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12 October 2005

Chairman Hon Andrew CHENG Kar-foo, and
Honourable Members
Smoking (Public Health) (Amendment) Bill 2005
Legislative Council Secretariat
3/F, Citibank Tower
3 Garden Road, Central, Hong Kong

Dear Honourable Chairman and Members,

Re: Smoking (Public Health) (Amendment) Bill 2005

1. Dedicated tobacco taxes

At the Bills Committee Meeting on 6 October 2005, Dr Hon Kwok Ka-ki asked me to submit information on countries with dedicated tobacco tax to fund health promotion.

I attach a full list of 24 countries that earmark tobacco tax, but the [number of countries or states with tobacco taxes dedicated to tobacco control, health promotion or general health care are the following 19:](#)

1. ARGENTINA
2. COSTA RICA
3. EGYPT
4. ESTONIA
5. FINLAND
6. FRANCE
7. GUATEMALA
8. ICELAND
9. INDIA
10. JAMAICA
11. KOREA, REPUBLIC OF
12. PHILIPPINES
13. POLAND
14. SWITZERLAND
15. TAIWAN, PROVINCE OF CHINA
16. THAILAND

- 17. UNITED STATES OF AMERICA (some States)
- 18. URUGUAY
- 19. YEMEN

2. Restaurant profit and value following ban, USA, 2004 (attached)

I have already passed this study on to the Hon Tommy Cheung Yu-yan, but other members might be interested.

This was an economic study on a nationally representative sample of nearly 12,000 US restaurants and bars over a 10 year period reported in Contemporary Economic Policy in October 2004, which showed a median increase of 16% in the sale price of a restaurant in a jurisdiction with a smoke-free law compared with a comparable restaurant in a community without such a law. Smoke-free ordinances add value to these establishments.

I would like to emphasize that there is no selectivity in submitting US data – it just happens to be the most comprehensive data set available, covering the longest time span since introduction of a comprehensive ban.

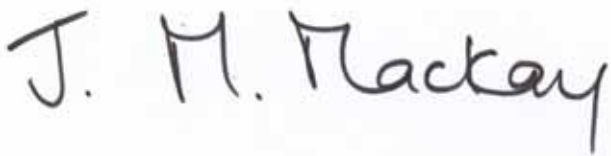
3. European report on the economics of smoke-free policies, 2005

There are, in fact, data available from many other countries, such as the 2005 European review entitled “Smoke free Europe makes economic sense” which can be found at: http://www.smokefreeeurope.com/economic_report.htm (also attached). This is a comprehensive review of many countries, looking at tobacco consumption, employment, alcohol use, etc, after a ban, plus misrepresentation of data by the tobacco industry, and the importance of obtaining accurate data from a non-industry funded source. The conclusion on page 42 is perhaps the most relevant to members:

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”¹.

I hope that this information is helpful to the Honourable Members,

Yours sincerely,



Dr Judith Longstaff Mackay, FRCP(Edin), FRCP(Lon)

Senior Policy Advisor, World Health Organization; and
Director, Asian Consultancy on Tobacco Control, Hong Kong

TABLE 1. EARMARKING

Region	Country	State/City/Territory/province	Legislation	Authority	Allocation
EMRO	Egypt		Article 3 of law 99 of the year 1992- Egyptian plasters per each 20 cigarettes sold in the local market whether domestically manufactured or imported	The ministry of finance issued decree 209-1992 stating that collection of the the earmarked tax be made by the sales tax authority and customs duty authority. Deposit amount in the central bank of Egypt. Withdrawal from this account shall be distributed according to ministry of health decree 301-1992. (Tobacco taxation in Egypt)	To fund health insurance for students.
EMRO	Iran		During the mid 1990s legislation financed by increasing the costs of cigarettes (BP)		Legislation was being prepared to require newspapers and broadcasting stations to develop education programmes against cigarette smoking and for dissuading teenagers from starting the habit. The legislation would also prohibit the sale of cigarettes in public places and sales will be permitted only through official stores.
EMRO	Morocco		Palestine tax local cigarettes are taxed at DH 0.05/pack and imported cigarettes at DH 0.10/pack (BP)	Regie des Tabacs	Assistance to Palestine
EMRO	Qatar		1.The first laws was issued by ministers council in the state of Qatar on 19/9/1999. 2.The second Amiri declaration law "the law of tobacco control" number 20.dated on 28/07/2002.article (12) which indicates the earmarking of 2% to the anti-tobacco activities. (Almulla, 2002)	Ministry of finance directs fixed amount to the ministry of health	Tobacco control activity. Law specifies a 2% deduction from the whole tobacco sales taxes. Due to inexact estimations of whole tobacco sales it has been decided for the time being to take certain fixed amounts annually from the whole tobacco sales account until a definite mechanism is established for the accurate estimation of the annual tobacco sales in the state of Qatar.
EURO	Estonia		Article 3 in the Tobacco Excise Duty Act adopted by the Parliament in 1994 of "the excise duty received in the state budget, 3.5 per cent is transferred to (see allocation) "Striving several times to separate from tobacco taxes 1% to tobacco control programmes or to health promotion and education but it has not succeeded yet. Now the proposal of the new Alcohol, Tobacco and Fuel Excise Duty Act is under reading in the Parliament with the proposal of the Ministry of Social Affairs to receive a portion from the taxes to tobacco control programmes" (Lipand, 2002).		The Cultural Endowment of Estonia, of which 0.5 per cent is transferred to the physical fitness and sport endowment within the Cultural Endowment of Estonia. A transfer of the excise duty received in the state budget during a calendar month is made to the Cultural Endowment of Estonia by the twentieth day of the calendar month following the given month" (Lipand, 2002)
EURO	Finland		Each year the national budget shall contain an appropriation corresponding to at least 0.45% of the estimated annual revenues from tobacco tax. (14.12.1984/910)	According to a disposal plan ratified annually by the competent ministry and when preparing and implementing the disposal plan the expertise of the authorities and institutions of the relevant administrative sector and other expertise in the field can be made use of. (9.4.1999/487)	The appropriation referred to in paragraph 1 shall be used for combating smoking, for health education, and for the research, monitoring and activities aimed at reducing smoking that support health education as referred to in chapter 7 (9.4.1999/487)
EURO	Iceland		It is compulsory to allocate at least 0.9% of gross tobacco sales. (Art 15.1 Act 101/1996)	The funds shall be allocated by the Tobacco Control Board in consultation with the minister (Art 15.2 Act 95/2001) The minister may issue regulations stating further provisions regarding the implementation of the Act (Reg. 251/1997. Reg. 88/1999)	Tobacco control
EURO	Latvia		30% of tax revenue from tobacco should be used for the health care budget (CDC, WHO).		Health care budget (CDC, WHO).

