

# Doctors and Tobacco

Tobacco Control Resource Centre

## The Economics of Tobacco Policy

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### Introduction

As the epidemiological and medical evidence of the dangers of tobacco consumption has accumulated, the tobacco industry has shifted its defensive position to one based largely on economic arguments. At the same time, it has been recognised that certain economic measures are effective in tobacco control. This Factsheet reviews the economics of tobacco policy and critically evaluates the major economic arguments used by the tobacco industry to influence policymakers. It should be read in conjunction with the TCRCUICC Factsheets on Tobacco Taxation [LINK] and Smuggling of Tobacco Products [LINK].

### The costs of tobacco

What are the social costs of tobacco? This question is difficult, but crucial. The argument that tobacco imposes social costs that must be minimised and adjusted for through public policy is the basis of economic policies for tobacco control. It is important to quantify accurately such social costs: low estimated costs can be used by the tobacco industry to argue against the implementation of tobacco control policies, whereas higher social costs can be used to justify further government intervention.

#### Private and social costs

The total costs of tobacco consumption to the community as a whole consist of private costs and external (or 'social') costs.

$$\text{Total costs} = \text{private costs} + \text{external costs}$$

Costs knowingly and freely borne by the consumer are deemed to be private costs. All other costs are external (social) costs. Thus external costs include costs borne by tobacco users who are not fully informed of the consequences of tobacco consumption. Users who are ill-informed cannot adjust their behaviour in response to these costs, which are therefore unaccounted for. Contrary to popular belief, smokers can and do bear some external costs.

To what extent are tobacco users fully informed about the costs of tobacco consumption? Some commentators have argued that health education and health warnings have led many smokers to overestimate the adverse effects of smoking. Yet little reference is made to the extent to which consumers

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are aware of and appreciate the addictive properties of nicotine. Moreover, comprehensive tobacco-related health education is available only in a minority of countries.

Some economists argue that tobacco-related costs borne by the families of fully informed smokers are private costs. This assumption leads to substantially reduced estimates of external costs. However, given that most smokers become addicted in their teens, long before they have a spouse, long-term partner or children, it is most unlikely that family interests were taken into account in their decision to smoke. Where family interests have not been accounted for in this decision, costs borne by families can be regarded as external costs.

### **Real and pecuniary costs**

When quantifying the social costs of tobacco, care must be taken to avoid counting the same costs twice. For example, if a smoker becomes sick, gives up paid employment and relies on government welfare payments, it is not acceptable to count both the value of lost production and the cost of welfare payments as social costs. The first is a 'real' cost (a real loss of resources) while the second is a 'pecuniary' cost (a redistribution of resources from taxpayers to the smoker).

### **Tangible and intangible costs**

The costs imposed by tobacco can be either 'tangible' or 'intangible'. Tangible costs include healthcare costs (prescription drugs, medical and health services, hospital and other institutional services); production losses resulting from sickness, death and reduced on-the-job productivity; welfare provision (avoiding doublecounting); fires and accidents; pollution and litter; and research and education costs (although it can be argued that these last are discretionary costs rather than inevitable results of smoking). Intangible costs include pain and suffering of smokers, passive smokers and others (for example, the bereaved) and lives lost by active and passive smokers.

### **The budgetary impact of smoking**

Discussion often tends to focus on the budgetary impact of smoking. This relates to whether tobacco tax revenues cover the costs (particularly healthcare costs) that smoking imposes on governments -- that is, whether the public sector is fully compensated by tobacco tax revenue. However, while this issue is undoubtedly interesting and important for governments, it is a much less important consideration in developing rational economic policies towards tobacco.

The social costs of tobacco are not just paid by governments. A high proportion of smoking-attributable costs is borne by private individuals or by business. In addition, tax paid on tobacco products is almost certainly paid by ill-informed and addicted smokers (themselves the bearers of social costs) rather than by the tobacco industry (the prime source of these costs). Whether government budgets gain a net benefit from tobacco depends largely on tobacco tax rates and health care arrangements.

While we are often asked: 'Do smokers cover the smoking-related costs that the rest of the community bears?', the more relevant question is: 'Does the tobacco industry cover the community's smoking-related costs?'. The answer to this second question is almost certainly 'no'.

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### The lifetime health costs of tobacco

Are the average lifetime health care costs of tobacco users higher than those of nonsmokers? Smokers tend to have high health care costs during their lifetimes. Nonsmokers, on the other hand, have higher life expectancies than smokers and so may use health care services for longer. One of the difficulties in making such a comparison is that the health care costs and "benefits" of smoking (where a "benefit" is seen as a health cost avoided because of premature death) do not arise at the same time: health care costs occur earlier than "benefits". The only way to compare different temporal profiles of costs and benefits is to convert them to values expressed in a common time period, by means of "discounting". And while the outcome of the analysis is crucially dependent on the discount rate chosen, determining an appropriate rate is far from straightforward.

