NOTICING THE MICRO-DISTRIBUTIONAL CONSEQUENCES OF TOBACCO TAXATION AND ITS EQUIVALENTS

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ABSTRACT:

While higher cigarette taxes (or the equivalent in per-pack charges levied on cigarette producers through litigation) protect the public health by reducing smoking, they also impose heavy financial burdens on those who continue to smoke. These burdens fall especially hard on low-income, heavily addicted smokers, especially the elderly poor. Since the gains from not smoking fall, and the costs of not smoking rise, with age and years of smoking, the socially optimal price of a pack of cigarettes is not constant across consumers. It would be possible to design policies to take these factors into account and thus mitigate the impact of higher prices on poor and elderly nicotine addicts, but any such policies would be administratively complex and there is no sentiment for adopting them.

The mantra "public health," and especially the importance of reducing the rate of cigarette smoking, can exert a powerful clouding influence on the minds of the public and policy analysts alike. In particular, the distributional consequences of higher tobacco taxes have gone largely ignored, even among those usually acutely concerned about the problems of the poor.

Both specific excise taxes on cigarettes and the recent settlement of tobacco liability litigation have the effect of raising the retail price of cigarettes. Any excise tax tends to increase price; that the same is true of the settlement is the result of the details of the payment structure, which is forward-looking rather than backward-looking and thus results in a fixed additional cost to the companies per pack sold. (A purely backward-looking settlement, or verdict, one based on past rather than future sales, would come instead largely at the expense of shareholders and employees.)[1]

This reality is inconsistent with the script of the morality play, endlessly enacted in the mass media, in which the evil tobacco companies have at last been forced to pay for their nefarious deeds. While higher prices may inflict some damage on the industry through lower sales, the hundreds of billions of dollars flowing to government coffers from the tobacco settlement and tobacco tax increases come overwhelmingly from the pockets of consumers, not producers.

From the viewpoint of the public health, this is good news rather than bad news. Cigarette smoking is sensitive to price, largely through effects of price on initiation and quitting rates, but with some effect on average packs-per-day among those who smoke. Since smoking damages health, reducing smoking, whether through higher prices or other means, tends to extend life and improve the health status of the living. Price increases due to the settlement are predicted to save an aggregate of 250,000 life-years per year in the short run, with the gains escalating to 1 million life-years per year in the long run; the estimate of quality-adjusted life years, factoring in reductions in morbidity, would be substantially higher.[2]

This does not, by itself, suffice to show that the price increase represents a net improvement in human welfare. Against the gains in life expectancy and health status, savings in medical costs, increases in earning power, avoidance of grief and loss among smokers' intimates, etc., must be set the pleasures, reductions in anxiety, and, in some circumstances, gains in capacity for work and endurance, lost due to the smoking that will be forgone, and the unpleasantness of quitting for those induced to quit by higher prices.

A simple thought-experiment suffices to show that, in fact, smoking as a whole generates net consumers' deficits. Using conventional valuations for lost life-years and estimates of the life-years lost as a result of smoking, one can calculate that the life expectancy lost as the result of smoking a pack of cigarettes would be valued by the average consumer at about $10.[3] Now imagine a health-risk-free cigarette, otherwise identical to the current product. It hardly seems plausible that many smokers would be willing to pay $12 per pack for the hypothetical healthy smokes. If they would not,

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[1] Mark A.R. Kleiman and Jonathan P. Caulkins, "The Proposed 'Global Settlement' of Tobacco Litigation: A Policy Analysis" (University of Wisconsin Law School: Conference on the So-Called Global Tobacco Settlement, October 1997).
[2] See David Boyum, "Impact of the Proposed Settlement on Cigarette Consumption and Health," (unpublished memorandum on file with authors), May 1997.
[3] See Kleiman and Caulkins, cited above.

then smoking is not a net beneficial activity from the viewpoint of (most) smokers, and we need theories of imperfect rationality (prospect theory, hyperbolic discounting, social influence, or addiction) to explain why actual behavior diverges from rational behavior.

