PostScript

LETTERS

Studying the Hungarian anti-smoking movement

Carter describes how tobacco companies infiltrate into tobacco control movements in order to damage their efforts.[1] Industry documents on Hungary suggest similar intentions. The transnational tobacco corporations (TTCs) jumped into the new market and privatised the factories of the formerly state owned Hungarian tobacco monopoly in the very first years of the transition from communism (1991-92).[2] Using their sophisticated lobbying practices, the TTCs succeeded in transforming the regulatory framework of tobacco and easing marketing and trade restrictions on their products. As Philip Morris put it, they sought to protect "the legitimate interests of the company . . .against discriminatory or unfair legislation and practices".[3]

The Hungarian anti-smoking movement was relatively inexperienced in neutralising the political and economical power of a wealthy and influential industry. Nonetheless, documents show the TTCs intended to monitor closely and counteract its efforts.

In February 1993, Gabor Garamszegi, CA Manager of Philip Morris Hungary, received a research plan aimed at assessing "the social context of smoking in Hungary". The submission[4] came from the formerly state owned Tobacco Institute (Dohánykutató és Minõségfejlesztõ Intézet Kutató-Fejlesztõ Rt.), which had no previous experience in assessing the social and health issues in tobacco use. The plan states that "tobacco and smokers have become ostracized among the health-maniac snobs" and its authors considered smoking nothing more than "a scapegoat for the deteriorating health condition of the population".

The authors acknowledged that the tobacco control "snobs" had succeeded in putting tobacco control higher on the political agenda and gained power from the increasing involvement of its members into the international tobacco control efforts. This "challenge requires appropriate reactions from the tobacco industry", with the document proposing that a panel of smoking volunteers be formed who could be "regularly questioned to learn the public opinion on social issues". Members of these panels should be sent to collect information with the aim of learning more about the programmes of anti-tobacco organisations: "As a possible method it could be envisaged that members of the panels . . .also take part in these programs and pass on their experiences to the leaders of the panels."

Another document also mentions the "tight monitoring of activities and plans of government and anti-smoking groups" as an important strategy to "maintain the social acceptability of smoking", since the "growing anti-smoking sentiments . . .would damage ability of the company in all business area to represent and defend company interests".[5]

More recently, British American Tobacco has engaged in launching a "social dialogue" with tobacco control advocates and government based agencies. This is another effort of TTCs to portray themselves as if they are changed, contrite, and reformed.[6]

Hungary today faces an increasing epidemic of smoking related diseases, with 28 000 deaths (3.5 million people of 10 million population are smokers) attributable to smoking every year. The country ranks first in the world regarding mortality from lung and oral cancers.[7]

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Events of 11 September 2001 significantly reduced calls to the New Zealand Quitline

New Zealand has a national (free) telephone Quitline service that is promoted through regular mass media campaigns. Data are routinely collected on the over 100 callers per day. We used this data source to investigate the impact of the 11 September 2001 terrorist attacks in the USA on calls to this service.

On Wednesday 12 September (11 September in New York was 12 September in New Zealand) there was a sudden decline in the number of new callers to the Quitline (only 137 callers relative to 237 on the previous day—a 42% reduction). Similarly, relative to the preceding Wednesday, the number of new callers was down by 41%.

The effect was felt for at least several weeks. There was an overall 35% drop in the total number of new callers per week, when comparing the five weeks before 11 September with the five weeks afterwards. Using a generalised linear model we found an interaction between a "September 11" effect and time (week) ($p = 0.002$). Details of the model and the graphed results are available on a website.[1]

It appears that quitting "dropped off the personal agenda" for some New Zealand smokers in September 2001. It seems likely that at this time of increased media publicity of global security threats, the quitting plans of smokers were eclipsed by other concerns (for example, the psychological impact of these events appears to have been significant—at least for Americans[2]). This was despite the fact that New Zealand is an island nation that is very far removed from international trouble spots. It was also despite the fact that international terrorism has historically posed only a tiny risk of death to the general public relative to that from smoking (which kills half of long term smokers).

