Death and taxes: using the latter to reduce the former

Kenneth E Warner

As the old adage attributed to Benjamin Franklin puts it, there are only two things in life that are certain: death and taxes. In the case of cigarette smoking, they are closely related. Raising cigarette prices, primarily by increasing cigarette taxes, reduces smoking, and thereby reduces smoking-produced death and disability. Indeed, there is no more effective weapon in the arsenal of evidence-based tobacco control policies. Taxation has become a First Principle of tobacco control worldwide, hailed by the World Bank’s 1999 ‘bible’ of international tobacco control, Curbing the Epidemic: Governments and the Economics of Tobacco Control, and embodied in Article 6 of the Framework Convention on Tobacco Control. Virtually everyone engaged in tobacco control now understands the importance of keeping cigarette prices high and the role of raising taxes in doing so.

It was not always so. In the late 1970s and early 1980s, many public health professionals believed that using taxation to reduce smoking was ineffective and even repugnant: for both ‘moral’ and practical reasons, discouraging smoking, they concluded, had to rely on important intrinsic considerations, not extrinsic factors like price. Smokers, they felt, should quit because of their concern for their own health or to ensure their children that they would still be around as the children grew to adulthood. Furthermore, they were convinced that taxation would have little impact because smokers were addicted, and therefore, would not change their behaviour in response to higher prices.

The origins of the end of aversion to taxation as a tool of effective tobacco control lie in the publication of two research articles by Eugene Lewit and his colleagues using sophisticated econometric methods. The first, published in 1981, demonstrated that American teenagers’ smoking was very price sensitive: for every 10% increase in price, the authors estimated that smoking ‘participation’ (prevalence) by 12–17-year-olds would decrease by 12%, while the teens’ total demand for cigarettes would decrease by 14%. The second study, published a year later, concluded that for adults, a 10% price increase would induce a decrease in the demand for cigarettes by 4.2%, an estimate that has stood the test of time for developed nations.

Three years later, I translated these findings into their stark implications for public policy in the US. Congressional legislation had dictated that a temporary doubling of the federal cigarette excise tax to 16 cents per pack—a short-term revenue measure—would end in 1985, with the tax reverting to its previous level of 8 cents per pack. Using the findings of Lewit et al., but employing methods and language more accessible to the general public, I demonstrated that if permitted to occur, the halving of the tax would induce two million additional Americans to smoke, including more than 460 000 teens, with more than 480 000 additional premature smoking-produced deaths occurring in the future.

Through a well-orchestrated advocacy effort by Washington-based public health groups, this analysis contributed to the US Senate’s decision to make the tax increase permanent.

This direct application of findings from research on cigarette price and consumption—and a subsequent successful advocacy campaign to raise the cigarette tax in Canada, which also relied on such analysis—altered public health attitudes towards using tax to influence smoking. It also inaugurated an era of more intensive research on tax, price and smoking, with well over 100 studies documenting the effects of taxation, through its impact on price, on smoking. Early on, studies derived almost exclusively from developed countries’ experiences, focusing on price elasticity of cigarette demand in general, with interest in how elasticity varied by age, gender and occasionally socioeconomic status. Over time, however, the research began to address more nuanced questions: when prices are raised on one tobacco product (eg, cigarettes), is the demand for other tobacco products affected (eg, smokeless tobacco)? Yes, it increases. How does addiction affect price responsiveness? This question spawned a ‘boonlet’ in ‘rational addiction’ studies. These sometimes controversial studies suggested that the long-run price elasticity may be as much as twice the conventionally estimated short-run elasticities.

What compensatory behaviours might smokers take in response to price increases? According to one study, they might switch to higher nicotine cigarettes so that they could get their daily dose of nicotine from fewer cigarettes. And so on.

Surely, one of the most important developments in this literature has been the relatively recent emergence of a body of research on the effects of tax and price on smoking in low-income and middle-income countries (LMICs). Often reflecting severe data limitations on both cigarette price and consumption, as well as the lack of a well-developed indigenous research infrastructure, some of the earliest studies were quite primitive in nature or heroic in approach. Notably, for example, in 1990 a complete lack of data on cigarette and tobacco price forced Chapman and Richardson to estimate excise tax elasticities of demand for cigarettes and tobacco in Papua New Guinea. Observing that price elasticities had to be larger than excise tax elasticities, they inferred from their
quite precise estimates of the latter—0.71 for cigarettes and 
−0.50 for non-cigarette tobacco—a generalised conclusion that
price elasticities had to be considerably larger (in absolute value)
than those previously calculated for developed countries.

