Coffers or Coffins? Government Policy on Death from Smoking
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Major Issues Summary

- It was estimated that in 1992 (the most recent figures published) there were 3.55 million adult smokers in Australia of whom 1.89 million were men and 1.66 million were women.

- It was also estimated that in 1992 smoking caused 18,920 deaths in Australia. Smoking is reputedly the leading cause of premature death and disease in Australia, yet such illness is preventable. The social cost of smoking to the Australian economy in 1992 has been estimated, conservatively, to have been $12.7 billion. The costs of smoking are not borne solely by smokers themselves. Their addiction has direct impacts upon others in society.

- Although Federal and State governments have resorted to regulation, education campaigns and limited cessation support services, they have also relied substantially upon tobacco taxation as a means of discouraging consumption, particularly among young people. In 1996–97, the Commonwealth and the States raised around $4.5 billion from tobacco taxes. In recent times, calls have been made for further large increases in taxation to address the smoking problem.

- There is strong evidence to suggest that tobacco taxation can play a powerful role in discouraging smoking by young people. However, the demand for tobacco products by adult, more established smokers is relatively insensitive to price changes. Increasing taxes does have an effect upon consumption but overall expenditure on tobacco products (and government revenue) increases. This increased expenditure must be at the expense of other items in the household budget. This is especially the case for low income households who spend a much greater proportion of their budgets on tobacco than high income households. Notwithstanding the large public health costs associated with smoking, governments derive a large net budgetary benefit from the existence of smoking.

- Survey evidence shows that while the proportion of adult smokers in the population declined significantly between 1983 and 1992, there has been relatively little decline in the adult smoking rate between 1992 and 1995, despite the fact that it was between these latter years that both the Federal and State governments significantly increased tobacco taxation. There is some evidence to suggest that smokers have reacted to price increases by reducing the number of cigarettes smoked rather than by quitting. Nevertheless, the average number of cigarettes smoked daily by men is still 19.7 while for women it is 18.1.

- Total government expenditure on anti-smoking measures (in 1989–90 prices) rose from 30 cents per capita in 1983–84 to nearly 70 cents in 1989–90 but had fallen to around 25
cents per capita by 1995–96. Significantly more funding has been provided to address conditions which affect fewer people than does smoking.

• Neither the Commonwealth nor the States have provided significant funding for smoking cessation programs aimed at actively assisting smokers to quit. It is the Commonwealth's view that 'quit' programs are essentially the responsibility of the States.

• One area where the Commonwealth could make a contribution is through the Pharmaceutical Benefits Scheme (PBS). In 1995, the Federal government rejected a recommendation from the Pharmaceutical Benefits Advisory Committee that there be a limited listing of nicotine patches on the PBS. Research has indicated, however, that the use of nicotine replacement therapies can double the success rate of smokers who are trying to quit.

• It may be timely for governments to re-evaluate their approach to the smoking issue. A case may exist for more resources to be applied towards measures aimed at reducing the high social costs of smoking. In essence, it may be far too simplistic to argue that smoking can be discouraged merely by increasing taxation. A much more integrated approach by both levels of government may need to be implemented if the national problem of smoking is to be adequately addressed.
Introduction

In recent times there have been calls for significant increases in tobacco taxation as a means of addressing the high social costs of smoking. One anti-smoking coalition has even issued the catchcry of '$10 per packet'. In April this year, the Minister for Health and Family Services, Dr Wooldridge, reiterated his Government's concern about the 'devastating effect of smoking' when announcing the commencement of a series of anti-smoking commercials.

This paper briefly examines some facts and figures relating to smoking. It points out that while governments have resorted to regulation and education to reduce smoking rates, a significant emphasis has been placed upon tobacco taxation as a means of discouraging consumption. However, while there is no doubt an important role for taxation to play in reducing tobacco use, there are economic and equity consequences associated with that approach. This paper argues that there may be a case for a re-evaluation of government policy on smoking, with governments being prepared to increase outlays on anti-smoking initiatives rather than simply embracing further revenue raising measures.

Background

Nicotine is a very addictive drug. It is estimated that, in 1992, there were 3.55 million smokers in Australia over the age of 15 years, all but a handful of whom display signs of physiological addiction. Of this total, 1.89 million were male and 1.66 million were female. Even if virtually all of these smokers must be held responsible for initiating their smoking habit, a point is reached when their addiction should probably be regarded as an illness rather than simply as a consumption choice.

Smoking is reputedly the leading cause of premature death and disease in Australia. A corollary of this is that tobacco-related illness is preventable. In 1992, the latest date for which such figures are available, it is estimated that smoking caused 18,920 deaths in Australia, over nine times the number of road crash fatalities. Interestingly enough, of all drug related deaths, 82 per cent are due to tobacco, 16 per cent due to alcohol (including road crash victims) and only 2 per cent are due to illicit drugs. Deaths from smoking are due not only to illnesses such as cancers and cardiovascular disease, but also occur through such other events as smoking-related fires. Table 1 shows smoking-related deaths...
compared with other common causes of death. This makes an interesting yardstick against which to gauge relative government policy responses.

