Total employment (thousands)	Employment in restaurants and bars in relation to total employment
BE	135	4039	3.3%
CZ	131	4701 (2003)	2.8%
DK	72	2717	2.6%
DE	744	36528	2.0%
EE	9	594 (2003)	1.5%
EL	-	3918	-
ES	809	15877	5.1%
FR	575	23678	4.8%
IE	83	1718	4.8%
IT	665	21373	3.1%
CY	18	327 (2003)	5.5%
LV	14	1007 (2003)	1.4%
LT	20	1433 (2003)	1.4%
LU	10	185	5.4%
HU	39	3922 (2003)	1%
MT	5	148 (2003)	3.4%
NL	266	8065	3.3%
AT	103	3997	2.6%
PL	-	13617 (2003)	-
PT	193	4984	3.9%
SI	-	897 (2003)	-
SK	12	2162 (2003)	0.6%
FI	40	2403	1.7%
SE	79	4125	1.9%
UK	1442	27990	5.2%

Source: European Commission<sup>18</sup>, last column: own calculations.

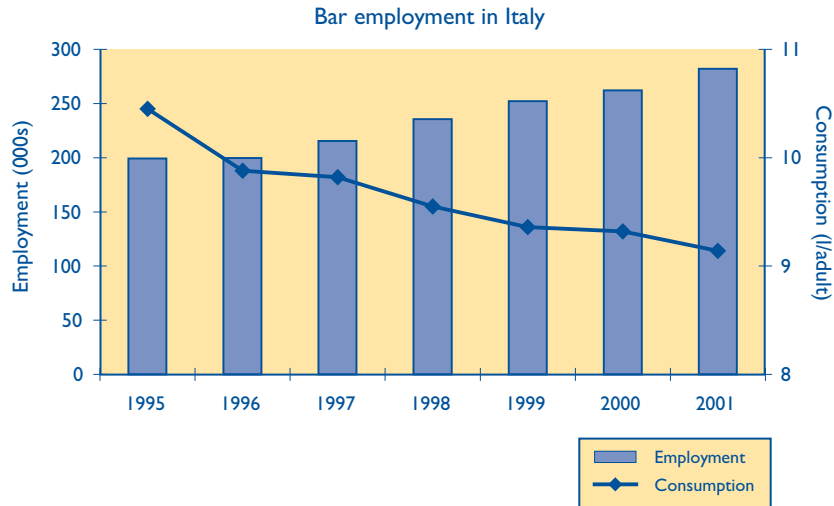
The statistical office of the EU (Eurostat) has no data for restaurants and bars separately in all EU countries, although they exist in some countries. The number of drinking places in countries is decreasing in the Netherlands, Belgium and France, while the number of restaurants is increasing. The decrease of bars has been linked to the changing drinking habits (less alcohol intake and more drinking at home), the price of the drinks, the closure of bars and cafes in the small villages and the shift from drinking places to places which also serve food. In Belgium the number of drinking places decreased from 26,457 in 1995 to 18,922 in 2003 (-28.5%), while the number of restaurants increased during the same period from 22,802 to 24,922 (+11.1%)<sup>19</sup>. In France the number of drinking places decreased from 77,544 in 1985 to 50,700 in 2000 (-34.6%), while the number of restaurants increased during the same period from 66,289 to 88,870 (+34.1%)<sup>20</sup>. In the Netherlands the number of drinking places has decreased slightly from 11,412 in 1994 to 10,848 in 2004 (-4.9%), but the expectation is that the number will decrease further to 10,400 in 2010<sup>21</sup>.

The decreasing trend in the number of drinking places has not been observed in all Member Countries. The number of bars increased slightly in the UK from 46,395 in 1995 to 47,537 in 2003 (+2.5%)<sup>22</sup>. In Italy the number of bars increased from 95,434 in 1995 to 117,882 in 2002 (+23.5%) and the number of people employed increased during the same period from 199,341 to 279,086 (+40%)<sup>23</sup>. The increase of the number of bars and the related employment in Italy is remarkable as alcohol per capita consumption has steadily decreased in Italy during the last two decades (figure 2). A possible explanation for the situation in Italy might be the classification of bars and restaurants: for Italians a bar does not automatically refer to a place where one can have an alcoholic drink. It also refer to places where you can go for coffees and brioche for breakfast or quick lunches which serve coffee, panini, toast etc. It is unknown to us whether “breakfast bars” were classified as bars or restaurants.



## Economic impact of a smoking ban in bars and restaurants

Figure 2: Bar employment and alcohol consumption (litres per capita) in Italy



Source: Anderson et al<sup>24</sup>.