This reduction in calls is of concern considering that the Quitline (especially in the context of providing subsidised nicotine replacement therapy (NRT)) appears to be very successful in supporting quitting. Preliminary data from one survey suggests a point prevalence quit rate at three months of 44%.[3]

Other explanations for this sudden and sustained reduction in calls to the Quitline from 12 September seem unlikely. Nevertheless, this decline in new callers did occur in the context of a longer term decline in calls to the Quitline which had been occurring since a peak in November 2000. That peak was a result of callers becoming eligible to obtain vouchers for heavily subsidised NRT through the Quitline service.

One implication of this relation between global security issues and Quitline calls is that publicity for Quitline services may be less cost effective at times of perceived international crisis. However, the continuance of at least 120 calls per day to the Quitline, during September and October 2001, indicates the strength of the desire to quit in the population of smokers that the Quitline has tapped into.

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Big Mac index of cigarette affordability

As for any other commodity, demand for tobacco responds to price changes: when prices rise, demand for tobacco falls. Price increases encourage cessation,[1] reduce average cigarette consumption among continuing smokers,[2] and deter initiation.[3] Tax increases are thus widely accepted as a key component of tobacco control policy.[4–6]

Table 1 Cigarette prices in $US and tax levels compared to Big Mac index of cigarette affordability

Country	Price of 20 cigarettes ($US)	Total tax (%)	Cigarettes per Big Mac
Britain*	$6.33	79.5	9
Ireland*	$4.46	79.0	12
USA*‡	$4.30	27.7	12
Australia*	$4.02	68.9	9
Singapore**	$3.99	53.0	9
Hong Kong*	$3.97	52.0	7
New Zealand*	$3.88	74.5	10
Denmark*	$3.77	81.7	17
Sweden*	$3.64	70.5	15
Canada †	$3.80	71.1	11
Finland*	$3.53	79.0	15
France*	$2.76	75.5	20
Germany*	$2.76	68.9	18
Belgium*	$2.63	73.8	21
Netherlands*	$2.56	73.0	19
Austria*	$2.37	73.7	20
Japan**	$2.18	61.0	19
Luxemburg*	$1.94	67.7	30
Italy*	$1.93	74.7	24
Greece*	$1.79	72.8	22
Spain*	$1.66	71.2	28
Portugal*	$1.63	80.7	26
Malaysia**	$1.21	34.0	22
South Korea**	$1.02	68.0	50
Poland**	$0.92	69.0	32
Taiwan**	$0.91	44.0	45
Thailand**	$0.80	56.0	32
Brazil**	$0.57	75.0	50
Philippines**	$0.44	41.0	59
Indonesia**	$0.43	48.0	86

Based on the most popular price category.
Sources: *Smoking and Health Action Foundation; **Ash UK.
†Sales weighted average (reflects 17 June 2002 increase); ‡average of highest (New York) and lowest (Kentucky).

In calling for increases in tobacco tax, tobacco control advocates often find it useful to compare cigarette prices internationally with those in their own country. To do this, they must somehow convert prices in other countries using a standard measure, most commonly the price in $US. Exchange rates, however, may be influenced by many factors including inflation differentials, monetary policy, balance of payments, and market expectations.[7] Guindon *et al* proposes "purchasing power parity" (PPP) as a more appropriate measure for comparison. This theory argues that exchange rates are only at their "correct" levels when they are equal to the ratio of the two countries' price level of a fixed basket of goods and services.[8] Developing indices of PPP is a fairly time consuming exercise. *The Economist's* Big Mac index,[8] by contrast, provides a "quick and dirty" estimate of the extent to which various currencies may be under or over valued. McDonalds' Big Mac hamburgers are produced to more or less the same recipe in 120 countries and can be regarded as identical for currency translation. The "Big Mac PPP" is defined as the exchange rate that would result in hamburgers costing the same in the USA as elsewhere.[8]

While Big Mac prices may not perfectly represent a total basket of goods and services—meat prices for instance might vary in different markets—the Big Mac PPP does appear to compare favourably with other more rigorous estimates of purchasing power.[9]