Table 1. Selected Causes of Death: Australia, 1992

<table>
<thead>
<tr>
<th>Cause</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>18,920</td>
</tr>
<tr>
<td>Alcohol (incl. road fatalities)</td>
<td>3,692</td>
</tr>
<tr>
<td>Male genitourinary cancer</td>
<td>3,344</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>2,438</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2,405</td>
</tr>
<tr>
<td>Suicide</td>
<td>2,294</td>
</tr>
<tr>
<td>Road accidents</td>
<td>2,066</td>
</tr>
<tr>
<td>Female genitourinary cancer</td>
<td>1,824</td>
</tr>
<tr>
<td>Infectious/parasitic diseases</td>
<td>894</td>
</tr>
<tr>
<td>Melanoma</td>
<td>871</td>
</tr>
<tr>
<td>Illicit drugs</td>
<td>461</td>
</tr>
</tbody>
</table>


Collins and Lapsley have estimated the cost of smoking to the Australian economy in 1992 to be $12,736.2 million. These costs are derived as shown in Table 2. As the authors point out, there are many costs associated with smoking that are difficult to quantify, so they have not attempted to do so. As a result, their estimate of smoking-related costs is likely to be conservative.

The tangible costs in Table 2 show the loss or diversion of resources as a result of smoking deaths and/or illness. Paid production costs represent the loss of production of marketable goods; unpaid production relates to the loss of production which is not marketed, such as household services, community services, etc. While these represent a loss of potential goods and services available to society, it also has to be recognised that smokers who die forgo a stream of consumption of goods produced by others. Health care costs involve the provision of medical services and the cost of providing hospital and nursing bed days. Resources used in consumption relate to resources used to manufacture, distribute and consume tobacco products.

Intangible costs attempt to put a value on the life which would have been enjoyed by a deceased smoker had he or she lived. Another intangible cost is the forgoing, by a deceased smoker, of the benefits of a stream of future consumption had he or she lived.
Intangible costs should also include some estimate of the cost of pain and suffering endured by the patient (and others). However, given the difficulty of deriving a reliable estimate, these costs have not been included.

Table 2. Costs of Smoking: Australia, 1992

<table>
<thead>
<tr>
<th>Cost item</th>
<th>($m)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tangible Costs:</strong></td>
<td></td>
</tr>
<tr>
<td>Paid production costs</td>
<td>1 370.4</td>
</tr>
<tr>
<td>Unpaid production costs</td>
<td>5 444.4</td>
</tr>
<tr>
<td>less consumption foregone</td>
<td>3 125.3</td>
</tr>
<tr>
<td><strong>Net production costs</strong></td>
<td>3 689.5</td>
</tr>
<tr>
<td>Health care</td>
<td>832.5</td>
</tr>
<tr>
<td>Resources used in consumption</td>
<td>2 015.6</td>
</tr>
<tr>
<td><strong>Total tangible costs</strong></td>
<td>6 537.6</td>
</tr>
<tr>
<td><strong>Intangible Costs:</strong></td>
<td></td>
</tr>
<tr>
<td>Consumption by deceased</td>
<td>3 125.3</td>
</tr>
<tr>
<td>Value of life lost by deceased</td>
<td>3 073.3</td>
</tr>
<tr>
<td><strong>Total intangible costs</strong></td>
<td>6 198.6</td>
</tr>
<tr>
<td><strong>TOTAL COSTS</strong></td>
<td>12 736.2</td>
</tr>
</tbody>
</table>

Costs borne by individuals 8 703.5
Costs borne by business 3 386.0
Costs borne by governments 646.7


A very interesting perspective on the issue of smoking is the net budgetary impact for governments. This is shown in Table 3, again drawn from Collins and Lapsley.
Table 3. Budgetary Impact of Smoking: Australia, 1992

<table>
<thead>
<tr>
<th>Item</th>
<th>($m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receipts:</td>
<td></td>
</tr>
<tr>
<td>Federal tobacco tax</td>
<td>1,401.6</td>
</tr>
<tr>
<td>State tobacco tax</td>
<td>1,330.0</td>
</tr>
<tr>
<td>less income tax foregone</td>
<td>707.8</td>
</tr>
<tr>
<td>less indirect tax foregone</td>
<td>162.3</td>
</tr>
<tr>
<td><strong>Total net revenue</strong></td>
<td><strong>1,861.5</strong></td>
</tr>
<tr>
<td>Outlays:</td>
<td></td>
</tr>
<tr>
<td>Federal health costs</td>
<td>482.9</td>
</tr>
<tr>
<td>State health costs</td>
<td>166.3</td>
</tr>
<tr>
<td><strong>Total outlays</strong></td>
<td><strong>649.2</strong></td>
</tr>
<tr>
<td><strong>NET BENEFIT TO BUDGETS</strong></td>
<td><strong>1,212.3</strong></td>
</tr>
</tbody>
</table>


Table 3 shows the net revenues raised from smokers relative to the public health costs associated with smoking. The net revenue figure shows tobacco tax revenues minus the income tax and indirect tax revenues that governments would have received from the earnings and consumption of ill or deceased smokers. The figures show quite clearly that, from a budgetary point of view, governments benefit significantly from the existence of smokers. Furthermore, it should be realised that, since 1992, both the Commonwealth and the States have significantly increased their taxation of tobacco products. Currently, Federal and State revenues from tobacco taxation are in the vicinity of $4.5 billion or $1.8 billion more than in 1992. While health costs would no doubt also have escalated, the net budgetary benefit derived by governments from smoking is now likely to be considerably higher than the figure of $1.2 billion shown in Table 3.

