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COMMENTARY

Importance of tobacco to a country's economy: an appraisal of the tobacco industry's economic argument

Kenneth E Warner, George A Fulton

Introduction

In the face of mounting evidence on the health hazards of its products, the international tobacco industry has placed increasing reliance on emphasising the importance of tobacco to a country's economy. Employing a wide variety of techniques,[1] the intent of the industry is to persuade policy makers (heads of state, ministers of trade and agriculture, legislators) to encourage expansion or development of tobacco industry activity or, at a minimum, to avoid adopting policy measures that would discourage tobacco product consumption. Disregarding tobacco's physical health effects, the industry argues that tobacco is vital to the fiscal health of a country.

One industry technique has involved hiring consulting firms to estimate the contribution of tobacco to a country's economy.[2] Then the industry presents decision makers with impressive-looking figures on the numbers of jobs dependent on tobacco, the income they produce, and the tax revenues that are generated through sales of tobacco products.

The industry's estimates, however, grossly overstate and inaccurately reflect the economic importance of tobacco. The analyses from which these estimates derive fail to consider that, if resources were not devoted to tobacco, they would be employed in other productive economic activities, themselves generating employment and tax revenues. The shift from tobacco to other economic activity could actually *improve* the country's economy in countries in which money not spent on tobacco is reallocated to a greater proportion of indigenous products. For many other countries, the net effect likely would be so small in either direction as to be considered essentially negligible. Even in tobacco-producing countries, in which switching from tobacco to other economic activity produced adverse economic consequences, the net economic impact would be dramatically smaller than that suggested by the tobacco industry's estimates.

It is critically important that tobacco control advocates, public health officials, legislators, and journalists understand why and how the industry's economic argument is misleading. Toward that end, this commentary reviews the industry's basic argument, examines how it is expressed in industry-supported analyses of tobacco's economic contribution, and explains the fundamental flaws in these analyses, especially in the interpretation of their findings by the industry.

The industry's economic argument

Production and consumption of tobacco products account for a significant level of global economic activity. This is reflected in data on both consumption and production. In 1994, an estimated 5.34×10^{12}cigarettes were produced worldwide, roughly 1000 cigarettes for every man, woman, and child.[3] A 1987 study of 69 countries estimated the global value of tobacco product sales at close to US$140000 million in 1983. This analysis concluded that 47 million people depended directly on tobacco for their livelihoods in 1983, working fulltime or part-time in tobacco-related activity, and that an additional 10 million were supported indirectly, through the provision of supplies and services to the tobacco industry.[2] Tobacco product sales generated an estimated US$73000 million in tax revenues that year.[2]

The employment figures include all workers estimated to be involved in tobacco-related activity. Adjusted to fulltime equivalents (FTEs), the estimate is 26 million for both direct and indirect employment. Over half of the unadjusted estimate (and nearly two thirds of direct employment) is accounted for in tobacco growing. Of the FTEs, growing accounts for 42% of the total and 60% of direct only.[2]

On the surface, it is difficult to interpret numbers like these. Although they sound "big", they must be put into perspective by adding the denominator: x million compared with what? In 1983, tobacco growing consumed only 0.3% of the total arable land in the countries studied. At market value, however, tobacco accounted for three times as much of the total value of agricultural output (1%). Additionally, because of the labour-intensive nature of tobacco farming, tobacco was credited with 1.3% of agricultural employment. (The 30.3 million people involved in tobacco farming shared US$11.3000 million in 1983, about $375 each.) At the retail level, encompassing production and sales cost, taxes, and company profits, tobacco product sales accounted for fully 3.5% of total sales.[2]

Even with this added perspective, global

Department of Health Management and Policy, School of Public Health, University of Michigan, Ann Arbor, Michigan, USA
KE Warner

Department of Economics and Institute of Labor and Industrial Relations
GA Fulton

Correspondence to:
Kenneth E Warner,
Department of Health Management and Policy
School of Public Health,
University of Michigan,
Ann Arbor, MI 48109–2029,
USA

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figures such as these have relatively little direct meaning to decision makers in individual countries. The industry often develops country-specific estimates of the economic contributions of tobacco, again focusing on employment effects (numbers of jobs and amount of income) and tax revenues. From Australia[4] to South Africa,[5] from the US[6–9] to Kenya,[10] the industry has employed formal analyses to estimate the economic impacts of tobacco at the national and often subnational level. In some instances, in the case of major cities, estimates are even prepared at the municipal level.

Estimates so derived are then used by the tobacco companies, primarily the major multinationals, to try to convince decision makers in government and industry to invest in an indigenous tobacco industry or to tread softly in developing health-motivated legislation that has the effect of reducing consumption. Typically, the argument for industry investment is directed at poor countries, in which both tobacco consumption and health concerns are often quite low. (A notable exception is eastern Europe, in which consumption is high and modernisation of the industry is the focal point, with multinationals playing a lead role.) The attempt to discourage tobacco control legislation is aimed at the affluent nations, in which health concerns are high and smoking prevalence has levelled off or is declining.

