

Cigarette Taxation: Doing Good by Doing Well

KENNETH E. WARNER

Secretary, Council on Smoking Prevention,
National Association for Public Health Policy

GUEST EDITORIAL

IN the age of Reaganomics, the dream of all public health professionals is to identify public health measures that save both lives and dollars. With the emphasis placed on the latter in government circles, program effectiveness is not sufficient to justify policy development: even cost-effectiveness may not be sufficient, if it does not also translate into cost savings (1).

One measure that delivers in both the health and economic dimensions is a cigarette excise tax. For adults, the price elasticity of demand for cigarettes—a measure of the responsiveness of cigarette demand to a change in price—has been estimated to be -0.42 . This means that a 10 percent increase in the price of cigarettes should produce a decrease in the quantity consumed of about 4.2 percent. Furthermore, a large majority of this response represents individuals' decisions not to smoke (i.e., to quit or not to start); the remainder is a decrease in the quantity of cigarettes consumed by continuing smokers (2). For teenagers, the price elasticity of demand is -1.4 —a 10 percent price increase will produce a 14 percent consumption decrease—and the vast majority represents decisions not to smoke (the elasticity of demand for smoking participation is -1.2) (3).

How do these numbers translate simultaneously into public health and government revenue benefits? To see this, we can work through the implications of the federal government's recent doubling of its cigarette excise tax, from 8 to 16 cents per pack (effective January 1, 1983). In 1982, the average price of a pack of cigarettes was 82 cents (4). In percentage terms, an 8-cent addition to the price translates into a 9.3 percent increase. Thus total adult cigarette consumption should have fallen almost 4 percent, including a decrease in the number of smokers of 2.3 percent and a decrease

in the daily cigarette consumption of continuing smokers of about 1 percent. Among teenagers, an expected 13 percent decrease in consumption would consist of 11 percent fewer smokers and a 2 percent decrease in the daily consumption of smokers.

To appreciate the health implications of the tax increase, recognize that a 2.3 percent decrease in the number of adult smokers, while a small proportion of the total, represents one and a quarter million people. Among the more price-responsive young people, the elasticity figures imply a reduction in the teenage smoking population of more than half a million. The potential health implications are substantial, both near- and long-term. In terms of smoking-related deaths alone (i.e., ignoring morbidity and disability), the mortality rates of former smokers drop immediately after cessation and approach those of never-smokers some 10 to 15 years following cessation (5).

The fiscal implications are estimated as follows: in 1982, U.S. cigarette consumption totalled some 31.2 billion packs of cigarettes, yielding \$2.5 billion in federal excise tax revenues (4). On average, state excise taxes exceeded the federal tax. In 1982, state taxes yielded \$4 billion. Municipal taxes, levied in 369 cities, towns, and counties, produced an additional \$166 million (4). Several states have increased their taxes since 1982. Here, we are examining the impact of the federal tax increase in the absence of other changes.

If the 8-cent federal tax increase caused consumption to drop by 5 percent (allowing for the combination of adult and teenage consumption changes), 1983 consumption would total 29.64 billion packs. The new 16-cent tax would yield \$4.74 billion, an increase of \$2.24 billion. State and local excise tax revenues would fall from \$4.2 billion to \$4 billion, a loss of \$200 million compared with the federal government's gain of more than 10 times as much. Of course, this again holds state tax rates constant from 1982 to 1983. Increases in several state taxes actually increased states' revenues, and decreased the federal total slightly. The relative inelasticity of demand means that any price increase will produce a net increase in total federal, state, and municipal revenues (within the range in which the elasticity holds).

The new tax increase is the first change in the federal tax rate since 1951, and it seems likely to be impermanent. The legislation raising the tax, the Tax Equity and Fiscal Responsibility Act of 1982, made the increase temporary, scheduled to expire on December 31, 1985. As of this writing, Congressional fiscal measures propose to return the tax to its original

8-cent level (Senate) or compromise by dropping it to 12 cents (House of Representatives).