**Government Policy on Smoking**

A strong case can be made for government to play a role in the prevention of smoking. Apart from the fact that the annual social costs are, at $12.7 billion, extremely high, smoking also generates a number of negative 'spillover' effects. Smoking impacts not only upon smokers themselves but also on others through passive smoking, unpleasantness, the pain, suffering and efforts of carers, people killed or injured in smoking-related fires and
so forth. The existence of such spillover effects present a classic case for government intervention.

It can also be argued that a large part of the population has, until recent times, not been made aware of the dangers of tobacco smoking. Certainly, the tobacco industry has not fully informed the public about the likely deleterious effects of smoking. This lack of market information represents another element of market failure which warrants government intervention to correct.

Even though governments have taken steps to address the smoking problem, much still remains to be done. Reviewing progress made under the National Health Priority Areas initiative, endorsed jointly by Commonwealth and State governments, the Australian Institute of Health and Welfare reported recently that:

in Australia, almost one in three men and one in four women smoke regularly. Although there have been recent declines in the proportion of men and women smoking, the target of 20 per cent smokers in both sexes by the year 2000 is unlikely to be met.

To date, governments have adopted interventionist policies involving three elements—regulation, taxation and assistance to smokers.

Regulation

Regulations, imposed through both Commonwealth and State legislation, have attempted to restrict the sale of tobacco products to minors, imposed warning labels on tobacco products, restricted tobacco company sponsorship, stipulated no-smoking zones in public places (applied in the ACT and proposed in NSW and South Australia) and banned most tobacco advertising. Several States have provided public funds to sports and the arts in lieu of previous tobacco industry sponsorship. Smoking is also banned on all domestic airline flights and is becoming increasingly restricted on international flights.

With growing evidence of the health effects of passive smoking, State occupational health and safety regulations would also appear to apply to smoking in the workplace. Any employer who does not heed the occupational health and safety guidelines on this matter could be liable to claims for damages from employees affected by smoking. Already many government agencies and large companies have banned workplace smoking, but more may need to be done in smaller enterprises. There is growing evidence to suggest that workplace smoking bans may have played a role in encouraging some smokers to quit or at least to reduce their tobacco consumption.
Taxation

Both the Federal and State governments have relied significantly upon tobacco taxation as a way of regulating consumption. The Commonwealth has applied excise and customs duties on tobacco products since Federation while the States have applied tobacco franchise taxes since the late 1970s. Both levels of government increased tobacco taxation significantly during the 1990s.

For example, in 1990, the Federal government imposed excise on tobacco products at the rate of $50.02 per kilogram. A first attempt to 'get tough' on tobacco use occurred in the 1992 Budget, when a discretionary $5 per kilogram was added to the excise rate for all tobacco products. It was stated that this measure would complement the range of health policies the Government already had in place which were aimed at discouraging smoking and hence reducing the health care and other costs to the community associated with smoking.

The 1993 Budget, which sought to impose significant increases in excise rates on refined petroleum products, also announced that excise rates on tobacco products would be increased by 3 per cent on Budget night with a further four increases in excise (each of 3 per cent) occurring at the time of indexation, that is in February and August 1994 and February and August 1995. However, several of the fuel excise hikes proposed in the 1993 Budget were opposed by the Democrats, the Greens and Senator Harradine. In order to recoup some of the fuel excise revenue forgone, the Democrats proposed to the Government that each of the remaining four increases in tobacco excise should be 5 per cent, instead of the 3 per cent proposed by the Government. The Government acceded to this request.

The timetable for imposing these increases was, however, not entirely adhered to. The 1995 Budget imposed a discretionary 10 per cent increase in tobacco excise rates (equal to $7.18 per kilogram) effective from Budget night (9 May 1995). Subsumed within this 10 per cent increase was the final 5 per cent increase which was to have been imposed in August 1995. By 1996, Federal excise was being applied to tobacco products at the rate of $83.93 per kilo, a 68 per cent increase since 1990.

A similar trend has emerged at the State and Territory level. In 1990, business franchise fees on tobacco products were imposed at rates of between 28 and 50 percent of wholesale value. By 1997, all States and Territories were imposing their franchise fees at the rate of 100 per cent of wholesale value.