Since that very early study, research on the relationship
between tax/price and smoking in LMICs has grown substan-
tially in both quantity and methodological sophistication,7
consistent with a more general dramatic growth in tobacco control
research in LMICs and by LMIC authors in recent years.14 The
indigenous research structure is improving in LMICs, as is the
data collection. Thanks to the support by organisations such as
the Rockefeller Foundation and, most recently, the Bloomberg
Initiative to Reduce Tobacco Use,15 scholars in LMICs are
receiving training on econometric research methods and grant
support to carry out studies.

This development is essential to the future of effective
tobacco control worldwide. Government officials in LMICs will
be far more responsive to studies deriving directly from their
countries’ data than to more general pronouncements on the
effect of taxation based on studies from developed countries.
Country-specific studies not only have more credibility in the
eyes of government officials, but also permit more precise calcu-
lations as to how specific tax increases will affect government
revenues, smoking-related healthcare costs, etc. Tobacco control
research has had a discernible impact on policy and tobacco use
in the world’s affluent nations.14 It must now play a similar role
in those less affluent countries in which the future of the
smoking disease pandemic is brewing.

In some ways, the early scholars examining the relationship
between price and cigarette consumption had it far easier than
today’s researchers. In countries like the USA, where much of
the early research occurred, the product (the cigarette) was
relatively homogeneous (there were many fewer brands of
cigarettes, fewer brand variants, fewer cigarette-like combustible
alternatives and fewer novel smokeless options). As well, price
tended to be quite consistent across brands. Today, smokers
counter a sometimes bewildering array of cigarette and non-
cigarette tobacco options. Prices in many countries vary widely,
prices vary from one country to its immediate neighbours, and
price discounting and black and grey markets make ascertainment
of actual prices paid, and actual consumption for that
matter, far more difficult. Thus, a relatively new challenge—
and an important one for the evolution of effective tobacco
control—is to understand how smokers respond to tax
increases in environments in which they have alternatives to
simply paying the higher tax. The proliferation of discounted
brands has increased options; so too has the availability of
cigarettes purchased over the internet. In some countries, indi-
genous peoples sell cigarettes at tax-free prices, and smokers
find it easy to purchase cigarettes on their reservations. In
other countries, roll-your-own tobacco can compete with man-
ufactured cigarettes, the latter frequently featuring higher
taxes. Duty-free cigarettes, cigarette smuggling and smokers
simply crossing borders to purchase cigarettes further compli-
cate both analysis of price response and tobacco control itself.

For this reason, the present volume is especially timely and
welcome. While the issue of tax evasion and avoidance—and
tax response more generally—has been addressed in previous
studies, I am aware of no previous collection of studies in which
a wide array of evasion and avoidance behavioural responses are
addressed in multiple countries, both developed and LMICs.
Those papers in this volume do not afford simple answers
to what are, after all, quite complicated questions. Findings are
not always consistent with expectation or, for that matter, with
those of other papers in the volume, but the compendium does
provide a treasure trove of empirical evidence pertaining to
behavioural responses to taxes and differential prices, and it
offers us a more informed opportunity to address the myriad
policy questions that relate to tobacco taxation and to tax
evasion and avoidance.

Quite independent of its substantive contributions, the
volume marks an important maturation in the field of tobacco
control research: until quite recently, research by LMIC
authors was a relative rarity.14 This volume demonstrates that
LMIC authors can join with those from developed countries
as full partners in addressing a complex set of tobacco control
issues. In part that has been made possible by the aforemen-
tioned training and grant opportunities now available to
research colleagues in LMICs. In the present instance,
however, another feature of the research landscape integral to
the evolution of the volume warrants explicit mention as well,
and indeed praise: these papers represent the latest instalment
in the wealth of research emanating from the International
Tobacco Control Policy Evaluation Project17—universally
known within the tobacco control policy research community
simply as the ITC (International Tobacco Control) project.
The brainchild of Professor Geoffrey Fong, one of this
volume’s editors and authors, ITC is an international cohort
survey of tobacco use that develops country-specific and cross-
cultural comparative research directed at evidence-based
tobacco control policy making. Administered in more than 20
countries representing half of the world’s population and a
majority of its tobacco users, ITC is devoted specifically to
providing evidence-based support for Framework Convention
on Tobacco Control policies. Proliferic in its productivity, ITC
represents one of the greatest assets ever developed in the
field of tobacco control research. The present volume shows
us how and why.

To conclude with where we began, death and taxes are both
inevitable. But tobacco-produced deaths are not. And taxes on
cigarettes and other tobacco products—large taxes, raised fre-
frequently—can go a long way, if not all the way,18 to ensuring a
substantial and continuing decline in the number of smoking-
produced deaths. For that to occur, we need to convince gov-
ernmental authorities of the public health and fiscal wisdom of
raising taxes, and we need to learn how to levy those taxes in a
manner that will minimise their avoidance through means other
than not smoking. The papers in this volume provide evidence
that will help us in seeking to achieve these goals.

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