Although both purpose (encouraging new industry versus discouraging tobacco control) and specifics vary from one nation to another, the essence of the argument is the same in every country: tobacco growing, product manufacture and consumption, and export of leaf and product generate much-needed employment and government revenues. Particularly in countries in which tobacco represents a significant share of economic activity, or might in the future, and in which unemployment is high and incomes low, the argument often sounds compelling.[10]

Flaws in the industry's argument

The tobacco industry's argument has two fundamental flaws. It substantially underestimates the magnitude of tobacco's economic contribution, at the same time that it greatly overstates the economic importance of the contribution. This commentary will address in detail only the latter, as it relates most directly to the focus of the industry's argument. A brief consideration of the former is necessary, however, for the sake of completeness.

Underestimation of the magnitude of tobacco's economic contribution results because the industry counts only employment and tax revenues associated with tobacco growing, tobacco product manufacture, internal and external distribution, and retail sale. The industry ignores a wealth of economic activity associated with tobacco product consumption, including the provision of healthcare services for those made ill by tobacco, the earlier use of the services of morticians, the need for more cleaning of clothes soiled by tobacco smoke, greater consumption of air-filtration systems, and so on. Logically, these are economic activities for which the tobacco industry should claim credit.[11]

Although some may be modest in magnitude compared with tobacco growing and manufacturing, others are not. In the US, for example, the amount of money spent on tobacco-related healthcare annually exceeds that spent on tobacco products *per se*.[12] Of course, although including these economic activities in its "credit" column would increase the value of the tobacco industry's contribution to the economy, it would force the industry to acknowledge the undesirable consequences of tobacco.

For the purposes of this commentary, far more important is the fact that the industry misuses its own estimates of its contributions to greatly overstate tobacco's economic importance. The industry is well aware of this flaw in its use of the data, and quite adept at overlooking it. Implicitly, the industry's analyses treat the resources devoted to tobacco product production and distribution as disappearing if tobacco-related economic activity (production or sale) declines.

The amount of economic activity associated with tobacco product sales would not disappear, however, if production or consumption decreased. Rather, it would be redistributed as consumers used the same money to purchase alternative goods and services and as producers dedicated themselves to alternative productive economic activity. Just like spending on tobacco, this alternative use of resources would generate employment and tax revenues associated with the production, distribution, and sale of purchased goods and services.

Most countries are properly categorised as non-tobacco countries, in that tobacco growing, tobacco product manufacture, and exportation do not constitute significant economic activities. Indeed, in many countries, the principal tobacco-related economic activity is distribution and sale of final consumer goods. In these countries, spending reallocated from tobacco to other goods and services (and to saving and investment) might be expected to produce more employment than does tobacco, as a sizable proportion of the money consumers spend on tobacco products is "exported" to the tobacco-producing nations; when reallocated, a larger proportion of the spending might be on goods and services produced indigenously. In this case, a higher percentage of the spending would be recycled within the country's own economy, thereby generating greater local economic activity – more employment and quite possibly higher incomes – than did the expenditures on tobacco.

Where tobacco is subject to product-specific taxes, tax revenues could decline if governments did not choose to raise other revenues to compensate. In many countries, however, tobacco tax revenues constitute a relatively small fraction of total government revenues. Note, too, that invigorated economic activity without tobacco will naturally generate increases in revenues from other sources (that is,

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growth in incomes will increase income-related and employment-related taxes).

If many countries would gain economically from reductions in tobacco-related economic activity, some – those heavily reliant on tobacco farming and exportation – likely would lose. The magnitude of their loss, however, would fall considerably short of that implicitly suggested by the tobacco industry. Just as resources devoted to tobacco would be redistributed in the non-tobacco countries, resources in the tobacco countries would be reallocated as well, similarly generating employment, incomes, and tax revenues through new economic activity. In countries heavily involved in tobacco-related activity, the replacement economic activity might not completely compensate for losses associated with reductions in tobacco activity, but the *net* impact would fall far short of the *gross* impact estimated by the tobacco industry.

This logical qualitative argument – one that no reputable economist would challenge – can be converted into detailed quantitative estimates in countries for which good macroeconomic models exist. Such models are often used by the industry to generate its estimates of economic activity associated with tobacco product manufacture and sale; these are the gross estimates of tobacco's contribution. These same models can be employed to generate net estimates of activity. We have described the formal procedure for doing this elsewhere.[13] Briefly, it involves removing spending on tobacco from the model to produce the gross estimate of impact, that is, how much "smaller" is the economy with tobacco spending removed. The same amount of money is then reintroduced into the model, distributed according to the standard consumption and saving patterns (other than tobacco), to estimate the performance of the economy with the reallocated spending. A comparison of the simulated economies with actual tobacco activity and with reduced tobacco activity (but with alternative spending in the latter case) provides the estimate of the net economic consequences of reductions in tobacco.