In August 1997, the High Court declared State tobacco taxes to be constitutionally invalid (along with similar taxes on fuel and alcohol). The Commonwealth offered to collect these taxes on behalf of the States. As a result, on 6 August 1997, the Federal excise on tobacco was increased from $84.27 per kilo to $251.27 per kilo. In view of tobacco industry concerns about the impact of this large increase in weight-based taxation, the Commonwealth replaced this tobacco tax regime on 17 September 1997 with an excise of $86.92 per kilo plus a sales tax of 50.32 per cent of the listed wholesale price of tobacco products.
The rising level of tobacco tax rates has certainly swelled government coffers over the 1990s. In 1990–91, the Commonwealth raised $1322 million from tobacco excise while the States raised $944 million, giving total revenue of $2266 million. By 1996–97, Federal excise had increased to $1625 million and State franchise tax had risen to $2855 million (a total of $4480 million).

Another way of demonstrating the impact of these taxes is to look at the proportion of tax in the price of tobacco products. In 1996, Federal and State taxes represented 65 per cent of the price of a pack of cigarettes. For a pack of 25 cigarettes costing $6.49, the tax component was $4.20.10 A packet-a-day smoker thus pays over $1500 per year in tobacco taxes.

But what is the impact of these taxes on consumption? The impact of price rises can be measured by looking at the 'elasticity of demand' for tobacco products. The elasticity of demand shows the proportional change in the quantity bought divided by the proportional change in price.

The elasticity of demand for cigarettes for people in the age group 12 to 17 years has been estimated at –1.4.11 This means that a 10 per cent increase in the price of cigarettes will reduce demand by young people for cigarettes by 14 per cent. Thus the taxation of smoking is likely to contribute to a significant reduction in demand by young people who are unlikely to have already established a strong smoking habit.

However, the elasticity of demand for cigarettes by adults (20 to 74 years) is only –0.42, that is, a 10 per cent increase in the price of cigarettes will reduce demand by 4.2 per cent. This is not surprising given the fact that such people probably have a well established social and physiological addiction to nicotine. The average elasticity of demand for all age groups was estimated to be –0.47.12

It is interesting to use all the above information to examine the impact of an increase in tobacco taxation. Using the tobacco tax regime applying in 1996, for example, an increase in tax of 15.4 per cent would, all else being equal, increase the price of a packet of cigarettes by 10 per cent. Demand would fall by 4.7 per cent. Thus overall spending on cigarettes by smokers would actually increase by 4.8 per cent. Incidentally, government revenue from smoking would also increase, by 10 per cent.

Of course, if smokers increase their expenditure on cigarettes, this money has to be found from elsewhere in their budgets or from savings. The impact of the tax on the disposable income of smokers is likely to be much greater for those households on low incomes.

The Australian Bureau of Statistics' Household Expenditure Survey for 1993–94 shows that households in the lowest 20 per cent of incomes spend 4.21 per cent of their weekly income on tobacco products, compared with only 0.56 per cent for those in the top 20 per cent income bracket.13 Of course, these figures represent an average of both smoking and non-smoking households in each income group. These figures indicate that low income
households spend, proportionately, seven and a half times more of their income on tobacco than high income households. Tobacco taxation is thus arguably the most regressive of all taxes.

Incidentally, these figures for 1993 are based on tobacco expenditures before most of the major hikes in tobacco taxes were introduced. Given the inelastic demand for tobacco products, it is likely that low income households now spend, on average, much more than 4.21 per cent of their weekly income on such products. The tax regime combined with an addiction to nicotine would certainly appear to compromise low income smokers' ability to provide their households with other necessities.

Difficulties can arise in attempting to use households in the analysis of tax regressivity, since the structure of households might vary between income groups. However, further evidence of the impact of smoking taxation on low income families can be gained from a recent survey by Hill et al.14 Their findings show that not only are there proportionately more smokers in the lowest occupational group but also that smokers in this group consume at least the same number of cigarettes per day as smokers in all other groups. They found that amongst 'lower blue collar' occupations, 40.9 per cent of men and 31.8 per cent of women were smokers. This compares with smoking rates amongst 'upper white collar' occupations of 18.7 per cent and 16.7 per cent respectively. Furthermore, in the 'lower blue collar' group male smokers consumed an average of 21.0 cigarettes per day while women smoked 19.1 cigarettes. In the 'upper white collar' group, average consumption by smokers was 18.3 and 16.4 cigarettes respectively.15

It is also instructive to look at estimates of the elasticity of participation and the elasticity of individual consumption. The elasticity of participation shows the proportional change in the number of individuals smoking relative to the proportional change in price, while the elasticity of individual consumption shows the proportional change in the number of cigarettes consumed per smoker relative to the proportional change in price.16

The elasticity of participation for young smokers (12 to 17 years) has been estimated at –1.2, meaning that a 10 per cent increase in the price of cigarettes is likely to reduce the number of smokers in this age group by 12 per cent. The elasticity of individual consumption for young smokers was found to be –0.25, implying that a 10 per cent increase in the price of cigarettes would cause an individual young smoker to cut back the number of cigarettes consumed by 2.5 per cent.

More telling, however, are the estimates for adult smokers (20 to 74 years). For this group, the elasticity of participation is estimated at –0.26 while the elasticity of individual consumption is –0.10. Thus a 10 per cent increase in the price of cigarettes would only reduce the number of smokers in this age group by 2.6 per cent, while those who do smoke would only reduce their consumption of cigarettes by 1 per cent.
Assistance for Smokers

The above analysis indicates that tobacco taxation and regulation may discourage children and teenagers from smoking, although one might conjecture about the extent to which high prices for tobacco products might encourage illegal or antisocial behaviour, as has happened in the case of expensive illicit drugs.