## 2.5. Conclusions

Tobacco companies have always claimed that a smoking ban in bars and restaurants would have a negative impact on business and lead to less sales and to less employment. They often use anecdotal facts or speculative projections. The UK Tobacco Manufacturers Association's September 2004 briefing on the smoking bans in Ireland and New York for instance uses this technique by quoting declarations on dramatic losses on pub revenues in Ireland which can hardly be verified and suggestive "evidence" on the situation in New York such as "The ban on smoking in New York has been in place for over a year. A significant amount of evidence has suggested that the ban has negatively affected bars, clubs and taverns across New York State. Many press accounts have described a dramatic drop in customers for bars throughout the state, as well as a steep decline in bar revenue and significant job losses"<sup>6</sup>.

M. Scollo and colleagues<sup>1</sup> did a review of the studies on the economic effects of the smoke free policies on the hospitality industry which were published before 31 August 2002. A total of 97 studies were located. The authors concluded "Of the 35 studies on this topic published that concluded a negative

impact, none have been funded by a source clearly independent of the tobacco industry, and none have both used an objective measure and been peer reviewed. In fact, 80% of these studies passed none of these basic tests of quality. With all 21 of the well designed studies finding that smoke free restaurant and bar laws had no negative impact on revenue or jobs, policymakers can act to protect workers and patrons from the toxins in second hand smoke confident in rejecting predictions that there will an adverse economic impact”<sup>1</sup>.

The Smoke Free Air Act banned smoking in all workplaces in the city of New York, including the hospitality industry. According to a report published by the city of New York, the data are clear one year later. Since the law went into effect, business receipts for restaurants and bars have increased by 8.7%, employment has risen with 10,600 new jobs, virtually all establishments are complying with the law, and the number of new liquor licenses issued has increased, all signs that New York City bars and restaurants are prospering.

The “Drinking and smoking just go together” argument has been used by the tobacco industry to campaign against smoking bans in California<sup>25</sup>. This argument also implies a possible negative impact on business: smokers will avoid smoke free bars, which will hurt revenues. Certainly in a country with high alcohol consumption, the economic consequences of a smoking ban would be considerable. Ireland, for instance, had one of the highest alcohol consumption per capita consumption in the world in 2002. Ireland is also the country of the highest market share for draught beer in relation to total beer sales: 78%. In other words, when the Irish drink beer, they do it mostly in the hospitality industry, such as pubs. The Irish law which bans smoking at the workplace (including bars and restaurants) came into force on 29 March 2004. While it is too soon to evaluate the total economic impact of the ban, figures released by the Central statistics Office would deny the claims made by the hospitality industry, which estimated the losses in the pub trade between 15% and 25% since the ban was enforced. The official figures show that the value of bar sales in Ireland were at 106.6 in the period after the ban (from April 2004 to March 2005) compared to 110.2 in the equivalent period a year earlier (from April 2003 to March 2004). The decrease of the value of the sales of 3.3% is in line with the decrease of the volume of sales in the bars in Ireland which had already started in 2002. The volume of sales in bars in Ireland increased until 2001, but decreased by 2.8% in 2002, 4.2% in 2003 and 4.4% in 2004. Prior to the ban, drinking habits in Ireland had already changed. As in British Columbia, the decline in volume at drinking places in Ireland occurred prior to the enactment of the smoking ban.

## Economic impact of a smoking ban in bars and restaurants

Drinking habits are changing within Europe, as per capita alcohol consumption is decreasing and more persons are drinking at home. Many factors may influence the sales in the hospitality industry. The number of drinking places in countries is for instance decreasing in several European countries. The decrease of bars has been linked to the changing drinking habits (less alcohol intake and more drinking at home), the price of the drinks, the closure of bars and cafes in the small villages and the shift from drinking places to places which also serve food.

Studies which measure the economic impact of a smoking ban on the hospitality industry should meet minimum standard such as the Siegel's criteria<sup>2</sup> to judge study quality:

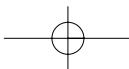
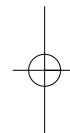
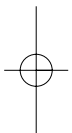
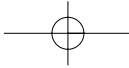
1. Use of objective data (for example, tax receipts or employment statistics).
2. Inclusion of all data points after the law was implemented and several years before.
3. Use of regression or other statistical methods that control for secular trends and random fluctuation in the data.
4. Appropriate control for overall economic trend.