TABLE 1. EARMARKING

EURO	Poland		The tobacco control program is financed from the state budget at the level of 0,5% of the value of the excise tax on tobacco products (Article 4.3- 9 nov. 1995 with corrections passed 1999). The government intends to start financing this program in 2003-2004 because of budget limits.	The Council of Ministers shall submit a report on the implementation of this programme to the Parliament by April 30 each year (Article 4.2- 9 nov. 1995 with corrections passed 1999).	The Council of Ministers shall develop a programme outlining health, economic and social policies aimed at reducing tobacco use (Article 4.1- 9 nov. 1995 with corrections passed 1999).
EURO	Portugal		Since 1993, Portugal has allocated 1% of the fiscal income (up to US\$ 6 million) from tobacco (CDC-WHO).		Cancer research, prevention, diagnosis and treatment (CDC-WHO).
EURO	Romania		In the early 1990s, the Ministry of Health issued a new tobacco control strategy. Beginning in 1993, new taxes were levied on alcohol and tobacco to help finance health improvement in Romania (CDC, WHO).		To finance health improvement (CDC, WHO).
EURO	Slovenia		Restriction on the Use of Tobacco Products Act, Statute N.57/1996 Funds earmarked in the national budget (Moodie 2002).	The Health Council of the Government of the Republic of Slovenia (Moodie 2002).	The implementation of the comprehensive social protection of public health against the harmful effects of tobacco products (Moodie 2002).
EURO	United Kingdom	Guernsey	Legislation since 1996 which earmarks Tobacco taxation money (Grange, Globalink 2002).		Health promotion activities, support for education programs, PSHE coordinator in the primary schools, face to face Quitline and free NRT (Grange Globalink 2002).
PAHO	Argentina		7% tobacco additional emergency tax created by national law 24.625 passed in 1996 and renewed this year until 2003 by decree 861 passed in 2002 (Mirta A. Molinari, Globalink 2002).		Devoted to rural, health or social programmes. It is not used for tobacco control activities (Mirta A. Molinari, Globalink 2002).
PAHO	Canada	Quebec	"Loi constituant un fond special olympique" (LQ. 1976, c.14) funded in part by the "Loi de l'impot sur le tabac" (Art. 24. A) The percentage of the dedicated tax to the Fonds Special Olympique varied from year to year. For example, it was 12.88% in 2000 and 14.40% in 2001 as well as in 2002. Based on the revenues generated it is expected that the 'mortgage' on the olympic facilities will be paid off by 2006 (Bastien, 2002)	Government of Quebec's financial department.	The facilities located on the Olympic park; Olympic stadium maintenance
PAHO	Colombia		Cigarettes are taxed at 122% of wholesale price, and a portion of this goes to sports sponsorship Revenue from tobacco imports is earmarked as the primary source of funding for schools and health care facilities (CDC-WHO).		Sports sponsorship, primary source of funding for schools and health care facilities (CDC-WHO).
PAHO	Peru		A 1982 law provided that a portion of the tax on cigarettes be dedicated to the control of cancer. In 1988, the state collected about US\$ 16.5 million in taxes from tobacco (CDC-WHO).		1985 "to find the money to build South America's best cancer hospital, which cost \$US 35,000,000. (Nigel Gray. Tobacco Control, online 2002)