However, unless governments are simply prepared to wait and hope that the smoking problem will go away when the next generation comes through the system, the problem of assisting older nicotine addicts with well established habits must be addressed. To date, relatively little appears to have been done. A significant proportion of the funding provided by both Federal and State governments through their National Drug Strategy programs has been aimed at advertising the adverse health impacts of smoking. The amount spent on active assistance to smokers has been relatively small.  

Whilst the Commonwealth has participated in such programs as the National Drug Strategy, it has essentially taken the view that the implementation of anti-smoking initiatives is the responsibility of the States. Given the budgetary constraints operating in many States, however, it is not surprising that they have been hard pressed to find resources for this purpose. Nevertheless, at the State level, certain programs have attempted to provide cessation assistance to smokers.

Statistics on funding for anti-smoking programs are shown in Table 4. These figures relate to funding by both Commonwealth and State governments, along with funding provided by national and state non-governmental bodies.

These figures show that for the entire ten-year period 1987–88 to 1996–97, total spending on anti-smoking programs in Australia amounted to around $130 million. If sponsorship funding is removed, expenditure over the period is approximately $89 million. Further subtracting overheads, administration and research costs not directly tied to activities of around $17 million (included in 'Other' in Table 4) yields total activity-related expenditures of $72 million—an average of $7.2 million per year.

It might be noted that, over the same period, the States and Territories raised $14 943 million in tobacco franchise tax. For its part, the Commonwealth spent a little under $10 million on anti-smoking campaigns over the ten year period. Over the period 1987–88 to 1996–97, the Commonwealth raised $13 615 million in tobacco excise. The Federal Minister for Health and Family Services announced in 1997, however, that the Commonwealth would contribute $7 million over the two years 1997–98 and 1998–99 to the national anti-smoking program. This funding is principally being directed towards a national advertising campaign. In the 1998–99 Budget, the Treasurer announced that a further $6.1 million would be provided over the three years from 1999–2000 to 2001–02 for a tobacco harm minimisation campaign, including the development of a national response to passive smoking and school education programs. Funding in these latter three years is thus a reduction when compared with the preceding two years.
The Commonwealth has not provided a great deal of targeted assistance. It has assisted Commonwealth employees to attend 'quit' programs and, where such services are provided by registered medical practitioners, hypnotherapy and acupuncture therapies would attract Medicare benefits.

One avenue which has been investigated and so far rejected by the Commonwealth is the inclusion of nicotine replacement therapies (nicotine patches and chewing gums) in the Pharmaceutical Benefits Scheme (PBS). Studies have shown that smokers using patches have more than twice the chance of ceasing to smoke than motivated 'quitters' not using nicotine replacement therapies. Similarly, studies have shown that between 27 and 38 per cent of smokers who use nicotine chewing gums are still abstaining from smoking after 12 months. Overall, international studies have confirmed that, regardless of the form of delivery, nicotine replacement therapy is more effective than no therapy or the use of placebo substances. One study has indicated that nicotine replacement therapy could help around 15 per cent of smokers motivated to quit.

The Commonwealth and State governments have commissioned studies on this issue. In 1996, the Ministerial Council on Drug Strategy received a consultants' report on nicotine replacement therapies (NRT). The report concluded that:

there is strong evidence to support the effectiveness of all the commercially available forms of NRT as part of a strategy to promote smoking cessation. They increase quit