To produce an update of Scollo's Big Mac index of cigarette affordability[10] we obtained Big Mac and cigarette prices in 30 countries. Big Mac prices were obtained from *The Economist* magazine[8] and through phone calls to a further 11 McDonalds restaurants worldwide (Dublin, Brugge, Amsterdam, Rome, Barcelona, Lisbon, Vienna, Stockholm, Helsinki, Athens, and Luxemburg, 28–31 May 2002). We used cigarette price and tax levels compiled by the Canadian NSRA[11] and ASH UK[12] and exchange rates as at 31 May 2002. We then divided the (local currency) price of a Big Mac in each country with the (local currency) price of a single cigarette (fig 1). Cigarette prices in $US and tax levels in 30 countries have been tabulated (table 1). The number of cigarettes per Big Mac provides a slightly different picture of relative affordability of cigarettes than that provided by a simple conversion to $US.

While by no means a perfect measure, the Big Mac index of cigarette affordability provides a reasonable estimation of relative affordability of cigarettes in the countries listed.

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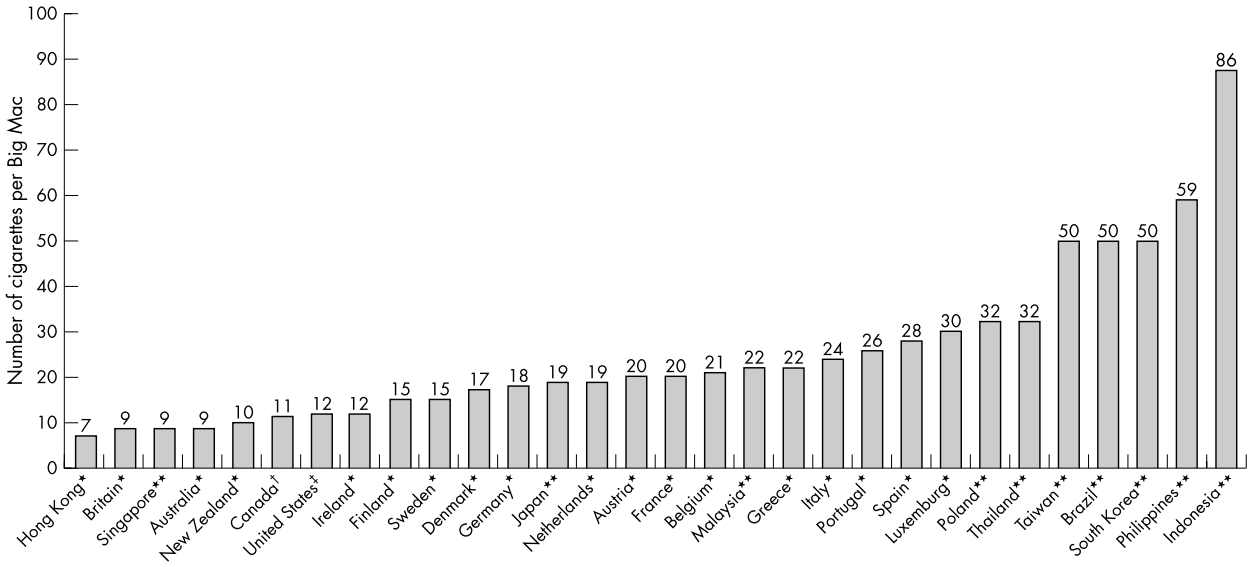

Figure 1 Big Mac ranking of world cigarette prices. Sources: *Smoking and Health Action Foundation; **Ash UK. †Sales weighted average (reflects 17 June 2002 increase); ‡average of highest (New York) and lowest (Kentucky).

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Is it time to abandon youth access programmes?