TABLE 1. EARMARKING

PAHO	United States	Arizona	Arizona Revised Statutes 36-772 23 cents of each dollar in the tobacco tax and health care fund shall be deposited in the health education account for programs. Proposition 200, 1994. (Moodie, 2002). "Proposition 303 protects Arizona's successful anti-tobacco education program from future raids by the Legislature" (Globalink. nov. 4, 2002)	The department of health services shall administer the account.	For the prevention and reduction of tobacco use, through public health education programs, including community based education, cessation, evaluation and other programs to discourage tobacco use among the general population as well as minors and culturally diverse populations. Monies that are deposited in the health education account shall only be used to supplement monies that are appropriated by the legislature for health education purposes and shall not be used to supplant those appropriated monies (Moodie, 2002) "Proposition 303 guarantees that existing tobacco-tax funds approved by voters for tobacco education and prevention will be spent on that and nothing else (...) it will pay for health care for uninsured families, including low-income children. It will also provide deperately needed funds to keep trauma centers and emergency rooms open" (Globalink. nov. 4, 2002).
PAHO	United States	California	California Revenue and Taxation Code Section 30121-30130 30122. Proposition 10 (1998) The fund shall consist of all revenues deposited therein pursuant to this article. Moneys in the fund may only be appropriated for the following purposes (Moodie, 2002).	(a) The Cigarette and Tobacco Products Surtax Fund is hereby created in the State Treasury.	(1) Tobacco-related school and community health education programs. (2) tobacco-realted research (3) Medical and hospital care and treatment of patients who cannot afford to pay for those services (4) Programs for fire prevention; environmental conservation, protection, restoration, enhancement, and maintenance of fish, waterfowl, and wildlife habitat areas and enhancement of state and local park and recreation purposes (Moodie, 2002).
PAHO	United States	Massachussets	Massachussets General Laws Chapter 64C, Section 7& Chapeter 29 Section 2T (Moodie, 2002).		Amounts credited to said Fund shall be expended, subject to appropriation for the following purposes for comprehensive school health education programsrelating to the hazards of tobacco use for workplace-based and community smoking prevention and cessation programs, for tobacco-related public service advertising and for drug education programs... for the support of community health centers... provided that such... programs incororate smoking cessation assistance and guidance... and for ongoing activities... relating to the monitoring of morbidity and mortality from cancer and other tobacco-related illnesses (Moodie, 2002).
PAHO	United States	Oregon	"The decision by voters in Arizona and Oregon to earmark tobacco taxes to expand Medicaid eligibility could signal a new national trend. The double-barreled strategy successfully marries the public's growing concern about the uninsured to its willingness to raise tobacco taxes to discourage smoking. Measure 20 would increase the state tax on cigarettes by 60 cents a pack to \$1.28 per pack. The increase would add an estimated \$70 million to the state's coffers in the current biennium and generate about \$114 million a year after that" (tobacco.org, 2002).		"Most of the money would go to the state's health plan for low-income residents. As important, the money generated by passage of Measure 20 would go into smoking prevention programs and the Oregon Health Plan, thus freeing up state funds now used in those areas for balancing the state's budget" (tobacco.org, 2002).

TABLE 1. EARMARKING

PAHO	United States	Washington	Initiative 773 (Jan 1, 2002) increased the tax on a pack of cigarettes 60 cents to \$1.425, the highest in the nation. Critics of the new tax -- who include convenience-store operators -- say it violates the Washington Constitution's single-subject rule (tobacco.org, 2002)		The initiative also earmarked the money to expand state-paid health care for the poor. Initiative 773 was conceived as a means of raising money for health services, violence reduction, drug enforcement and water quality programs, specifically for the cleaning up of Puget Sound (tobacco.org, 2002)
SEARO	India		The Beedis Worker's Welfare Cess Act, 1976 (56 of 1976) changed to a fixed 2 rupees per thousand of manufactured beedis, as the rate at which the duty of excise shall be levied and collected (with effect from the date of publication of notification in the Official Gazette, 2000) (cbec.gov.in, online).	Central Government and Ministry of Labour (cbec.gov.in, online).	For the purpose of the Beedi Workers Welfare Fund Act (62 of 1976) (cbec.gov.in, online).
SEARO	Nepal		"Health tax" of 2 paisa imposed on each cigarette manufactured or imported, 1992 (Dr. A.K. Sharma, Nepal Cancer Relief Society).	Measure adopted by the National Parliament on the recommendation of the Nepal Cancer Relief Society (Dr. A.K. Sharma, Nepal Cancer Relief Society).	A portion of the tobacco tax is used for public health improvement (CDC-WHO). The Cancer Care Centre at Bhaktapur, Kathmandu (Dr. A.K. Sharma, Nepal Cancer Relief Society).
SEARO	Thailand		Act for campaign funds for the reduction of alcohol beverages consumption and for health promotion, 2001 Act on Establishment of Health Promotion Foundation 2001. The act ensures ThaiHealth steady revenue-2% of the total national tax revenue on alcohol and tobacco (Moodie 2002)		Health promotion foundation.
WPRO	Philippines		Republic Act 8240, and subsequently, Republic Act 8424 or the Tax Reform Act of 1997 prescribe the amount of taxes levied on cigars and cigarettes. Tobacco taxes are classified as a "sin" tax (David, 2002)		Countryside development in tobacco-producing provinces (Dorotheo, Globalink, 2002) 15% is given back to the tobacco-growing Northern provinces as assistance to tobacco farmers to encourage them to plant more tobacco (under RA7171) RA 7171, section 2 states that the money should be used "to advance the self reliance of the tobacco farmer through cooperative projects that will enhance better quality of products, increase productivity, guarantee the market and as a whole increase farmer's income; and livelihood projects particularly the development of alternative farming systems to enhance farmers' income." (in David 2002)
WPRO	Republic of Korea		Public Health Promotion Law, 1995. T Funds are secured by a "tax" of 150 Korean Won per pack of cigarettes sold, allocation of 5% of health insurance budgets and optional subsidy from the Ministry of Health (Moodie, 2002).		The Act required that a "Health Promotion Fund" be created to provide grants for health promotion efforts including public education, materials development, research, health assessments and health promotion efforts in local health centers ...more than 3% of the total fund can be earmarked for the National Health Promotion Project. The remainder, 97% or less, will be used for paying health insurance benefits pursuant to the National Health Insurance Act (Moodie 2002)

TABLE 1. EARMARKING

WPRO	China	Taiwan	Article 22 Tobacco and Liquor Tariffs Law March 2000 no date for the implementation. NT \$250 charge should be levied per 1,000 cigarettes or per kilogram of tobacco or other tobacco products (China Times Inter@ctive, 2001).		According to the ministry 70% of the collected tariffs will be distributed to the Bureau of National Health Insurance for its reserve fund, and 20% will be distributed to the Cabinet-level Department of Health for tobacco hazards prevention and other health care purposes, while another 10% will be distributed to the Interior to be incorporated into social welfare funds (China Times Inter@ctive, 2001).
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SMOKE-FREE ORDINANCES INCREASE RESTAURANT PROFIT AND VALUE