---

### Table 4. Anti-smoking Expenditure: Australia, 1983-84 to 1996-97 ($)

<table>
<thead>
<tr>
<th>Year</th>
<th>Prevention Education</th>
<th>Smoking in Public Places</th>
<th>Adult Education/Advertising</th>
<th>Quit Activities</th>
<th>Other*</th>
<th>Sponsorship of Arts and Sport</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983-84</td>
<td>102 100</td>
<td>25 000</td>
<td>558 000</td>
<td>22 000</td>
<td>2 330 000</td>
<td>..</td>
<td>3 037 100</td>
</tr>
<tr>
<td>1984-85</td>
<td>248 169</td>
<td>25 000</td>
<td>1 171 467</td>
<td>160 294</td>
<td>2 334 500</td>
<td>..</td>
<td>3 939 430</td>
</tr>
<tr>
<td>1985-86</td>
<td>475 411</td>
<td>25 000</td>
<td>1 460 313</td>
<td>300 392</td>
<td>2 498 700</td>
<td>5 000</td>
<td>4 764 816</td>
</tr>
<tr>
<td>1986-87</td>
<td>540 950</td>
<td>25 000</td>
<td>1 036 321</td>
<td>280 000</td>
<td>3 651 200</td>
<td>281 000</td>
<td>5 814 471</td>
</tr>
<tr>
<td>1987-88</td>
<td>1 571 800</td>
<td>45 000</td>
<td>2 959 857</td>
<td>299 782</td>
<td>3 268 000</td>
<td>456 025</td>
<td>8 600 464</td>
</tr>
<tr>
<td>1988-89</td>
<td>2 542 218</td>
<td>71 500</td>
<td>4 556 435</td>
<td>289 573</td>
<td>1 706 911</td>
<td>3 919 000</td>
<td>13 085 637</td>
</tr>
<tr>
<td>1989-90</td>
<td>1 880 264</td>
<td>291 762</td>
<td>6 178 294</td>
<td>449 655</td>
<td>4 387 662</td>
<td>1 370 774</td>
<td>14 558 411</td>
</tr>
<tr>
<td>1990-91</td>
<td>1 377 368</td>
<td>439 451</td>
<td>2 013 404</td>
<td>600 659</td>
<td>3 719 527</td>
<td>5 142 892</td>
<td>13 293 301</td>
</tr>
<tr>
<td>1991-92</td>
<td>700 943</td>
<td>659 838</td>
<td>2 219 360</td>
<td>831 598</td>
<td>4 189 050</td>
<td>6 386 607</td>
<td>14 987 396</td>
</tr>
<tr>
<td>1992-93</td>
<td>704 128</td>
<td>441 116</td>
<td>2 146 139</td>
<td>548 722</td>
<td>2 748 470</td>
<td>5 627 641</td>
<td>12 216 216</td>
</tr>
<tr>
<td>1993-94</td>
<td>1 716 919</td>
<td>1 200 157</td>
<td>1 957 352</td>
<td>416 061</td>
<td>3 066 198</td>
<td>6 527 849</td>
<td>14 884 536</td>
</tr>
<tr>
<td>1994-95</td>
<td>1 561 394</td>
<td>253 850</td>
<td>4 295 059</td>
<td>681 731</td>
<td>2 664 034</td>
<td>5 258 291</td>
<td>14 714 359</td>
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<td>1995-96</td>
<td>3 069 759</td>
<td>242 287</td>
<td>1 874 174</td>
<td>342 515</td>
<td>2 858 074</td>
<td>5 218 611</td>
<td>13 605 420</td>
</tr>
<tr>
<td>1996-97 (prel.)</td>
<td>581 300</td>
<td>206 700</td>
<td>3 688 559</td>
<td>361 000</td>
<td>3 942 667</td>
<td>938 500</td>
<td>9 718 726</td>
</tr>
</tbody>
</table>

* Other includes activities aimed at ethnic groups, activities not classified to purpose, overheads, administration and research.

Source: Unpublished data collected by the Centre for Behavioural Research in Cancer, Melbourne, 1997.
rates approximately two-fold regardless of setting. NRT is most effective when targeted
towards smokers who are motivated to quit (as demonstrated by their initiative to request
assistance) and have high levels of nicotine dependency…There is good evidence from a
number of economic studies that NRT is a cost effective intervention, especially when
included as part of a smoking cessation program…At present, an estimated one in every
ten quit attempts involves the use of NRT. If this figure could be increased modestly, this
would result in a large amount of cessation and public health benefit.25

However, such therapies are quite expensive to users. Gums could cost potential quitters
around $115 per month (4mg gums) while patches cost approximately $375 for the
recommended 10-week program.26 This may discourage some potential quitters, especially
those on lower incomes, from trying this form of therapy. While the cost of these products
may not be as great as the cost of the cigarettes they replace, quitters who simply try to go
'cold turkey' and frequently fail may be more likely to resign themselves to the fact that
they are 'hooked' and give up trying.

In 1994, the Pharmaceutical Benefits Advisory Committee recommended a limited listing
of nicotine patches on the PBS. Estimates of the cost of listing patches ranged from $17
million to $100 million a year although one manufacturer, Marion Merrell Dow, offered to
cap the cost at $30 million a year. The Commonwealth rejected this recommendation,
arguing principally that there was a potential for waste if the use of such therapy was not
accompanied by a structured program of counselling and support27. To date, no similar
condition appears to have been applied to the prescription of anti-depressive or anti-
anxiety medications on the PBS.

It is interesting to compare government financial initiatives in relation to other health
problems. Under the National Program for the Early Detection of Breast Cancer (now
called BreastScreen Australia), for example, $53.4 million was initially provided by the
Commonwealth over the three years from 1991–92 to 1993–94. A further $236 million
over five years was announced in the 1994–95 budget. As shown in Table 1, almost eight
times as many people die from nicotine addiction as die from breast cancer. The
Commonwealth also spends $37 million a year, through its road accident 'Black Spots'
program, and millions more in funding for general road works to help reduce the road toll.
More than nine times as many people die from nicotine addiction as die in road crashes.28
In the case of illicit drugs, governments spend, annually, $30 million in methadone
programs and $10 million in needle exchange programs.29

It might be further noted that governments, both State and Federal, spend many millions of
dollars each year in order to reduce public hospital waiting lists. The question arises as to
whether some money might be better spent reducing the number of smoking-related
patients in hospital beds or in hospital queues. There has always been debate as to whether
health funding is best used in treating actual illness rather than being spent on preventative
measures. There will always be some doubt as to whether such preventative programs will
be cost effective. However, given the high health risks associated with smoking, this is an
area where the benefits of successful preventative measures are likely to be quite substantial.

