

Taxing sin: some economics of smoking, gambling and alcohol

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The key arguments for taxing ‘sin goods’ are that the taxes yield revenue without distorting economic activity greatly and they produce little political backlash. However, although these taxes help to restrict the damages that consumers of ‘sin’ impose on others and on themselves, they must generally be supplemented by other policies to have significant impacts.

There is a long history of governments taxing activities of which they disapprove. In 1604, England’s King James I concluded that tobacco smoking was ‘a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lung’ (Brandt (2007, p. 21)). He responded by increasing the import duty on tobacco by 4000 per cent — an early hefty tax

on 'sin'. This was a severe response but non-tax restrictions at this time in history were more severe. In Turkey, Sultan Murad IV had pipes driven through the noses of those found smoking either immediately before or after their beheading! Indeed, Murad IV would patrol the streets and, if he saw a soldier using tobacco or alcohol, would kill the soldier on the spot with his mace.¹

do with their claimed propensity to corrupt morals. Since taxes are needed to fund public spending, one way of selecting them is to find goods yielding much tax revenue but which impose low distortionary costs. Frank Ramsey (1927) showed that the best way to do this was to levy taxes on goods with inelastic demand. Cigarettes, alcohol and activities such as compulsive gambling have

from Suits (1979), the demand for gambling on such things as horse racing is probably elastic, suggesting a limited ability to yield tax revenue. However, repetitive gambling activities such as gaming machines are more addictive and my own research suggests that these activities have relatively inelastic demand and, as a result, yield good revenue.

While governments are often accused of hypocrisy in seeking revenue rather than the moral good in taxing sin, a sensible view is that they are following recommendations of public economists who advocate such taxes when demand elasticities are low. Of course, governments are using the fact that these goods are perceived as 'sinful' as low resistance ways of accessing revenue. However, if the demand for sin goods is inelastic, policies designed to yield revenue do so precisely because such policies will be ineffective in reducing sin (Johnson and Meier 1990).

Taxes can be levied on 'sin goods' on grounds that have nothing to do with their claimed propensity to corrupt morals. Since taxes are needed to fund public spending; one way of selecting them is to find goods yielding much tax revenue but which impose low distortionary costs.

Despite these discouragements alcohol consumption, smoking and gambling have continued to flourish in modern times even though their consumption remains restricted. In Australia, cigarette taxes amount to about \$5 on a pack of 20. Alcohol is taxed in various ways. Full strength beer is taxed at \$38 per litre of alcohol, spirits at \$60.42 per litre of alcohol while wine is taxed on its value (ATO 2008). These charges add significantly to the cost of drinking alcohol. Finally, gambling taxes, particularly those imposed on the most popular form of legal gambling in Australia, namely on gaming machines, provide 9.5 per cent of 'own source' state government revenue (Commonwealth Grants Commission 2008).

Taxes on 'sin goods' need not target 'sin'

Taxes can be levied on 'sin goods' on grounds that have nothing to

inelastic demand because they are addictive. Taxing sin goods therefore yields revenue without impacting greatly on economic activity.

These revenue objectives partly explain current taxes on sin. Tobacco demand elasticities lie between -0.25 and -0.5, so a 10 per cent tax increases tax revenue by between 5 per cent and 7.5 per cent (Chaloupka et al. 2001). Price elasticities for alcoholic beverages are around -0.6, so a

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10 per cent tax augments revenue by 4 per cent (Selvanathan and Selvanathan, 2004). The evidence on gambling is mixed since, as is known

Externalities

Another reason for taxing sin goods arises from the externalities associated with their consumption. These are costs imposed on non-consumers by the consumption of others.

For example, cigarette smoking has dangerous effects on bystanders who inhale secondary smoke. Evidence suggests that exposure to



such smoke is the most dangerous environmental exposure confronted by US citizens (NCI 1999). This is, for example, a health concern for non-smokers married to smokers — lung cancer risks of a non-smoking spouse increase by 20–30 per cent and heart disease risks by 23 per cent (Hirayama 1981). There are also specific dangers to children from passive smoking, including increased risks of respiratory disease (DHHS 2006). There are also damages to workers if co-workers or customers smoke in the workplace.

Excessive alcohol consumption is associated with violence, particularly within the family and is the largest single cause of deaths on our roads. Around 28.5 per cent of road deaths among those aged under 65 are due to alcohol. This is a particular problem for young drivers. A driver aged 20+ who has consumed six standard drinks has 12 times the chance of a fatal car crash than a sober driver while, for drivers aged 16–19, the risk is 100–times that of a sober driver (Phelps 1997).

Other alcohol-linked externalities include foetal alcohol syndrome inflicted on infants when mothers consume alcohol during pregnancy (Clarke 2008). This reduces infant IQ.