The motivation for the 8-cent increase was fiscal exigency and not public health. This is made clear in the sunset provision for the tax. Thus the health benefits that will be gained as an inadvertent result of the tax increase may be reversed in less than two years. Actually, some of these benefits would be lost even if the tax were to become permanent—the product of inflation eroding its real value. It is not too early for the public health community to begin developing political strategies to seek continuation of the tax and even large and/or regular increases in it.

To the public health professional the principal attraction of a cigarette excise tax is its smoking-deterrence function. This is evident in the short-term demand elasticities, and the long-run potential appears still greater because the substantial immediate impact on teenagers may translate into profound changes in the smoking behavior of the next generation of adults. A further intergenerational consequence would be the diminution of the number of smoking role models for the next generation of teens (or, to put it more positively, an increase in the number of nonsmoking role models). The decrease in smoking by adult males in response to the anti-smoking campaign appears to be having a similar modeling effect on younger males already (6).

The principal attraction of the tax to the government official is its revenue-raising capacity. As different as these two attractions sound, there is a further feature of the tax that has proved of interest to both health professionals and government officials: the tax imposes a revenue burden directly on a product (and its consumers) that is responsible for an estimated 5–8 percent of national expenditures on medical care, the result of smoking-related illnesses (7). Translated into dollars and cents, medical expenditures on smoking-related illnesses annually cost the average adult approximately \$100 in additional insurance premiums, taxes, and out-of-pocket payments for medical services. Cigarette excise taxes currently are equivalent to only a fraction of this burden. An increased tax would shift more of the burden from nonsmokers to smokers.

The appeal of this argument is sufficiently strong that it recently encouraged the Advisory Council on Social Security, a group charged with addressing the fiscal crisis confronting Medicare, to recommend a substantial increase in the federal cigarette excise tax, with revenues earmarked for the Medicare component of the Social Security Trust Fund (8).

Not all health professionals will find the Advisory Council's argument

compelling. Even many people who appreciate the deterrence function of a tax will be disturbed by its blame-the-victim flavor, and others will express justifiable concern about the potential regressivity of a cigarette tax: since the poor spend a larger proportion of their income on cigarettes, this line of thinking runs, a tax increase will hit them proportionately harder than it will the more affluent.

It is difficult to eradicate the blame-the-victim flavor, though this may be a function of labelling as much as substance. For example, given the effective deterrence function of a cigarette tax, one might consider a tax increase as a help-the-victim measure, considering the victims of smoking to be both existing and potential smokers.

At first glance, the regressivity concern appears more troublesome because it is more substantive. Yet a closer look at the facts of smoking lends assurance that regressivity is less of a problem than it would seem to be. First, the poorest groups in our society have lower smoking rates than the middle-income groups. Second, among women there is a tendency for smoking rates to increase with income. (This does not hold for men.) Third, many low-income smokers are teenagers and young adults who may be only temporarily low-income and who will respond to a tax increase primarily in terms of quitting and not starting smoking (9). Fourth, there is evidence that lower-income groups have greater demand elasticities than higher-income groups. In England, the difference is sufficiently large that the greater consumption response of the lower social classes to a tax increase results in the ultimate burden of the tax being progressive (10). Finally, to the extent that a tax increase is not completely passed on to consumers, the burden of the tax will be shared by such groups as cigarette company stockholders and owners of tobacco allotments (9). In short, a cigarette tax increase is not clearly regressive; and it is certainly not highly regressive.

Earlier I alluded to the impermanence of the deterrence effect of a tax increase even if the increase itself is permanent. The explanation for this resides in the process of inflation and what it does to a fixed tax. As inflation occurs, the real value of a given tax falls. At 10 percent annual inflation, the rate that characterized the late 1970s and early 1980s, prices will double in less than eight years. Even a modest rate of inflation, such as four percent per annum, will lead to a doubling of the price level in 18 years. Real prices are defined as nominal prices deflated by a price level index. Thus a constant nominal cigarette tax of 8 cents (or 16 cents) means a falling real tax. The component of cigarette price that is the fixed tax will not rise

with inflation and thus real cigarette prices will fall. Consumers—smokers—will react by increasing their consumption of cigarettes.