**Impact of Measures to Date**

Table 5 shows the impact of all anti-smoking measures over the period 1976 to 1995. This period has shown a marked decline in the proportion of adults in the population who smoke. Unfortunately, the momentum of the significant decline in smoking, especially amongst men, over the period 1983 to 1989 has not been maintained. Over that period, the proportion of adult male smokers fell by 10 percentage points while that of females fell by 4 percentage points. Over the three years from 1989 to 1992, the male smoking rate dropped by a further 2 percentage points while the female rate declined by a further 3 percentage points.

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
</tr>
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<tbody>
<tr>
<td>1976</td>
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<td>33</td>
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<tr>
<td>1980</td>
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<td>1992</td>
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<td>24</td>
</tr>
<tr>
<td>1995</td>
<td>27</td>
<td>23</td>
</tr>
</tbody>
</table>


Disappointingly, smoking prevalence rates appear to be reaching a plateau. Over the three years from 1992 to 1995, both the male and female smoking rates fell by only 1 percentage point. Yet it was between 1992 and 1995 that the significant increases in tobacco taxation occurred. Interestingly, Hill et al. found that between 1992 and 1995, the mean number of cigarettes smoked per day fell from 22.1 to 19.7 for men while there was no statistically significant decline for women. Overall, then, there was an average reduction in daily consumption of around 2 per cent per annum over the three-year period. Thus it might appear that the effect of taxation has caused smokers to ration their tobacco use rather than encouraging them to give up smoking entirely. These findings would be
consistent with the low participation and consumption elasticity estimates discussed earlier.

While causality is undoubtedly hard to prove, Hill et al. posit that the levelling out of smoking rates in the 1990s may be due to reduced spending on anti-smoking campaigns by governments. Measured in terms of 1989–90 dollars, total government spending on such campaigns in 1983–84 was just under 30 cents per adult. Expenditure rose to a peak of nearly 70 cents in 1989–90, exactly mirroring the significant decline in smoking rates. By 1995–96, expenditures on anti-smoking activities had fallen to around 25 cents per adult.31

Certainly, the figures in Table 5 are encouraging in that they do at least show a significant decline in the smoking prevalence rate over the past twenty years. There does appear to have been a significant cultural change within Australia over that period. Whereas smoking used to be relatively socially acceptable, many smokers now almost feel as though they belong to a 'fringe group'. In a 1993 survey, 79 per cent of those questioned supported workplace smoking bans, 73 per cent supported the banning of smoking in restaurants and 71 per cent supported bans in shopping centres. However, only 42 per cent supported banning smoking in hotels and clubs32. No doubt health warnings and education programs have contributed significantly to the cultural change that has occurred.

It is beyond the scope of this paper to canvas the range and impact of anti-smoking initiatives in other countries. Even within the United States of America, for example, there would be a great diversity of approaches even amongst the individual states. Nevertheless, a brief investigation of overseas statistics yields some interesting results. The United States has, on average, one of the lowest rates of tobacco taxation in the world (35 per cent compared with 65 per cent in Australia), yet its smoking prevalence rate is almost identical to that of Australia. In the US in 1992, 28 per cent of adult males and 23 per cent of adult females were smokers. In several European countries, on the other hand, tobacco taxation rates are higher than Australia's, yet smoking prevalence is also higher. In Denmark, for example, the tobacco tax rate is very high at 85 per cent, yet 39 per cent of men and 38 per cent of women smoke33. It would thus appear that there are many factors other than simply price which influence people's decisions to smoke. A full range of anti-smoking policies must therefore be targeted at overcoming such factors.

**Conclusion**

Nicotine addiction was estimated to have killed almost 19 000 people in Australia in 1992. The social costs of smoking have been estimated, for 1992, at $12.7 billion and even this estimate is considered to be conservative. Moreover, the costs of smoking are not confined to the smokers themselves. Their addiction has direct impacts upon others. There is thus a classic case for government intervention.
Although governments have responded to this issue through regulation and spending on anti-smoking advertising, they have substantially relied upon taxation to combat the problem. This has been a win-win situation for governments who can argue that they are addressing nicotine addiction while, at the same time, raising $4.5 billion in tobacco taxes (in 1996–97). Independent analysis has shown that governments, even if not society as a whole, actually profit from nicotine addiction.

Whilst taxation measures and regulation may have a significant impact on the uptake of smoking by young people, they would appear to be less effective at dealing with hardened addicts. Nevertheless, they are still an important means of controlling consumption. However, despite the large tobacco revenues received, governments spend a comparatively small amount on 'quit' programs and other measures aimed at helping motivated addicts cure themselves. Governments have spent much more on causes which kill smaller numbers of people than does smoking. While this is not a criticism of these other expenditures, it does show, at least from the outlays side of the Budget, the relative unimportance that governments have to date assigned to nicotine addiction. Even though, to its credit, the Commonwealth has provided some funding for anti-smoking campaigns, more resources may be warranted.34

It may be argued that the consequences of nicotine addiction are sufficiently serious to warrant a re-valuation of current policies on smoking. Whilst there is no doubt an important and continuing policy role for regulation and taxation, other avenues might warrant serious consideration. For example, the inclusion of nicotine replacements on the PBS could be reconsidered. Even if this measure does cost several million dollars, this could well be a good investment if it makes inroads into the $12.7 billion of social costs associated with smoking.