Finally, although only 2.1 per cent of Australians are ‘problem gamblers’, five times this percentage (comprising mainly family and work colleagues) are adversely affected by gambling (Productivity Commission 1999). These social costs take a terrible toll through interpersonal conflicts generated and problems in workplace performance.

Nevertheless, externality arguments for taxing cigarettes, alcohol and gambling are often weaker than public finance reasons because externalities are associated with misuse rather than use per se and often have relatively low cost. The external costs associated with cigarettes are estimated at 40 US cents per pack (Gruber 2002) and, while this is not negligible, it is dwarfed by private mortality costs of smoking for men of US\$222 per pack (Viscusi and Hersch 2007).

A more effective way of addressing externalities is often to restrict specific activities related to the external damages rather than penalising consumption generally.

For example, with respect to smoking, a better policy to reduce passive smoking damages is to restrict smoking in certain situations rather than taxing smoking per se. This is the motivation for banning smoking in the workplace, in entertainment venues and even in private cars with non-smoking

occupants. The latter reform was initiated in South Australia but has now been introduced elsewhere or is about to be. Smoking in the home causes damage to children and can be discouraged by using ‘moral suasion’ arguments which articulate the health implications for children and others of secondary tobacco smoke.

Likewise, while drinking is the major cause of traffic fatalities, the issue



is not drinking per se but drinking before driving. Taxing alcohol at moderate levels will reduce this but the more sensible way to tackle accident externalities is to provide information on accident risks, particularly among adolescents, and to rigorously punish those who threaten life by driving while intoxicated. Booze buses that

randomly check for intoxicated motorists, with particularly stringent restrictions on young drivers, are a more effective way of tackling this specific behaviour than low taxes on alcohol. The option of setting very high taxes on use penalises the 74 per cent of Australians who consume alcohol at levels that impose low social costs (Clarke 2008).

With respect to gambling there are significant social costs linked



to the fact that problem gamblers move inevitably towards financial ruin — the ‘gambler’s ruin’ — and end up drawing unreasonably on family and employer resources. Families are destroyed and innocent children experience deprivation as a consequence. Here the harm is excessive gambling which can be controlled if the extent of gambling can be constrained. A difficulty is that problem gamblers display relatively inelastic demand so taxes to significantly reduce gambling need to be high. Society has made the judgement that most gamblers derive significant recreational benefits at

low social cost from gambling so that hefty taxes alone would again cut into the innocent pleasures of many. Better policies would specifically target problem gambling.

Several approaches have been developed. The first protects citizens from the excessive gambling that creates externalities by using electronic player cards for repetitive forms of gaming (Dickerson 2003). These cards are issued on the usual 100 point ID requirements of a cash card. They limit the money an individual can pre-commit to gambling. For most players, preferred expenditures would be within regulated limits but, for problem gamblers, such devices limit losses. This approach is currently under consideration in Victoria and other states. Another policy that limits problem gambling is the self-exclusion option that gamblers can now exercise in all states. Gamblers who, between gambling sessions, recognise that they face self-control issues with respect to gambling can elect to have themselves excluded from gambling venues.

These policies reduce costs faced by the consumers themselves.



Taxing externalities

Apart from public revenue and externality reasons for restricting sin goods, a further motivation is to reduce costs consumers impose on themselves. The main issues are whether such interventions are warranted and, if so, whether taxes are the best restriction.

Historically opposition to sin goods has been based on claimed ‘moral’ costs. Smoking has long been linked to sex. This dates at least to images of flimsily dressed wenches rolling cigars on their naked thighs in the cigar factory featured in Bizet’s opera *Carmen*. Alcohol too has long been viewed as destructive of work ethics and family attachments. It is commonly portrayed as a lever that promotes illicit seduction of the innocent. Gambling is often seen with standard ‘materialist’ misconceptions as a degenerate ‘service’ activity that yields no useful physical output. Indeed, Alexander Pope in his *Rape of the Lock* gives an eloquent picture of a degraded gambling woman and the corrupting influence the practice had on her. Veblen (1899) argued that gamblers impute causality into games of pure chance — psychologists term this the illusion of control — thereby making society more stupid.

For the most part, these activities are not regarded nowadays as ‘sinful’ in a narrow moral sense. Instead they are seen as costly to the individual because they imply private health and psychological costs from illicit drug consumption or financial ruin from gambling.

The health costs identified go beyond the damage bills accruing to governments. They even exceed



the total health costs that accrue to governments and the individuals concerned, reflecting also loss of life and increased morbidity.

Intervening to restrict consumption raises charges of ‘wowsersism’ with governments disallowing free choices. Two sub-claims support this criticism. First, that governments may not have better information than private citizens and, second, that even if citizens do hold mistaken views, they are entitled to be wrong and it is better for them to make their own mistakes. Indeed, the claim is often made that government intervention to ‘protect people from themselves’ has the moral hazard consequence of creating more dangerous, risk-taking behaviours.

