

VIEWPOINT

The Real Cost of Food

Can Taxes and Subsidies Improve Public Health?

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Suboptimal diet quality is among the leading factors associated with death and disability in the United States¹ and globally.² Strategies to address suboptimal diet focus on nutrition education through dietary guidelines and food package labeling. However, this approach places responsibility for healthier diets on an individual's ability to make informed choices rather than addressing the complex, powerful environmental determinants of dietary habits. Not surprisingly, this strategy has fallen short, as demonstrated by the increasing rates of obesity, diabetes, and other diet-related illness.

At the same time, the health care system has prioritized medications, devices, and procedures to treat rather than prevent diseases and their risk factors. These sophisticated technologies have helped reduce cardiovascular mortality, but at substantial cost. Health care expenses have increased rapidly in the United States and now represent about 18% of gross domestic product—nearly 1 in every 5 dollars—with a large fraction related to chronic disease. The current economic burdens of cardiovascular disease and diabetes, 2 of many diseases predominantly caused by poor diet quality, are estimated to approach \$700 billion per year.^{3,4}

In view of the potent external influences on dietary choices and the unsustainable costs of increasing chronic disease, more active policy interventions are needed to help individuals adopt healthier diets. Policy approaches have proven crucial for other public health priorities, such as reducing tobacco use, alcohol abuse, and deaths from motor vehicle crashes.⁵ For example, mortality from motor vehicle crashes was not reduced by driver education alone or by labeling cars with information on crash risk, but instead by comprehensive, multicomponent policies addressing the driver, the car, and the road. The current epidemic of nutrition-related disease requires a similar multifaceted approach.

Among various options, food pricing strategies including taxation and subsidies may be effective and market-friendly mechanisms for influencing dietary behavior.⁵ Such strategies incentivize healthier options while still allowing for consumer choice, in contrast to bans or restrictions that may be perceived as intrusive. Notably, the combination of taxation (to reduce selection of unhealthy foods) and subsidies (to increase selection of healthful foods) offers a balanced, evidence-based approach. Insufficiency of healthful foods produces substantial population health burdens, possibly larger than excesses of unhealthy foods/nutrients.^{1,2} For example, inadequate intakes of minimally processed foods such as fruits, nuts, vegetables, fish, and whole grains together are associated with larger proportions of global death and disability than excess intakes of saturated fat, *trans* fat, and sodium.² Therefore, subsidies comprise an essential component of an effective pricing strategy to actively promote consumption of

healthful foods. In addition, a subsidy component minimizes the regressive nature of taxation alone; indeed, food costs for many individuals could decline with healthier choices in this system. Higher-quality diets typically cost more than lower-quality diets—on average, about \$1.50 more per person per day⁶—providing a short-term financial disincentive to eat healthfully. Existing empirical evidence suggests that a combined tax and subsidy ranging from 10% to 30% would have a meaningful influence on dietary choices.⁵ Over time, the tax subsidy scheme could be calibrated to be broadly revenue neutral.

Most prior food tax proposals have targeted one or a limited number of food products; for instance, sugar-sweetened beverages. Although meritorious, those proposals do not address the full public health challenge of poor diets and diet-related disease, which arise from fundamentally unhealthy eating patterns across a range of beverage and food categories. An alternative, potentially more effective approach is to institute a meaningful tax on nearly all packaged retail foods and many chain restaurants, using the proceeds to subsidize inherently more healthful (and underconsumed) minimally processed foods and also healthier meals for children (Table). More highly processed foods have been linked to risk of chronic disease through numerous mechanisms.⁷ Thus, this combined approach, with incentives and disincentives, could address both excesses and deficiencies in the prevailing diet.

The purpose of taxes and subsidies would be to improve overall dietary patterns, not reduce total calories. Emerging evidence suggests that a primary emphasis on diet quality may be effective in long-term prevention of obesity.⁸ Moreover, independent of body weight, diet quality has substantial influence on risk of chronic diseases.⁹ Therefore, diet composition focusing on foods and diet patterns, not individual nutrients or calories, represents a more actionable, evidence-based target. Health benefits of such a pricing policy could be further accentuated by public awareness campaigns and other policies, supported by the tax revenue, to increase demand for and availability of healthier foods.