BENJAMIN C. ALAMAR and STANTON A. GLANTZ

This study estimates the value added to a restaurant by a smoke-free policy using regression analysis of the purchase price of restaurants as a function of the presence of a smoke-free law and other control variables. There was a median increase of 16% (interquartile range 11% to 25%) in the sale price of a restaurant in a jurisdiction with a smoke-free law compared to a comparable restaurant in a community without such a law. This result indicates that contrary to claims made by opponents of smoke-free laws, these laws are associated with an increase in restaurant profitability. (JEL I120, H000, D780)

I. INTRODUCTION

Hundreds of U.S. communities and several states and provinces inside and outside the United States have enacted policies ending smoking in restaurants and bars. The tobacco industry, working through the hospitality industry, opposes these policies using the claim that smoke-free policies will harm the hospitality industry (Dearlove et al., 2002; Ritch and Begay, 2001). In a world of perfect information and efficient markets operating with no externalities, this claim of harm to the industry would make economic sense, because any regulation that restricts an owner's choice set would at best have no effect on profitability. In the real world of imperfect information, external effects on consumers and employees, or other forms of market failure, however, a restriction on the choice set could increase profitability. This situation of imperfect information exists in the hospitality industry with regard to smoking restrictions because the tobacco industry has repeatedly provided inaccurate information to the hospitality industry asserting that smoking restrictions hurt the hospitality industry (Dearlove et al., 2002; Ritch and Begay, 2001). Previous

studies, reviewed by Scollo et al. (2003), have demonstrated that all studies of high quality in fact find that smoke-free laws have no effect or a positive effect on restaurant and bar revenues, tourism, and employment. The present study furthers the analysis of these laws by investigating whether there is an economic benefit to restaurant owners in terms of restaurant profitability, as reflected in the value of the business, from smoke-free policies.

Even if smoke-free policies do not affect revenues, they may reduce costs. Labor costs should decrease because smoking is linked to increases in days lost due to illness and higher worker compensation costs (Musich et al., 2001). A smoke-free policy will not only reduce employee exposure to secondhand smoke (SHS) and improve pulmonary (Eisner et al., 1998) and cardiac (Glantz and Parmley, 2001) health but will also encourage employees to stop smoking (Fichtenberg and Glantz, 2002), increasing employee productivity because fewer days are lost to illness. Capital costs should also decrease. SHS is absorbed by everything from carpets to walls to stainless

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ABBREVIATIONS

BEA: Bureau of Economic Analysis
BLS: Bureau of Labor Statistics
CI: Confidence Interval
GSP: Gross State Product
SDCF: Sellers Discretionary Cash Flow
SHS: Secondhand Smoke
WLS: Weighted Least Squares

steel, causing discoloration (Daisey, 1999). Smoke is reemitted, causing upholstery to smell (Daisey, 1999), necessitating more frequent cleaning. Equipment and furnishings are degraded from cigarette burns and ashes that do not always find their way into ashtrays. Of course, smoke-free policies may increase revenues if they induce people who would not eat in restaurants because of SHS to patronize smoke-free restaurants.

These two effects (no or a positive effect on revenues and lower costs) mean that restaurants in places that prohibit smoking should be more profitable on both a gross (total profits) and margin (profits as a percentage of sales) basis than comparable restaurants that are not in smoke-free jurisdictions. In a competitive market, the restaurant that achieves higher margins will be sold for a higher price. This difference in price between equivalent businesses in locations that restrict and permit smoking is called the smoke-free premium.

Using a database that records the purchase price of restaurants that are sold, the authors found that restaurants in localities with smoke-free ordinances sell for a higher price than comparable businesses in areas with no restrictions on smoking. After controlling for relevant economic variables, there is a median increase of 16% in the sale price of a restaurant directly attributable to the existence of a smoke-free law. Thus, smoke-free ordinances substantially increase profitability of restaurants.

II. DATA

The authors obtained data on sales of restaurants and bars from the BizComps database (Sanders, 2003) for transactions by Standard Industrial Classification codes (defined by the Statistical Policy Division of the U.S. Office of Management and Budget to classify all industries in the U.S. economy) 5812 (Eating and Drinking Establishments) and 5813 (Drinking Places). BizComps is a proprietary database that contains information about businesses that are sold and is used extensively by business valuation professionals. The details of each transaction are submitted by a certified business intermediary who in turn receives a survey report of all transactions in his or her region using standard definitions for each data field (Sanders, 2003). BizComps provides the details of each transaction, including sale price, sellers discretionary cash flow (SDCF, defined as the

reported pretax cash received by the owner from the operation of the restaurant not including all noncash costs, such as depreciation from the year of the sale), annual gross revenues, geographic location, and date of transaction. The database contains over 7000 transactions from many types of business, including restaurants, manufacturers, and distributors.

The principle use of the database is to provide certified business appraisers a statistical sample of businesses similar to that of one they are trying to appraise. These appraisals have an array of uses, including evidence in court, tax filings, and general business decisions. Because there is such a broad set of uses for the samples of businesses, there is no reason to believe that the samples are biased up or down. Should an unrecognized bias exist, however, it would be consistent across all data points and not correlated to smoke-free policies because the database was established for other purposes. The authors searched the online version of the database (www.bvmarketdata.com) on 10 February 2003. This search produced 1146 transactions within the restaurant and bar industry between 31 January 1991 and 19 August 2002 (Sanders, 2003).