If there is concern that the provision of nicotine replacement therapies may be more cost effective if offered as part of an overall support program, governments might consider subsidising smokers to undertake a prescribed range of smoking cessation therapies, including nicotine replacement therapies. Such a scheme could be administered by the Health Insurance Commission and could even be means tested if it were considered socially desirable to introduce some degree of progressivity into the assistance provided.

Other initiatives could also be investigated. For example, as with beer excise, a formula approach to tobacco taxation could be examined, whereby lower nicotine content cigarettes are taxed at a cheaper rate. More funds could be directed towards the enforcement of existing regulations aimed at restricting sales of cigarettes to children. It might be feasible to legislate to impose a maximum limit on the nicotine content of cigarettes (although a differential tax regime might well achieve a similar effect). Support and education programs might also warrant greater public funding than they presently receive.

In essence, a much more integrated approach by both levels of government may need to be implemented if the national problem of smoking is to be adequately addressed.
Endnotes

1. This demand has been made by the Heart and Cancer Offensive Against Tobacco. See ‘Call to lift cigarette prices 25%’. The Age, 7 April 1998, p. A6.


4. ibid., p. 1.


6. By way of comparison, the Bureau of Transport and Communications Economics estimated the social costs of road accidents in 1993 to be $6.1 billion. Of this total $1463.3 million was attributed to the pain and suffering of victims (but not of families)—an amount almost equal to its estimate of lost paid and unpaid production ($1416.9 million). The remainder of accident costs comprised vehicle damage ($1868.2 million), insurance administration ($571.1 million), medical and other costs ($816.4 million). See Bureau of Transport and Communications Economics, Costs of Road Crashes in Australia—1993, Information Sheet 4, December 1994.


9. It might be noted that, despite this increase in tobacco taxation rates, Commonwealth excise revenue rose only by around 25 per cent. An important contribution to this result is that Federal excise is applied on the weight of tobacco. Australian manufacturers have responded to excise increases by reducing the weight of tobacco in each cigarette. To keep the bulk, the leaf is expanded by pumping various gases into it. Between 1982 and 1992, the average cigarette weight fell from 823 mgs to 712 mgs. Australian cigarettes are the lightest in the world. See Winstanley et al., op. cit., p. 89.


12 ibid.


15. Although the figures quoted do show that smokers in the lowest occupational group smoke more cigarettes per day than any other group, the differences between groups were found to be statistically insignificant.


17. It might be argued that there is no need to assist smokers to quit since most successful quitters manage to do so through their own efforts. However, it is not these fortunate individuals who are of concern. The problem of assisting those who are having trouble quitting still remains. It might be noted that surveys have shown that while more than 60 per cent of smokers say they would like to quit, only around 3 per cent of them actually do so in any given year. In general, even successful quitters make several quit attempts before overcoming their addiction.

18. There are obviously conceptual, classification and data difficulties involved in identifying anti-smoking expenditures. The data collected by the Centre for Behavioural Research in Cancer represents a major attempt to collate reasonably reliable data on this subject.


21. Nicotine patches were listed on the Repatriation Pharmaceutical Benefits Scheme from 1 August 1994. An authority is required from the Department of Veterans' Affairs and patients are required to have entered a support and counselling program.


26. Note that gums and patches are now available over the counter without prescription. While this has the advantage of making them more freely available to users, it may detract from the support services that might be offered by the family doctor.

27. Commonwealth Government. Statement for Rejection of PBAC Recommendation on Nicotine Patches. Mimeo, 1995. It might be noted that the Senate Community Affairs Committee also tabled a report in 1995 entitled The Tobacco Industry and the Costs of Tobacco Related Illness in which it recommended that nicotine patches be listed on the Pharmaceutical
Benefits Scheme if prescribed as part of a structured smoking cessation program. The Government rejected this recommendation in its Response to the Committee's report in September 1997, pending the outcome of a review of the issue by the Ministerial Tobacco Advisory Group, established in 1996. No deadline for such a review has been set, however.

28. Programs such as BreastScreen Australia and the Black Spots Program have been funded on the basis of favourable benefit-cost studies. The favourable benefit-cost evidence cited by Silagy, et al. has not, however, encouraged the Government to act in the case of nicotine replacement therapies.


31. ibid., p. 212.


33. Winstanley, et al., op. cit. p. 19; Australian Cancer Council and the National Heart Foundation, op. cit., p. 23.

34. In their 1998 Budget submission, for example, the Australian Cancer Society and the National Heart Foundation, on behalf of 58 other health and medical groups throughout Australia, recommended that at least $64 million per year be spent on anti-smoking education. See Australian Cancer Society and National Heart Foundation. *Tobacco Tax Solutions: May 1988 Budget*. Melbourne. 1998, p. 5.