Some argue that intervention to limit consumption of sin goods can be justified by considering within-person externalities or internalities (Gruber 2002–03) arising because individuals do not account adequately for the costs of these actions on themselves in the future. The thesis is that individual decision making is time inconsistent with today’s ‘self’ being impatient but tomorrow’s ‘self’ being

patient. Planning for the distant future is ‘reasoned’ and involves low impulsiveness but short-term responses are driven by the myopic emotions. Thus agents assess risky activities by hyperbolically discounting (Ainslie 2001) with short-term impulsiveness and long-term rationality ‘fighting it out’. Paternalist policy seeks to help the dispassionate self gain control over the emotionally driven choices considered by a conflicted individual.

Short-term selves are supposed to be strong among adolescents who engage in socially desirable experimentation to help them define adult roles but who thereby become susceptible to risky pursuits such as drugs and gambling.

In Australia, almost everyone who takes up smoking does so when young: the average age of initiating smoking is 15.9 years (ABS 2006). Such adolescents apply high rates of discount to longer-term costs of smoking. Even if they do correctly identify these costs, they substantially overestimate their



the habit!) but find it unexpectedly difficult to quit. There is again a case for intervention to limit consumption.

Similarly excessive drinking, including ‘binge drinking’, is often initiated during adolescence when neuroscientists tell us that the regions of the brain involved in executive control and motivation are underdeveloped. Moreover, the vulnerability to alcoholism is greatest among those initiating drinking early in life but those with difficulties making decisions at any age — those suffering depression,

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ability to quit the habit. These high rates of discount decline with age so when individuals are in their mid-twenties they are less impulsive and risk-loving. They then regret their decision to initiate smoking (most smokers do regret initiating

anxiety, ADHD and schizophrenia — tend to be alcohol abusers (Clarke 2008). There is again a case for limiting consumption.

These arguments are strengthened by recent evidence suggesting specific damages to brain development from

consumption of alcohol (White 2003) and tobacco (Krystal et al. 2005) during adolescence. Also relevant are the damages associated with drink-driving by youth that impose drastic internalisation of social costs.

Finally, problem gambling begins at early ages. About 33 per cent of problem gamblers began betting before they were 10 years of age with 47 per cent beginning between 11 to 18 years. These youth often have co-occurring alcohol, cigarette and other drug problems that, with gambling, are correlated with impulsivity and low cognitive control (Petry 2005).

The ethical debate concerning the case for paternalism with respect to sin goods seems academic, at least with respect to youth who make flawed decisions. It remains debatable, however, whether tax policies are the appropriate means of initiating restrictions.

Young people have limited incomes so their demand for such things as cigarettes and alcohol is relatively

price elastic. To this extent taxes will affect consumption choices, although it is doubtful that they would ever be the only policy instrument used in this context.

For example, with respect to tobacco smoking, a 10 per cent increase in price leads to only a modest 2.4 to 4.7 per cent increase in cessation probabilities among US youth with uncertain impacts on smoking initiation (Chaloupka 2001; Taurus et al. 2001). Increasing taxes to high levels provides stronger effects but encourages substitution of injurious home-grown tobaccos ('chop chop' home grown causes fungal infections of the lung) and the intensification of smoking through 'puffing harder'. A 1 per cent increase in price provides a 0.4 per cent increase in smoking intensity and a new range of more dangerous adenocarcinomas lower in the lungs (Adda and Comaglia 2006; Henschke and McCarthy 2002).

With respect to youth, there is a case for an infinite tax on smoking,

alcohol and gambling activities by prohibiting them. Minimum pack sizes, bans on advertising and bans on smoking in entertainment venues are also ways of curbing youth consumption. Bans on selling to youth backed by stringent penalties and penalties on purchasing are also effective. Negative advertising that emphasises current costs of smoking and alcohol in terms of lost physical fitness provide disincentives for youth that are more tailored and carry greater clout than modest tax hikes.

At best, taxes should be viewed as one component of a package of policies that seek to restrict the consumption of sin goods by youth and by citizens more generally.

Final comments

Economists seeking to limit external and privately borne costs of sin goods should devise policies that target problem areas as directly as possible. General policies that have broad impacts will generate by-product costs on non-targeted groups and bring about harmful substitutions that may lead to additional harm through unintended consequences. Taxes on sin reduce costly externalities and high personal health costs but are not the sole way of advancing this objective.

The key arguments for taxing sin goods are that the taxes yield revenue without distorting economic activity greatly and they produce little political backlash. While these taxes do help to restrict the damage consumers of sin impose on others and on themselves, they generally need to be supplemented by other policies to have significant impacts. ■



ENDNOTE

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