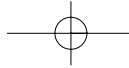
## References:

- 1 Scollo M, Lal A, Hyland A, Glantz S. Review of the quality of studies on the economic effects of smoke free policies on the hospitality industry. *Tob Control* 2003; 12: 13-20.
- 2 Siegel M. Economic impact of 100% smoke free restaurant ordinances. *In: Smoking and restaurants: a guide for policy makers*. Berkeley, UC Berkeley/UCSF Preventative Medicine Residency Program; American Heart Association, California Affiliate; Alameda County Health Care Services Agency, Tobacco Control Program; 1992; 26-30.
- 3 Ministry of Management Services, Tourism Sector Monitor, July 2004, BC Stats, August 4 2004, issue: 04-07. <http://www.bcstats.gov.bc.ca/pubs/tour/tsm0407.pdf>
- 4 New York City. The State of Smoke Free New York City. A One-Year review, NY, March 2004.
- 5 Licensed Vintners Association. Independent research shows impact of smoking ban among Dublin Publicans. Press Release 9 July 2004. <http://www.lva.ie/easyedit/files/09July04.doc>. Accessed: February 2005.
- 6 Tobacco Manufacturers Association, Briefing, September 2004, Focus point. [www.the-tma.org.uk](http://www.the-tma.org.uk). Accessed: January 2005.
- 7 Soumois F. Chasser la cigarette des restos? [Chasing cigarettes out of restaurants?]. *Le Soir*, 22 septembre, 2004.
- 8 De Smedt E. Knack pro & contra, Moet roken verboden worden in de horeca? [Pro and contra, should smoking be banned in the Horeca [hotels, restaurants and bars] ?] *knack* 29 september 2004; *CM Le cas irlandais, La Libre Belgique*, 26 janvier 2005.
- 9 Office of Tobacco Control. Smoke free workplaces in Ireland. A one-year review. *Co Kildare*, March 2005.
- 10 MAGAZINE. Drinks Industry Ireland. July/August 2004. Volume 4 Issue 9, page 7.
- 11 World Health organization. Global status report: alcohol policy. Geneva, 2004. [http://www.who.int/substance\\_abuse/publications/alcohol/en/](http://www.who.int/substance_abuse/publications/alcohol/en/). Accessed: February 2005.
- 12 Irish Brewers Association. Brewing Industry - Fast Facts. Dublin, 2004. <http://www.finfacts.com/biz10/Irishdrinkfacts2004.pdf>. Accessed: January 2005.
- 13 Central Statistics Office. Consumer Prices: Average Price Analysis - Dublin and Outside Dublin, Dublin, November 2004. [www.cso.ie](http://www.cso.ie). Accessed: February 2005.
- 14 Central Statistics Office, Travel and Tourism available at: [http://www.cso.ie/releasespublications/pr\\_tourism.htm](http://www.cso.ie/releasespublications/pr_tourism.htm).
- 15 European Commission. The Health status of the European Union. Narrowing the health gap. Health and consumer protection. Luxembourg, 2003.
- 16 OECD Health Data 2004, 3<sup>rd</sup> edition. <http://www.oecd.org/dataoecd/13/29/31963581.xls>. Accessed: May 2005.

## Economic impact of a smoking ban in bars and restaurants

- 17 The Brewers of Europe, Beer facts 2003. [http://www.brewersofeurope.org/uk/publications\\_doc/beerfacts2003.pdf](http://www.brewersofeurope.org/uk/publications_doc/beerfacts2003.pdf). Accessed: February 2005.
- 18 European Commission. European business. 2004 Edition. Facts and figures. Data 1998-2002. Brussels, Eurostat, 2004.
- 19 Horeca Vlaanderen, Statistieken [Horeca Flanders, statistics]. [www.fedhorecavlaanderen.be](http://www.fedhorecavlaanderen.be). Accessed: January 2005.
- 20 Union des métiers et des industries de l'hôtellerie, Chiffres Clé [Union of the professions and industries in the hospitality sector, key statistics]. [www.umih.fr/chiffres/cafebar.php](http://www.umih.fr/chiffres/cafebar.php). Accessed: December 2004.
- 21 Bedrijfschap horeca en catering, drinken in de Nederlandse Horeca 2004 [Society Horeca and catering, drinking in the Dutch Horeca 2004]. [www.bhenc.nl](http://www.bhenc.nl). Accessed: January 2005.
- 22 National Statistics Online - home of official UK statistics. <http://www.statistics.gov.uk/>. Accessed: January 2005.
- 23 European Commission. Eurostat. [www.europa.eu.int/eurostat](http://www.europa.eu.int/eurostat). Accessed: 1 January 2005.
- 24 Anderson P, Baumberg B, McNeill A. Alcohol in Europe. London, Institute of Alcohol Studies, 2005 (in press).
- 25 Magzamen S, Charlesworth A, Glantz S. Print media coverage of California's smoke free bar law. *Tob Control* 1992; 10; 154-160.





The Smoke Free Europe partnership

**Smoke Free Europe makes economic sense**

2005 - 45 pp. - 17 x 24 cm

ISBN 1-904097-52-9