Transactions in which the business was described as catering, carry-out (only), drive-thru (only), drive-in (only), espresso stand, take-out, or mobile concessions (417) were eliminated because they would not be affected by a smoke-free law because they provide food for consumers to eat away from the business. An additional 48 transactions were eliminated that had incomplete data. Seventy-three of the remaining transactions were standalone bars and were segregated from the restaurant data, leaving a sample size of 608 restaurants with 118 being in smoke-free locations. Table 1 summarizes these data.

The authors used the American Non-smokers' Rights Foundation Local Ordinance Database (as of 2 February 2003) to determine which businesses were covered by local 100% smoke-free restaurant ordinances. An ordinance was deemed to be 100% smoke-free only if it does not allow smoking in attached bars, does not allow smoking in separately ventilated rooms, and has no exemptions based on the size of the restaurant. Statewide smoke-free restaurant laws were enacted in California (1994) and Utah (1995) during the time period spanned by the data. The date the laws were enacted, as opposed to the date of

TABLE 1
Summary of Restaurant Transaction
Data

	Smoke-Free	Smoking
<i>N</i>	118	490
Median price (\$'000s)	95 (67–140) ^a	95 (50–157) ^a
Gross sales (\$'000s)	292 (186–418) ^a	277 (170–465) ^a
Median SDCF/sales	0.23 (0.16–0.30) ^a	0.18 (0.13–0.25) ^a
Median <i>P/S</i>	0.35 (0.26–0.48) ^a	0.34 (0.25–0.47) ^a
Family restaurants	6	51
Percentage	5%	10%
Fast food restaurants	80	238
Percentage	68%	49%

^aInterquartile range.

implementation, was used because any prospective buyer would know that the law was to come into effect. This information would be factored into the sale price agreed to by the buyer and seller of the restaurant. A dummy variable was defined to indicate the presence of a smoke-free restaurant law that was 1 when a smoke-free law had been enacted prior to the transaction date and 0 otherwise.

To control for the economic differences across time and geographic region, the authors obtained the per capita gross state product (GSP) and annual percentage GSP growth for all states for all years in which transactions occurred from the Bureau of Economic Analysis (BEA) and unemployment rates by state and by year from the Bureau of Labor Statistics (BLS 2003; BEA 2003). GSP is reported in real terms with a base year of 2003 using the standard inflators of the BEA. All variables reported in dollars were adjusted to real terms using the standard inflators of the BEA and a base year of 2003. To further control for any variance across time, a year variable was used with 1992 counted as year 0.

III. ECONOMETRIC MODEL

The ratio of the transaction price to gross revenue (*P/S*) is a standard valuation measure to compare transactions. Dividing the price of the restaurant by its annual total gross sales allows for a standardization across restaurants of various sizes. This is a particularly good

TABLE 2
Determinates of the Price-to-Sales Ratio
(*P/S*) (ordinary text squares)

	Coefficient	SE	P
Smoke-Free	0.059	0.021	0.006
Constant	0.398	0.047	<0.001
SDCF/sales	0.708	0.067	<0.001
Per capita GSP (\$)	–0.003	0.002	0.152
GSP growth rate (% per year)	1.089	0.549	0.048
Unemployment (%)	–1.388	0.517	0.008
Fast food	0.067	0.018	0.000
Family	–0.036	0.012	0.048
Time	–0.018	0.004	<0.001
Weighted <i>R</i> ²	0.824		

measure of comparative value in service industries that are not capital-intensive (Pratt and Schweih, 2000). *P/S* was regressed on the smoke-free dummy variable; the ratio of the SDCF to sales (*SDCF/S*), which represents the profit margin of the business; per capita GSP in dollars; GSP percentage growth rate; statewide unemployment percentage; dummy variables for fast food and family-style restaurants; and time.

White's test (White, 1980) on the residuals from ordinary least squares regression indicated the presence of heteroscedasticity. To correct for this problem a weighted least squares (WLS) regression was used with SDCF as the weight. This procedure assumes that the variance in the error terms is inversely proportional to SDCF, thus the larger (higher SDCF) restaurants are weighted more heavily. White's test on the weighted residuals did not reject homoscedasticity, and the WLS regression results are reported.

IV. RESULTS

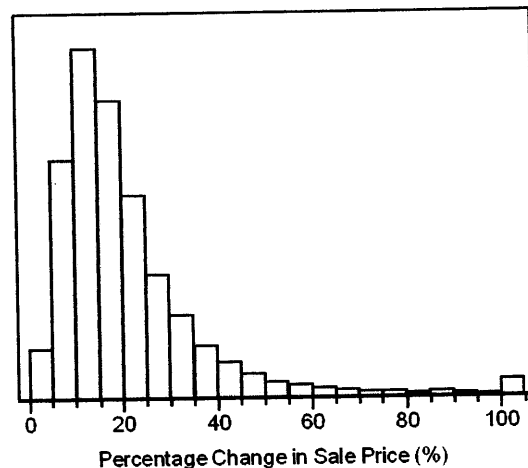
Table 2 presents the WLS regression results. The positive and statistically significant coefficient for the smoke-free variable indicates that restaurants that operate under smoke-free regulations have a *P/S* ratio that is 0.059 ± 0.021 (SE) higher than in comparable restaurants not in smoke-free locations. A restaurant in a smoke-free location sold for a higher price (thus the higher *P/S* ratio) than a restaurant with the same sales in a smoking location. This smoke-free premium indicates that businesses in smoke-free locales operate at a higher margin (i.e., more profits).