On balance, it seems probable that the lifetime costs of smokers and nonsmokers do not differ greatly. Nevertheless, when smoking prevalence is rising, the total net annual smoking-attributable health care costs will almost certainly be high because the "benefits" accrue much later than the costs.

It is difficult for the tobacco industry to pursue this line of argument, as it implies acceptance of the fact that smoking reduces life expectancy. Noneconomists may find it difficult to accept the concept of premature death as conferring a "benefit". Of course, premature death imposes other costs on both tobacco users and others which are substantial and which, from a community viewpoint, greatly outweigh any health care "benefits".

### The benefits of tobacco

According to economic theory, if smokers are fully informed, rational and under no duress, it can be assumed that the benefits of smoking to them are at least equal to the costs which they themselves bear. If this were not so, they would not smoke. The excess of these benefits over the costs (including the price paid for the tobacco product) can be considered to constitute the private benefits of smoking. There are no obvious external benefits (benefits that accrue to nonsmokers).

The tobacco industry uses the existence of these benefits (the size of which depends on the extent of smoker information and rationality) as a justification for its current size. However, the existence of private benefits cannot be used as a justification for ignoring social costs. Moreover, in quantifying private benefits there are difficulties with the assumption of rationality in nicotine-addicted smokers.

### Measures to reduce tobacco demand

This section reviews the major types of economic policies available to reduce tobacco consumption, together with the evidence for their effectiveness.

#### Tobacco taxation

Taxation is probably the most effective (and certainly the most cost-effective) means of reducing tobacco consumption (see also Factsheet on Tobacco Taxation and Price Policies [LINK]). A related topic is addressed in the Factsheet on Smuggling of Tobacco Products [LINK].

### **Restrictions on advertising and other promotion**

Health campaigners tend to support bans on tobacco advertising and promotion on the grounds that these activities increase the total demand for tobacco. The tobacco industry, on the other hand, claims that advertising does not increase market size, merely determining the market shares of individual firms. Considerable econometric research has been undertaken on this topic.

While econometric studies of the responsiveness of tobacco demand to price changes (the "price elasticity of demand") show consistent results, studies of tobacco advertising are inconclusive. Some conclude that tobacco advertising affects market size, others that it does not. Problems with the available data and with the methodologies used prevent any firm conclusions from being drawn. However, research in areas other than economics appears to provide stronger evidence that advertising increases market size.

Studies of the effect of advertising bans show that partial advertising bans (for example, bans on television advertising only) appear to have little impact on demand, but simply provoke a shift to other, non-restricted, forms of advertising. However, when multiple restrictions are imposed on all advertising and other forms of sponsorship, tobacco consumption declines significantly. These findings support the view that advertising does indeed increase the size of the tobacco market.

### **Health information and counter advertising**

Health education and anti-tobacco campaigns (also known as counter advertising) can be considered as instruments of an economic tobacco control policy because they are designed to improve the workings of the marketplace. Better informed actual or potential smokers will be in a better position to make proper decisions in their own interests. Product advertising, on the other hand, often appears to reduce the consumer's ability to make informed decisions (for example, advertising cigarettes as "low tar" suggests an acceptable level of safety).

There is extensive evidence that health education, warning labels and public anti-smoking campaigns contribute to declines in tobacco consumption, especially when these activities are carried out together.

### **Smoking restrictions and bans on sales to youth**

Restrictions on smoking in public places (for example, in restaurants, public transport, and the workplace) reduce the opportunities to smoke and increase incentives to stop smoking. There is considerable evidence that such restrictions reduce both the prevalence of smoking and the average tobacco consumption of smokers. They also reduce the impact of environmental tobacco smoke on non-smokers.

Where effectively enforced, bans on tobacco sales to youth appear to reduce the prevalence of smoking among young people.

### **Other smoking cessation interventions**

Of particular interest are nicotine replacement therapy (NRT) and other pharmacological products intended to assist cessation. From an economic perspective, these products can achieve improved market operations

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by reducing the distorting effects of nicotine addiction. By reducing smoking prevalence, such products reduce the social costs of tobacco.

A strong economic case can be made for providing them under public subsidy on the grounds of the external benefits that they confer.