To illustrate the importance of this phenomenon, consider that in the more than 31 years between the 1983 federal tax increase and the last increase (in 1951), the general price level rose by more than 250 percent. The value of the 8-cent tax, in constant 1951 dollars, had eroded to little more than 2 cents. For the real value of the tax to have remained constant (i.e., to have retained the same real value as it had in 1951), the nominal value of the tax in 1983 would have had to have been close to 30 cents. The (temporary) doubling of the tax to 16 cents left its real value at little more than half what it was in 1951.

If inflation during the currently legislated three-year lifetime of the 16-cent tax remains moderate (at, say, 5 percent per year), the real value of the tax still will lose 2 cents even if the tax is made permanent. That seemingly minor drop in the real price of cigarettes could induce as many as 300,000 people to start smoking or not to quit. The solution to the problem of a continually eroding value of the tax is ad valorem taxation of cigarettes: the federal cigarette tax should be set at a fixed percentage of cigarette wholesale price. As inflation caused wholesale prices to rise, the tax would keep pace. The real burden on the smoker would not increase; but it would not decrease either.

Despite the attractions of a federal cigarette excise tax increase, history teaches that the political liabilities are substantial. An obvious barrier to additional cigarette taxation is the powerful tobacco lobby, consisting of both the industry and the representatives and senators from the half dozen southern tobacco states. However, while no one would question the political influence of tobacco interests, recent experience in Congress suggests that that influence is waning; some observers believe that it is at its lowest point since the Great Depression. An invigorated smoking-and-health lobby, led by the Washington-based Coalition on Smoking or Health, has teamed with newly assertive Congressmen to keep tobacco issues before the public eye. The tobacco price support system has been taking a legislative beating (11), and for the first time in years Congress is seriously considering increasing the strength of the warning label on cigarette packs and advertisements (12). In this context, particularly given the likelihood of continuing large deficits in the federal budget, the prospects for continuation of the 16-cent tax, and perhaps for further increases, should seem quite reasonable. Strong industry opposition, however, clouds those prospects.

Another barrier to federal excise taxation has been the sense that much

of cigarette taxation "turf" belongs to the states and localities. As was noted above, state taxes have generally exceeded the federal tax, and the history of state tax increases has been an active one (13). For more than a decade, however, states' involvement in tax increases has been profoundly affected by concerns about interstate smuggling of cigarettes, the result of wide disparities in state tax rates and hence retail prices (14,15). As of November 1982, for example, seven states taxed cigarettes at less than a dime per pack, while eight others imposed a tax of more than 20 cents (4). In August 1983, state taxes ranged from a low of 2 cents per pack in North Carolina to a high of 26 cents in Connecticut and Massachusetts (16).

Federal excise taxation avoids the problem of interstate smuggling, since a federal tax is a uniform one across all state boundaries. This is an inherently attractive feature of a federal tax. It might be used to propose more federal responsibility for cigarette taxation, with states sharing in the revenues (9). States could retain their own taxes, but they could reap additional revenues from a shared federal tax without risking an increase in criminal bootlegging activity.

In September 1983, the U.S. Department of Agriculture reported that domestic consumption of cigarettes fell by 14 billion cigarettes in the first half of 1983, or 4 percent from the first half of the preceding year. The decrease was attributed primarily to the January 1, 1983 doubling of the federal excise tax, as well as renewed new-tax activity by the states (16). With aggregate U.S. consumption of cigarettes falling in 1983, total domestic consumption has dropped in two consecutive years from the peak rate of 640 billion cigarettes established in 1981. Aggregate consumption has dropped in two consecutive years only on one previous occasion, in 1968 and 1969, during the Fairness Doctrine antismoking campaign on television and radio (17). The present decline appears to be attributable primarily to the tax-induced increases in the real prices of cigarettes.