This argument is sufficient to show that preventing the initiation of smoking creates net welfare improvements. Whether that is also true of induced quitting depends on how much of the damage from smoking is reversed by quitting and how unpleasant quitting is. While it is not far-fetched to assume that even those forced to quit by higher prices will, on average and on balance, come out ahead, it remains the case that their costs of not smoking are higher, and their gains from not smoking are lower, than is the case for those who never start. Moreover, the benefits of quitting tend to decrease with age, due both to the partial irreversibility of the damage from smoking and the shorter life expectancy over which the benefits of quitting have to act. (In the extreme, those with terminal illness have little to gain from quitting.) This suggests that the socially optimal price of a pack of cigarettes is not a constant across the population, but rather varies with current smoking status and with age.[4]

Moreover, one group is unambiguously damaged by higher cigarette prices brought about by litigation or taxation: those who neither quit nor substantially reduce their smoking. All that happens to them is that they shell out more money for the same level of cigarette consumption.

The sums involved are far from trivial, especially for those of limited means. A price increase of $.60 per pack, which is the calculated impact of the settlement, for someone smoking 1.5 packs per day – roughly the average among adult smokers – multiplies out to $328.50 per year. That amounts to more than 5% of the total income, and of course a much larger proportion of the disposable income, of someone living on the Supplemental Security Income minimum of $6,144 per year.

This problem of the specific impoverishment of some current smokers is conceptually quite distinct from the issue of regressivity. That cigarette taxes are regressive, because smoking is concentrated toward the bottom of the income scale, is a well-worn argument, and one without much real force. Since tobacco excises and their equivalents constitute only about 1% of total governmental revenues and expenditures, any regressivity introduced by raising them could easily be offset by changes in a progressive direction either in revenue-raising (e.g., reducing the FICA rate while raising the annual contribution cap, raising the zero-tax-bracket level, exempting food from state sales taxes) or expenditure (e.g., expanding the EITC). But no

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[4] *Cf.*, Mark Moore, "Policies to Achieve Discrimination on the Effective Price of Heroin" *American Economic Review* 63 (May 1973).

such easy fix will get around the problem that the particular poor people who continue to smoke have just suffered a noticeable reduction in their effective purchasing power.

Thus we confront two problems: the optimal tax on a price of cigarettes varies across the population, and the micro-distributional consequences of using taxation to reduce smoking are unfortunate.

For each of these problems there is a solution that is conceptually straightforward, administratively awkward, and politically laughable.

The distributional problem could be largely solved by a lump-sum transfer. Take the present value of the average payment stream to the states from the settlement – or from a tobacco excise tax increase – and distribute it as a lump sum to current smokers (perhaps as a decreasing function of age, since younger smokers will on average purchase more packs at future, tax- or settlement-enhanced prices than will older smokers). That would leave in place the financial incentive to quit provided by higher prices, while fully offsetting the effect on smokers' purchasing power. Those who reduce their lifetime packs smoked faster than average would come out somewhat ahead, while those whose reductions are smaller than average would come out somewhat behind. The big losers would be those who started to smoke after the prices rose, but at least they would have no just complaint that they had been taken by surprise. A different argument – that policies should not explicitly reward lawbreaking behavior -- would suggest limiting eligibility for rebates to those currently of legal age to buy cigarettes. Since smokers are already over-taxed in Pigouvian terms (if we ignore intra-family effects)[5], the fact that such a lump-sum transfer would impose no new net fiscal burden on smokers constitutes an advantage, not an objection.

Since the problem of specific impoverishment hardly applies to prosperous smokers, the lump-sum payments might reasonably be phased down and then out based on income or wealth; whether the additional administrative effort would be justified by the budgetary savings involved is an open question.

Looked at from a public-health perspective, such a transfer would have some costs; some poor people who would be fiscally forced to quit smoking by the recent price increase might continue to smoke due to the income effect of the transfer. But that effect would be offset to some extent by increased expenditures on food, shelter, and medical care.

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[5] Willard Manning, et al. "The Taxes of Sin: Do Smokers and Drinkers Pay Their Way?" *Journal of the American Medical Association* 261 :11 (1989).

The great administrative difficulty would be in defining and verifying the status of tens of millions of individuals as "current smokers," with sums at stake sufficient to generate significant levels of attempted fraud. But the costs of the relevant medical tests are low enough, and the risks to physicians from falsifying test results high enough (at least in the face of a minimal amount of auditing) to make this problem soluble, at least up to tolerances we accept in other tax and benefit programs.