Of the control variables, *SDCFIS*, GSP growth rate, unemployment, the fast food and the family dummy variables, and time were also significant. The positive and significant coefficients for GSP growth and fast food are not surprising because high growth rates indicate businesses are growing and thus more profitable, and fast food restaurants are low-cost, high-turnover establishments that tend to be highly profitable. The negative coefficient for the unemployment rate suggests that as unemployment rises restaurant values decline, presumably because as more people become unemployed, fewer go out and spend money in restaurants. The negative coefficient for the family restaurant dummy suggests that family-style restaurants are less profitable than other restaurants. The negative coefficient for time suggests that real restaurant values have been falling over time, which indicates that the market has become more competitive over time. The coefficient on per capita GSP was not significant.

The authors further tested the robustness of the model by adding a quadratic time factor. The quadratic time coefficient was not significant, and its inclusion had no effect on the smoke-free coefficient.

The authors did a Monte Carlo simulation (20,000 iterations) to estimate the additional value a restaurant owner could expect from the enactment of a smokefree ordinance. Price and *P/S* ratios were randomly drawn from the 490 smoking restaurants in the sample. A random value of the increase in *P/S* ratio, the coefficient for the smoke-free dummy variable in the regression analysis (Table 2), was drawn from a normal distribution with mean 0.059 and SD 0.021. The ratio of the smoke-free coefficient to the *P/S* ratio represents the expected percentage increase in value the smoking restaurant would experience should a local smoke-free ordinance be enacted (Figure 1). The authors multiplied this percentage increase in value by the corresponding sale price of the smoking restaurant to determine the absolute increase in value of the restaurant (in dollars) associated with the smoke-free law (Figure 2). This procedure yielded a median percentage increase in the sale price of restaurants in smoke-free communities of 16% (interquartile range of 11% to 25%), corresponding to a median dollar value increase of \$15,300 (interquartile range of \$9,000 to \$27,000) for restaurants that were worth a median of

FIGURE 1
Distribution of Percentage Change in Sales Price for Restaurants in Smoke-Free Communities Compared to Comparable Restaurants in Communities that Permitted Smoking



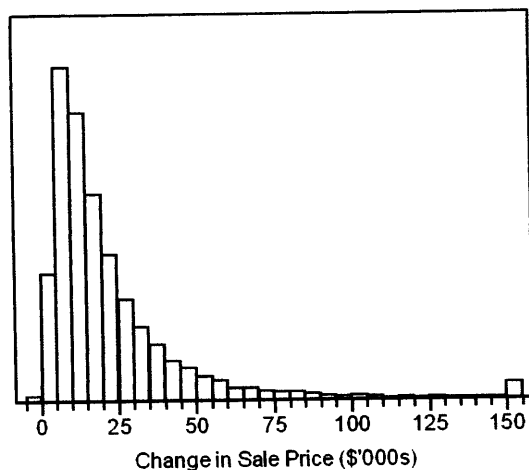
Notes: The median increase is 16% (interquartile range 11% to 25%). All values over 100% are included in the top bin.

\$95,000 (interquartile range \$50,000 to \$157,000) where smoking is permitted.

A potential source of bias in the parameter estimates is that enforcement of the smoke-free ordinance may vary across the sample. Whereas studies of the enforcement of the ordinances tend to reject this hypothesis (Cancer Prevention and Control Program, 2001; Weber et al., 2003), unequal enforcement would bias the estimates of the effects of the smoke-free policy (smoke-free in Table 2) toward the null. The average profitability of the restaurants included in the smoke-free sample is higher than that of the control group of restaurants that do not operate under a smoke-free ordinance. Incorrectly including a restaurant that ignores a smoke-free ordinance would then have the effect of lowering the average profitability of the sample of restaurants under smoke-free ordinances, thus reducing the estimates of smoke-free. Thus, even if enforcement does vary, it is unlikely that the present findings would be adversely effected.

A similar analysis performed for the 73 bars (including 5 that were in places with smoke-free laws) revealed a positive and significant effect

FIGURE 2
 Distribution of Dollar Value of Changes
 in Sale Price of Restaurants in
 Communities with Smoke-Free Laws
 over Comparable Restaurants in
 Communities with no Restrictions



Notes: The median increase in value \$15,300 (interquartile range of \$9,000 to \$27,000) for restaurants that worth a median of \$95,000 (interquartile range \$50,000 to \$157,000) where smoking is permitted (Table 1). All values below \$0 and above \$150,000 are lumped into the top and bottom bins.

of 100% smoke-free bar laws on the value of the bars. The coefficient for the smoke-free dummy variable was 0.24 ± 0.12 ($P = 0.049$). The ratio of this value and the median P/S ratio for the smoking bars of 0.38 suggests that the typical bar will experience an increase of 63% in value following the enactment of a smoke-free ordinance. The sample size for bar data set was small (only 5 smoke-free bars out of 78 transactions), so this result should only be considered preliminary.

Comparison with Previous Literature

Scollo et al. (2003) reviewed 97 studies on the economic effects of smoke-free laws on the hospitality industry available as of 31 August 2002. They assessed the quality of the studies based on four criteria: use of objective data, 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, and appropriate control for overall economic trend. Of these 97 studies, 21 met all four

quality criteria; all 21 concluded that smoke-free policies had no effect or a positive effect on the hospitality industry. Thirty-five of the studies concluded that smoke-free policies had a negative impact on the hospitality industry; all of them were funded by the tobacco industry or organizations affiliated with the tobacco industry. In studies concluding a negative impact, the odds of using a subjective outcome measure was 4.0 times (95% confidence interval [CI] 1.4 to 9.6; $p = 0.007$) and the odds of not being peer reviewed was 20 times (95% CI 2.6 to 166.7; $p = 0.004$) that of studies concluding no such negative impact. All of the best designed studies report no impact or a positive impact of smoke-free restaurant and bar laws on sales or employment.