### **Costeffectiveness of antitobacco policies**

Economists argue that in determining rational public policy, it is not enough merely to demonstrate that a particular policy reduces tobacco consumption. Alternative policies designed to achieve the same goal should be compared with respect to their costeffectiveness. In addition, a benefit/cost evaluation would indicate whether the social benefits of policies exceed their social costs.

Because so many factors vary between programmes and countries, it is difficult to compare the costeffectiveness of various interventions. Evaluations that have a narrow perspective (for example, that consider the benefits solely to the public sector and over a relatively short period) may indicate low rates of return. However, where a broader perspective that takes into account the interests of the community over a longer period is adopted, many programmes can yield high rates of return. As the social costs of tobacco are high, so the potential returns from tobacco-control programmes are also high.

### **The economic contribution of the tobacco industry**

The tobacco industry has commissioned numerous reports evaluating its gross economic contribution in terms of employment (in both manufacturing and agriculture, but not in the health sector), earnings, exports and taxes paid.

Universally, these studies conclude that the industry makes a major economic contribution. In almost all cases, the studies are based on two important implicit assumptions:

- ? That it would be possible totally to eliminate all tobacco consumption; and
- ? That where tobacco consumption is reduced, money that used to be spent on tobacco consumption would not be spent on other forms of consumption (yet nor would it be saved).

In other words, these studies do not ask: "What would be the net economic effects of a reduction in tobacco consumption?"

In the real world, if tobacco consumption is reduced, two outcomes are possible:

- ? the level of national savings increases;
- ? and/or other forms of consumption expenditure are substituted for tobacco expenditures.

If smokers reduce their consumption and simply spend their money elsewhere, the relative economic effects of the two different consumption patterns must be identified. There is some evidence that a reduction in expenditure on smoking could well lead to higher levels of domestic employment and earnings (because cigarette production is relatively capital-intensive and, in many countries, foreignowned). If the money is saved rather than spent, the increased savings are likely to have stimulatory macroeconomic effects which should be compared with the direct economic effects of reduced tobacco expenditures.

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On balance, it seems reasonable to expect that the economic effects of reduced tobacco expenditures on earnings and employment are likely to be close to neutral. Reduced smoking will change the structure of national consumption, but is unlikely to have a major impact on its total level.

### The impact of tobacco on developing countries

Many developing nations face the prospect of rapidly rising social costs of tobacco and, in particular, rising publicsector health costs. There are two main reasons for this. First, smoking prevalence rates in many countries are rising, and the tobacco epidemic is currently at an early stage. Second, as these countries develop, health delivery standards can be expected to rise and a higher proportion of healthcare costs will be borne by public health systems rather than by individuals (mainly the families of the victims). The result will be rising unit and total healthcare costs and a shift of a significant proportion of these costs to the public sector.

The economic impact of the tobacco industry on developing countries depends on whether there is domestic tobacco farming and/or domestic cigarette production. If, in developing countries, cigarettes are fully imported or are manufactured purely for domestic consumption, a reduction in smoking prevalence will lead to better economic outcomes. If a developing country exports tobacco or cigarettes, the economic impact is less clear. For example, if no substitute cash crops were available the net economic impact of tobacco growing might be favourable. However, even in the case of tobaccogrowing countries like Zimbabwe, which are significantly dependent on tobacco export earnings, it is still in their economic interests to reduce the domestic prevalence of smoking.

### Further reading

Several recent books and articles provide excellent material on the economics of tobacco policies. The following are recommended:

Abedian, Iraj; van der Merwe, Rowena; Wilkins, Nick and Jha, Prabhat (1998), *The Economics of Tobacco Control. Towards an optimal policy mix*, Applied Fiscal Research Centre, University of Cape Town.

Chaloupka, Frank J. and Warner, Kenneth E (1999), *The Economics of Smoking*, National Bureau of Economic Research Working Paper 7047, March, available at: <http://www.nber.org/papers/w7047>

Collins, David J. and Lapsley, Helen M. (1997), *The Economic Impact of Tobacco Smoking in Pacific Islands*, Pacific Tobacco and Health Project, Adventist Development and Relief Agency Australia, available online at: <http://www.globalink.org/tobacco/9910eco/>

Jha, Prabhat and Chaloupka, Frank (1999), *Curbing the Epidemic. Governments and the Economics of Tobacco Control*, The World Bank, Washington D.C.

Single, E.; Collins, D.; Harwood, H.; Lapsley, H.; and Maynard, A. (1995), *International Guidelines for Estimating the Costs of Substance Abuse*, Canadian Centre on Substance Abuse, available online at: <http://www.ccsa.ca/>

Jha, Prabhat and Chaloupka, Frank (eds) (forthcoming), *Tobacco Control Policies in Developing Countries*, Oxford University Press