At the population level, even modest resulting dietary improvements could help reduce the burden of chronic disease significantly. Prior interventions to alter national diets by increasing healthful and decreasing harmful components have been associated with significant reductions in levels of cardiometabolic risk factors and rates of chronic disease.⁵ The resulting economic benefits of a comprehensive food pricing strategy could be even more significant, including potential major reductions in direct health care expenditures and possible improvements in economic productivity. In addition, this approach could have broad benefits in low-income and minority populations, for whom conventional education-

Table. Tax/Subsidy Framework for Improving Diet and Public Health

Policy Component	Retail (Packaged and Supermarket) Foods	Restaurant and Other Food Service Establishments
Simple flat tax (eg, 10%-30%)	Most packaged foods requiring a US Food and Drug Administration food label For practical considerations, foods made by small businesses that currently are below the threshold for requiring a label would not be taxed Tax exemptions as well as subsidies for additional specific healthful retail foods could be available over time	Chain restaurants, large cafeteria vendors Options include taxing all fast food and quick-serve chain restaurants or all large chain restaurants (eg, consistent with current federal menu labeling regulations under the Affordable Care Act); in either case, tax exemptions or even subsidies for serving specific minimally processed food items could be implemented over time
Subsidy ^a	Minimally processed healthful foods including fruits, nuts, vegetables, beans, seafood, plain yogurt, vegetable oils, and minimally processed whole grains	School lunch and after-school programs Current programs have limited funding for serving healthful meals; the combination of lower prices for minimally processed healthful foods (due to the retail food subsidy) with greater funding for school and after-school meals could radically alter the healthfulness of foods served to children

^a Designed to approximately balance the revenue from the tax program over time. Because current expenditures on packaged and restaurant foods are much greater than expenditures on minimally processed foods, the subsidy rate on the latter could initially be at a higher rate than the tax on the former, substantially lowering the price of healthful foods.

based efforts have been especially problematic. Because these groups are particularly sensitive to price differentials,⁵ food taxes and subsidies may also help reduce health disparities.

Clearly, this proposal would face important practical and political challenges. A simple flat-rate tax does not adequately discriminate among foods with health effects that vary incrementally, both within and across types of retail foods and restaurant outlets. A graduated tax or exemption system could address this concern but would create potential logistical and lobbying challenges involving definitions and implementation. An initial simple flat tax could reduce design challenges and perhaps the related risk of a political impasse. Once implemented, subsequent modifications could be instituted that would recognize differences in nutritional quality within taxable categories, encouraging retailers and restaurants to produce healthier products.

Even so, formidable special interests would be expected to oppose this proposal. Yet conceptually similar "Pigovian taxes" are already in widespread use to promote important social goals, such as with alcohol and tobacco. Legal precedents also support congressional power to implement such a plan.¹⁰ A number of US states have existing mod-

est taxes on sugary beverages and snack foods. Larger national taxes have been implemented on some foods such as sugary beverages and snacks in other countries. Although the political obstacles may seem significant, public awareness of the economic and human costs of diet-related diseases is increasing exponentially, and political considerations are changing rapidly. Compared with the complexities of pricing, reimbursing, regulating, and insuring the services and supplies in the US health care system, the design and implementation of a food tax/subsidy system would be logistically simpler. Recognizing that there will be opposition, but given the stakes for the long-term health of Americans, the efforts needed for this proposal to succeed are worthwhile.

Prevailing prices do not reflect the true societal costs of foods. Diet-related chronic diseases account for substantial health care expenditures and indirectly may undermine the international competitiveness of the US economy. Individuals with healthy diets have not only lower health care costs but also longer, more productive lives, in turn contributing to higher tax revenue. Thus, both negative health and economic consequences of poor nutrition could be mitigated by a national system of subsidies and taxes to facilitate more sensible dietary choices.

ARTICLE INFORMATION

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