One example of the low-quality studies, as defined in Scollo et al. (2003), and funded by the tobacco industry from the economics literature is the work of Dunham and Marlow (2000) previously published in this journal. Their article was funded by Philip Morris (now Altria), the largest cigarette manufacturer in the United States and coauthored by John Dunham, "manager of fiscal issues" at Philip Morris Management. The Dunham and Marlow study presents an economic model based on a misapplication of the Coase theorem that is then "validated" through use of data from a poll that was funded by a close ally of the tobacco industry (American Tobacco, 1990). The economic model assumes that the "interested parties" are the smoking and nonsmoking patrons of the restaurant. This definition ignores the staff of the restaurant, which has a considerable interest in a smoke-free workplace due to the health risks of SHS. Dunham and Marlow assume that negotiation costs are low because the owner of the restaurant can act as a intermediary between these two groups. In contrast to the assumptions of the Coase theorem, smokers and nonsmokers are not two well-defined and distinct groups but are rather numerous individuals with varied tolerances for smoke and willingness to refrain from smoking or to go outside to smoke. Even if the staff of the restaurant is ignored, the number of interested parties is very large with greatly varied preferences in regard to the externality. The large number of interested parties would cause negotiation costs to be high, which violates the assumption of low costs in the Coase theorem. Furthermore, the externality is not well defined in the model, because

its effect on the restaurant staff is ignored. The Coase theorem is therefore not applicable.

The data that Durham and Marlow used to validate the predictions of their "economic" model is a poll conducted by Roper Starch for the National Licensed Beverage Association, a regular political ally and recipient of money from the tobacco industry (American Tobacco, 1990). It is a survey of restaurant and bar owner's *predictions* of the outcome of smoking restrictions, rather than hard data on *actual* economic outcomes. It is not surprising that the survey found that restaurant owners were fearful of smoking restrictions, because it is well documented that the tobacco industry regularly feeds misinformation to the hospitality industry to fight smoke-free ordinances (Dearlove et al., 2002).

In contrast to the work of Dunham and Marlow, the present study has a clearly defined and simple economic model (no change to revenues plus lower costs imply higher profits) and uses objective data to estimate the effects of smoke-free policies on restaurant profitability.

V. CONCLUSION

This study is the first to examine the impact of smoke-free ordinances on the value and profitability of restaurants. The tobacco industry has argued that restaurant owners would be financially burdened by smoke-free policies (Dearlove et al., 2002; Ritch and Begay, 2001). All previous high-quality studies, however, have shown that revenues and employment are unaffected or positively affected by such policies; this study shows that, far from hurting restaurant owners, smoke-free ordinances add value to their establishments. These results add to the growing body of literature that should give restaurant and bar owners a real economic incentive to support smoke-free laws. Despite the rhetoric that smoke-free laws hurt the restaurant business, the marketplace indicates that these laws increase the profits and the values of restaurants and bars and are good for these businesses.

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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

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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 labor 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 **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 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 changed already. **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.**

Chapter

Economics of smoke free policies

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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-smokers¹. 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 (through 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 behaviour².

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 laws³. Another study⁴ 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^{5,6} 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 smokers⁵ and 38% higher 6-month cessation rates⁷. 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^{8, 9, 10, 11}.

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 years⁶. Another study concluded that smoking restriction in private worksites increased the probability of smoking cessation among employed young adult females¹². Using results from a national survey in the USA Farrelly et al.¹³ 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 years¹³.

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 study¹⁴ 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^{15,16} 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%¹⁷. Population studies have also found reductions in quantity smoked, but the impact on prevalence is less consistent. A study¹⁸ 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 Australia¹⁹ 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^{20,21,22} 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 bans²³.

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 bans²⁴. Another study examining the effect of workplace smoking bans in the USA²⁵ 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 USA²⁶ 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 studies²⁷ 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 UK²⁸ and about 6,550 in the USA every year^{a,29}. 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 not²¹. Total smoking bans are also asso-

ciated with increased intentions to quit, both in the short term and long term³⁰. Employer-provided smoking cessation programmes can assist in these efforts and further reduce the prevalence and intensity of smoking²⁶. 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 snuff³¹.

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 homes²⁶. 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 restriction²⁶. 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 policies³².

A study examining smoking behaviour among students in Wales³³ 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 study³⁴ 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^{2,35}. Workplace smoking bans can be particularly effective in this respect since most exposure to second-hand smoke for nonsmokers occurs in the workplace³⁶. However, their effectiveness will depend on how easily they may be circumvented by the smoker³⁷. Studies have found that companies or restaurants allowing smoking only in designated areas have substantially smaller effects on smoking behaviours than smoke free sites^{13,22,38}.

^a Based on extrapolation by the author using the original article, Fichtenberg and Glantz²⁷ and Warner²⁹.

The impact of newly adopted smoke free laws will depend on the percentage of the population already covered by private restrictions³⁹. 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.

1. 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^{b,40}, 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 workplace⁴¹.

A study from Scotland⁴² 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^c in 1997.

A study from Ireland⁴³ investigated the costs of smoking in the workplace. It looked specifically at: the excess absenteeism arising from smoking-related

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^d. 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
Total	\$2,565

Reproduced with permission from Lok, Conference Board of Canada, 1997⁴⁴.

^b The US Building Owners and Managers Association views smoking as the major cause of fires in office buildings⁴⁰.

^c 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/>

^d 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 damage²⁹. Applying an effectiveness of 3.8% reduction in smoking prevalence from a systematic literature review²⁷, 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 .