In their editorial "It is time to abandon youth access tobacco programmes", Ling *et al*[1] base their argument on an in press meta-analysis of youth access interventions by Fichtenberg and Glantz.[2] These authors conclude that there is no proof that youth access interventions work to reduce youth smoking rates. Sadly, this analysis includes 10 methodological flaws, each one of which individually renders the conclusions scientifically invalid.[2] One of the invalid figures from the Fichtenberg analysis has been reprinted in *Tobacco Control*.[1]

Three of the eight studies included in the meta-analysis did not involve any actual enforcement of the law, and the authors of a fourth study concluded that enforcement was inadequate because of a political backlash from merchants.[3–7] The inclusion of at least three of these studies is scientifically unjustifiable as it has been established for over a decade that merchant education programmes alone are ineffective at attaining the levels of merchant compliance that can be expected to reduce youth access to tobacco.[8 9] Three out of the five studies included in the analysis of the effects of youth access restrictions on past 30 day smoking did not involve enforcement. The authors inappropriately list the Baggot study as including enforcement and fines when in fact the inspection method was so flawed that no merchant was ever caught and none were prosecuted.[4]

In the Baggot study, merchant compliance is reported as 100%.[4] None of the stores sold to youths aged 13 years or under during enforcement checks, yet 100% of smokers among the community youths surveyed reported that they regularly bought tobacco from stores and only rare subjects reported ever having been turned down. The study's authors correctly concluded that the compliance inspections were an invalid measure of youth access. Yet Fichtenberg and Glantz included this invalid data in the analyses of a threshold effect and it is also included in the figure printed in *Tobacco Control*.[1 2]

It was improper to include a study from England where the legal age is 16 years as the majority of secondary school students would be of legal age to purchase and no impact on youths ages 14–15 would be expected.[4]

It was improper to include the study from Australia. In addition to the fact that the study involved no enforcement, 46% of the students in the intervention group actually lived outside the intervention area![5]

The meta-analysis improperly combined studies of different designs including cohort, cross sectional, controlled interventions and non-controlled interventions.

Combining these studies is also inappropriate because the ages of the youths, and the methods used to test compliance, differed dramatically from study to study. For example, a compliance rate of 82% for a 14 year old is equivalent to a compliance rate of 62% for a 17 year old.[10] A compliance rate of 42% for behind the counter sales is equivalent to a compliance rate of 58% for self service sales.[11] Differences in the techniques used to measure compliance render all of the computations and conclusions in this paper invalid.

The authors' basic premise is that the percentage change in merchant compliance should correlate with the percentage change in the prevalence of youth smoking. The use of this measure represents a straw man. In my review of 176 articles concerning youth access, I cannot recall anybody in this field ever suggesting that the change in percentage of merchant compliance is an appropriate measure of youth access. To the contrary, there is wide agreement among experts in this field that absolute levels of merchant compliance above 90%, as measured through realistic compliance checks using youths close to the legal limit, will be necessary to effect a change in the prevalence of youth smoking.[12]

In the figure presented in the *Tobacco Control* editorial,[1] intervention communities are being inappropriately compared to control communities from other continents and legal systems. If the authors wanted to compare smoking rates and youth access interventions across communities, a random sample should be used, uniform measures should be employed, and other confounding factors such as socioeconomic status and the cost of tobacco should be controlled for. When this type of analysis has been performed on a community and state level of analysis, reductions in youth smoking have been observed.[13 14]

It has been known for centuries that the prevalence of smoking increases during adolescence. This factor must be controlled for in cohort studies by the inclusion of a matched control group. During the period when most of these studies were conducted there was a secular trend of dramatically rising teen smoking rates observed in English speaking countries. Since merchant compliance would also be expected to increase over time in these intervention studies, it would be expected that a *positive* association between the intervention and smoking prevalence would be seen in both cohort and cross sectional studies if enforcement were completely ineffective. The meta-analysis does not appropriately incorporate control communities for each intervention community. Only three control communities are included for 15 intervention communities across seven studies.

In the same analysis, the few control communities are inappropriately included as additional "data points" in the mix. Baseline data rather than outcome data were used for one intervention community. These procedures indicate that the intention of this analysis was not to determine the impact of the interventions as the authors state.

The Fichtenberg and Glantz article[2] is strongly reminiscent of the "scientific" papers secretly commissioned by the now defunct Tobacco Institute. It is sad that the scientific literature continues to be poisoned for political ends. The *Tobacco Control* editorial[1] which was based on this travesty of science also excludes and misinterprets data which contradict the authors' long held biases.[15]

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