Cigarette excise taxation is that rare contemporary example of a measure that accomplishes public health good while proving fiscally attractive to the overwrought government budgeteer. It is a nontraditional public health strategy, one that may even offend the health professional who does not like to see economics and health so integrally linked. Furthermore, it requires professionals to dirty their hands in political activity, a characteristic that many will find still less appealing. Aesthetics aside, it works. The mid-1980s offer unprecedented opportunity for public health professionals to use a vehicle like cigarette excise taxation to address major chronic illness problems. It is to be hoped that, individually and collectively, we will

hone our political skills to keep the 16-cent cigarette tax alive after 1985; or better yet, perhaps we can convince the Congress of the fiscal and health wisdom of increasing the tax.

Acknowledgment: This work has been supported by the Josiah Macy, Jr. Foundation. Opinions expressed are solely those of the author.

REFERENCES

1. Warner, K. E. "Cost Savings: Is There a Better Argument for Health Promotion?," *Promoting Health* 5 (1984): 4-5.
2. Lewit, E. M. and D. Coate. "The Potential for Using Excise Taxes to Reduce Smoking," *J. Health Econ.* 1 (1982): 121-45.
3. Lewit, E. M., D. Coate, and M. Grossman. "The Effects of Government Regulation on Teenage Smoking," *J. Law and Econ.* 24 (1981): 545-69.
4. *The Tax Burden on Tobacco - Historical Compilation - 1982* (Volume 17). Washington, D.C.: Tobacco Institute, 1982.
5. Doll, R., and R. Peto. "Mortality in Relation to Smoking: 20 Years' Observations on Male British Doctors," *Br. Med. J.* 2, 6051 (1976): 1525-36.
6. Warner, K. E., and H. A. Murt. "Impact of the Antismoking Campaign on Smoking Prevalence: A Cohort Analysis," *J. Pub. Health Policy* 3 (1982): 374-90.
7. Luce, B. R., and S. O. Schweitzer. "Smoking and Alcohol Abuse: A Comparison of Their Economic Consequences," *N. Engl. J. Med.* 298 (1978): 569-71.
8. Rich, S. "Advisors Back Alcohol, Tobacco Tax Boost," *Washington Post*, Nov. 5, 1983, p. A5.
9. Harris, J. E. "Increasing the Federal Excise Tax on Cigarettes," *J. Health Econ.* 1 (1982): 117-20.
10. Townsend, J. "Cigarette Tax and Social Class Patterns of Smoking," presented at the Fifth World Conference on Smoking and Health, Winnipeg, Canada, July 1983.
11. "Tobacco Price Support Program: A Year of Progress Without Major Breakthroughs," Newsletter of the Coalition on Smoking or Health, January 1984, pp. 4-5.
12. "Comprehensive Smoking Prevention Education Act Progresses Slowly," Newsletter of the Coalition on Smoking or Health, January 1984, pp. 2-4.
13. Warner, K. E. "State Legislation on Smoking and Health: A Comparison of Two Policies," *Pol. Sciences* 13 (1981): 139-52.
14. Klein, R. J., and R. J. Reeder. *Cigarette Bootlegging: A State and Federal Re-*

- sponsibility.* Washington, D.C.: Advisory Commission on Intergovernmental Relations, 1977.
15. Warner, K. E. "Cigarette Excise Taxation and Interstate Smuggling: An Assessment of Recent Activity," *National Tax J.* 35 (1982): 483-90.
 16. U.S. Department of Agriculture, Economic Research Service. *Tobacco Outlook & Situation TS-185 (September)*. Washington, D.C.: U.S. Government Printing Office, 1983.
 17. Warner, K. E. "Clearing the Airwaves: The Cigarette Ad Ban Revisited," *Pol. Analysis* 5 (1979): 435-50.