A recent analysis⁴⁵ 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 6250 fewer myocardial infarctions and 1270 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 study⁴⁶ 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

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\$)⁴⁷.

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 year⁴⁸. Another study estimated that each additional year of life expectancy may increase GDP per capita by 4%⁴⁹.

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 law⁵⁰. Media publicity is one way to increase voluntary compliance³⁹. Compliance with smoke free policies may be problematic in countries lacking public support for the law and in less developed economies¹⁷.

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 areas³⁰. There may be a feedback mechanism between public support for smoking restrictions and the existence of these laws.

Another study²⁶ 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-

^e Calculation provided by the author.

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 costs³⁵. A strong argument against separately ventilated smoking rooms is that they significantly increase lung cancer mortality risks among smokers⁵¹. 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.⁵² 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_{2.5}), 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 industry⁵³. A number of studies indicate that the economic impact is minimal to non-existent. An article by Glantz and Smith⁵⁴ 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 cities⁵⁴. 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 law⁵⁵. A Canadian report⁵⁶ 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.

A study of smoke free policy in cafes in an unregulated city in Europe⁵⁷ 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 study⁵⁸ 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 Act⁵⁹. 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^f 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 gains⁶⁰. The results are summarised in Table 2.

^f CHOosing Interventions that are Cost Effective (CHOICE).

Table 2: Cost effectiveness 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, 200260. DALY: disability-adjusted years of life saved

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)⁶¹. The cost-effectiveness can also vary across regions due to the degree of anti-tobacco sentiment⁶².

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. Individually based interventions usually have higher costs. Introducing driver-side air bags costs \$30,000 per life-year gained⁶⁴. Breast cancer screening through mammography has been found to cost ~\$60,000 per life-year gained^{65,66}. 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 screening⁶⁷.

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 level⁶⁸. 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.

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.

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2 Chapter

The economic impact of a smoking ban in bars and restaurants

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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!

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The authors of the review used the Siegel's criteria² 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.

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 colleagues¹ 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 places³. 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 29% in the period 1998-2003. This is in striking contrast with establishments that prima-

rily 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 and figure I³ 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.

The economic impact of a smoking ban in bars and restaurants

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



(Reproduced with permission from the Ministry of Management Services³).

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 prospering⁴:

- 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.

The 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. Citywide, at the end of 2003, 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"⁵. 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"⁶. The French hospitality industry would quote a figure of 20% loss⁷ and the Flemish hospitality industry quoted a loss of 25%⁸.

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 106.3 in the period after the ban (from April 2004 to February 2005) compared to 109.8 in the equivalent period a year earlier (from April 2003 to February 2004)^a. A decrease of revenues of 3.2% and not 15%, 20% or 25%. The decrease in the value of the sales of 3.2% 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 2004⁹.

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 ban¹⁰.
- The beer price in Ireland was the fourth highest in European region in 2002¹¹.
- The price of a pint of beer has grown more rapidly in Ireland in the period 2000-2003 than the general price index¹².
- 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 Ireland¹³.

^a 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.

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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 2003¹⁴.

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 North¹⁵. 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^b. 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 tourism, cross border sales, import/export and non-commercial production, and therefore should be interpreted with caution^b.

Table 1 is from the Organisation for Economic Cooperation and Development (OECD) Health Data 2004 . 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.

^b Personal communication, Baumberg Ben, Policy and Research Officer, Institute of alcohol studies, London, UK, 24 February 2005.

Table 1: 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)¹⁶.

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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 Europe¹⁷.

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 2003¹⁷.

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 Spain¹⁸.

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 added¹⁸. 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

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people in Belgium employed in restaurants compared to 16,183 people in bars¹⁹. In the same year there were 392,489 people in France employed in restaurants compared to 99,797 people in bars²⁰.

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%

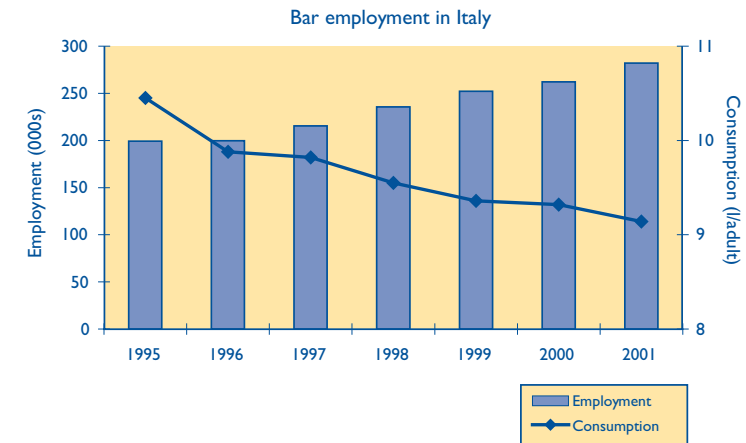
Source: European Commission¹⁸, last column: own calculations.

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%)¹⁹. 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%)²⁰. 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 .

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%)²². 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%)²³. 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.

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



Source: Anderson et al²⁴.

+A: 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"⁶.

M. Scollo and colleagues 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

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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”¹.

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 California²⁵. 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 106.3 in the period after the ban (from April 2004 to February 2005) compared to 109.8 in the equivalent period a year earlier (from April 2003 to February 2004). The decrease of the value of the sales of 3.2% 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.

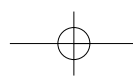
Drinking habits are changing within Europe, as per capita alcohol consumption is decreasing and more persons are drinking at home. Many factors may influence the sales in the hospitality industry. The number of drinking places in countries is for instance decreasing in several European countries. The 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 criteria² 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.

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