That leaves the problem of the heterogeneity in optimal tax rates. Any fixed tax rate on a pack of cigarettes will exert relatively too little force against initiation and relatively too much in favor of quitting, especially quitting by those at advanced ages. Any lump-sum transfer scheme, though addressing the problem of impoverishment, would leave this second problem untouched.

The obvious approach would be to distribute coupons representing different levels of tax exemption to existing smokers, the level of exemption rising with age (and perhaps falling with income). Here again, one would have to determine who is a current smoker, with physicians perhaps somewhat less willing to participate in a scheme that will help their patients keep defying medical advice to quit.

Moreover, either the exemption certificates or the packs of cigarettes bought with them would become potential items of illicit commerce, especially since the project of determining not merely who smokes but how much would probably be technically infeasible, requiring a uniform and therefore somewhat inaccurate issue of exemption coupons. Thus there would inevitably be persons holding certificates for more packs than they had any intention of smoking, each of them a potential source of cut-rate cigarettes to current non-smokers. The same would be true of those who quit smoking, who would have their entire supply of discounted cigarettes available for illicit resale.

A second-best solution would be to use some of the money raised from higher prices to subsidize medical or quasi-medical assistance in quitting cigarettes, again especially for the poor. (The refusal of many health insurers to pay for therapies of such proven efficacy as the nicotine patch seems to be the result of concerns about adverse selection: no one wants to be the health insurer of choice for those who smoke, or even those who have recently been smokers. Why the employers who negotiate with the insurers go along is another question, without as obvious an answer.) However, since most of those who receive treatment of this sort do not quit permanently, the impact of such policies, though perhaps worthwhile, would be small.

The politics of the situation greatly complicates the task of designing mitigation policies for the specific impoverishment caused by higher cigarette taxes. The charges are perceived to be levied on the tobacco companies, and the state governments have any number of uses for the new money, which comes to them without the need to "raise taxes." The group of losers – smokers – remains largely unorganized and somewhat stigmatized, and any attempt to mitigate their losses would come at the expense of other taxpayers or the beneficiaries of spending programs. It is possible that years of resenting second-hand smoke has helped harden the hearts of non-smokers vis-a-vis smokers.

The lack of organization among smokers is not due to any neglect on the part of the cigarette industry, which has made vigorous efforts to organize "smokers' rights" groups: an instance of what has come to be called "Astroturf" lobbying (a reference to artificial grass roots). The industry's failure in this regard is instructive. While it is true that smokers as a group are being treated shabbily by their government, it is not the case that they regard their cigarette suppliers as their natural protectors. Surveys indicate that as many as 90% of them would like to quit smoking, and, at least in retrospect, regret having started. That may make them less willing to become political foot-soldiers in an industry-organized campaign.

There is a sharp contrast here with the case of alcohol. The costs of drinking, to drinkers and others, are comparable to those of smoking, and alcohol is, in Pigouvian terms, grossly under-taxed.[6] But the costs of drinking are concentrated among a minority of problem drinkers and third-party victims of crimes and accidents, leaving a very large group of satisfied customers. As a result, the beer industry has been far more successful in using its customer base to help resist tax increases than has the tobacco industry. (The gun industry has been the most successful of all in this regard.)

This analysis, however, leaves to be explained why the concentrated costs imposed by tobacco taxation on poor smokers has not generated more concern among those ordinarily worried about distributional issues. Contrast the silence about smokers with the uproar of concern about the plight of poor single mothers (another largely unorganized group) under welfare "reform."

The explanation may be that no one really has much sympathy for smokers as such. Either they are regarded as having made a voluntary choice whose consequences they should be prepared to accept, or they are thought of as a species of drug addict. Two decades of concentrated national effort around stigmatizing "drug users" may have had some spillover effect on attitudes towards those trapped in the use of a legal, non-intoxicating

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[6] Mark A.R. Kleiman, *Against Excess* (New York: Basic Books 1992).

substance. Smokers' decisions to damage their lungs are therefore seen as justification for making them pay through the nose.

Whatever the explanation, the result is a policy very hard to defend in either ethical or policy-analytic terms and yet politically bullet-proof. Noticing that fact is logically prior to inventing ways to amend it.