We have stated that no reputable economist would challenge the fundamental qualitative observation being made here. In one of the macroeconomic analyses performed by consulting firms for the American tobacco industry, the authors added a telling caveat that confirms this observation. Buried in the firm's complete report to the US Tobacco Institute, the caveat was never mentioned by the industry in any of the public relations documents it prepared based on the consulting firm's analysis. Referring to the net impact of tobacco on the entire US economy, the caveat is reproduced here, from page 3 of Chapter 5 of Volume 1 of the full report[7]:

> It can be argued, of course, that without the tobacco industry, the expenditures on, and resources devoted to, the production of tobacco products would simply be shifted elsewhere in the economy. That is, if consumers were faced with no available tobacco products, they would reallocate their spending to other goods and services. This reallocated spending would generate additional business opportunities in other sectors of the economy along with the associated employment and incomes. Therefore, except for transitional problems and differential industry levels of productivity, *the aggregate economic results would be substantially the same .... [T]he compensatory responses that would occur automatically* within the economy and within the Chase Econometrics U.S. Macroeconomic Model in a total impact-type of study were *constrained from taking place within this analysis* [emphasis added].

Pressed to address this phenomenon directly, a vice president of the Tobacco Institute acknowledged, "If the industry would vanish tomorrow, most would find alternative work".[14] A major proposition of our commentary is that in non-tobacco jurisdictions, *more* would find work.

To test this proposition, we undertook a study of the net economic effects of tobacco in our home state of Michigan, a non-tobacco state, as are all but half a dozen of the 50 US states.[13] Tobacco industry representatives have repeatedly subjected legislators and journalists in our state to the industry's economic argument, at both the state and county level, with detailed estimates of tobacco's contribution presented to them when tobacco-control legislation has been under consideration. Our analysis of the *net* effect of tobacco on the Michigan economy demonstrated that declining spending on cigarettes would bolster the state's economy: as Michigan consumers switched their expenditures from cigarettes –which are an imported product for Michigan – to other goods and services, many of which are produced indigenously, more money would be recycled within the state's economy and employment and incomes would rise accordingly.

The principal negative outcome of the shift away from tobacco spending in Michigan would relate to the State Government's receipt of revenues. If all tobacco spending completely ceased over night, the loss of revenue could be substantial, as cigarette taxes account for 2.6% of State Government revenues. If, however, one evaluates any feasible decline in tobacco spending – that is, in contrast with instantaneous elimination of such spending – the revenue loss is quite small. For example, were the normal rate of decline in tobacco spending in Michigan to double, the net revenue loss to the State would be less than 0.2% of State Government revenues.

We are currently extending this macroeconomic research to an analysis of the net effects of tobacco on nine regions of the US. Our working hypothesis is that employment and employment-related income will rise in the eight non-tobacco regions. We expect to find a net decline in the economy of the ninth region, consisting of the six southeastern tobacco states. As noted above, however, we expect that this decline will be smaller than that implied by the industry in its estimates of the employment and other economic benefits of tobacco in the southeast (Grant no. 22930, submitted to the Robert Wood Johnson Foundation, Princeton, New Jersey, May 1993).

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Conclusion

Our Michigan study demonstrates quantitatively the fundamental qualitative message of this commentary: the economic dependence of an economy on tobacco, be it the economy of a part or all of a country, depends not only on how much economic activity tobacco generates, but also on how much economic activity would exist if tobacco activity fell or ceased altogether. The analytical logic suggests that, in many non-tobacco countries – those not heavily dependent on tobacco farming, tobacco product manufacturing, or exportation of tobacco leaf or product – *tobacco-related economic activity* **harms** the economy, reducing potential employment compared with what it would be if resources now devoted to tobacco were devoted to a greater extent to indigenous economic activities.

By the same logic, in tobacco-dependent economies, the net negative impact of reductions in tobacco activity will be substantially less than the tobacco industry's gross estimates indicate. Obviously, determining the precise consequences of this analysis for individual countries would require country-specific quantitative analyses.

As demonstrated in this commentary, the tobacco industry's economic argument may mislead policy makers by encouraging them to greatly overestimate the economic importance of tobacco to their countries' economies. As a result, the argument may distract policy makers' attention from the principal contribution of tobacco: not jobs or tax revenues,but death and disease. Even if the tobacco industry's portrayal of its economic importance were valid, which it is not, the industry's emphasis on economic issues should never be permitted to distract anyone from focusing on the human misery caused by the industry's products.

This is a revised version of a paper presented at the Ninth World Conference on Tobacco and Health, Paris, 13 October 1994. The authors gratefully acknowledge the Robert Wood Johnson Foundation (Grant no 22930), which is supporting related work on the regional economic impact of tobacco in the US. That work has contributed to the development of this commentary.

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