Chapter **11**

Fiscal Policies for Health Promotion and Disease Prevention

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Governments use fiscal policy to encourage healthy behavior. The instruments of government for this purpose are taxes and subsidies, and direct provision of certain health services for free or at subsidized rates. Examples of fiscal policies for health are taxes on tobacco and alcohol, subsidies on certain foods, and tax incentives for health care purchases.

Government intervention through fiscal policy works best when public institutions and credibility are strong, the design and application of the fiscal instruments are appropriate, and consumers' and producers' responsiveness to a price signal is high. When these conditions are not present, direct provision, information and education campaigns, or legislation may be preferable in conjunction with fiscal policy.

The purpose of this chapter is to review country experiences with promoting health through fiscal policies and to examine the usefulness and success of these policies. The chapter considers both the role of fiscal policies in the production of health and the effect of these policies on the well-being of the economy—fiscal policy for health and healthy fiscal policy.[1] Little exists in the literature linking fiscal policy and health promotion except in relation to tobacco. This work contributes to filling that gap.

The chapter deals specifically with experiences at the country level with tax policies affecting some goods related to health, such as food, tobacco, alcohol, and condoms; subsidized provision of workplace promotion of healthy behavior and caregiving; and direct subsidies affecting food provision and fortification, cooking fuels, water purification and soap, condoms, bednets, vaccines, and medical research. The chapter only touches on health care provision and does not discuss its financing, either directly by governments or through insurance, because other chapters deal with those topics.

The chapter is divided into five sections:

- The first section provides a general framework through which fiscal policy options can be considered in terms of their impact on health and the health sector.
- The next section examines the experiences in developing countries of using subsidies to achieve health-related objectives (columns 1 and 2 in table 11.1).
- The third section presents examples of how taxes are used in a number of countries to promote health (column 3 in table 11.1).
- The next section discusses nonhealth goods where fiscal policies are often used and have important indirect health benefits (lower part of column 2 in table 11.1).
- The final section presents conclusions and suggestions for further research and policy development.

USE OF FISCAL POLICY FOR HEALTH IN DEVELOPING COUNTRIES

Fiscal policies come in a wide range of designs, but the main effect is either to alter the price of health-related goods or to alter the quantity available. Table 11.2 summarizes the health interventions subject to fiscal policies. The behaviors that require these interventions are divided into the following categories:

- unhealthy consumption (foods, tobacco, and alcohol), for which the most salient fiscal policies are taxes on consumers and producers, and fines

Table 11.1 Fiscal Policies for Health Promotion Covered in Chapter 11

Subsidy for or tax imposed on	Health-related products receiving direct subsidies	Subsidized provision of health	Health-related products directly taxed	Government financing of health care
Consumer	Medicine	Caregiving (partially covered)	Tobacco	Not covered
	Food		Alcohol	
	Cooking fuel		Food	
	Water purification		Imported medicine and supplies	
	Soap			
	Condoms			
	Bednets			
Producer	Vaccinations	Workplace promotion of healthy behavior (partially covered)	Fuel usage (partially covered)	
	Food additives			
	Medical research			

Source: Authors.

- health promotion and disease and accident prevention (hygiene, pollution, safety, public health, maternal and child and reproductive health, infectious disease, and healthy lifestyles), for which the most important fiscal instruments are subsidies, but which may also be affected by tax policy
- health care goods and inputs, including insurance and human resources, that may be exempted from taxation, subsidized, or guaranteed as a constitutional right
- other goods that indirectly promote health (education, housing, agriculture, energy, charitable giving, charities that provide targeted subsidies, and so on), which are often subject to their own particular tax regime or sets of subsidies that affect their production or consumption and, therefore, also affect health behavior
- research and development initiatives that can be applied to health and health care goods and are sensitive to tax exemptions and subsidies.

Fiscal interventions can have various rationales, such as macroeconomic benefits, equity, or efficiency—and promoting health may or may not be the primary goal. A fiscal policy may be designed to affect some other sphere of behavior or a good other than health—for instance, education—and the effects on health or the use of health care may be indirect. The shaded boxes in table 11.3 indicate the possible rationale behind each type of fiscal policy.

A fiscal policy should be effective, efficient, and cost-effective and should promote or maintain equity goals. An effective tax or subsidy reaches the intended target and alters health-related behavior in the desired manner. An efficient policy minimizes resource distortions and involves minimal administrative costs. A cost-effective policy has the lowest cost relative to the desired health goal.

SUBSIDIES FOR HEALTH AND HEALTH-RELATED PRODUCTS

Using examples primarily from developing countries, this section of the chapter analyzes the range of subsidies that are available to promote healthy behavior and the consumption of health-related goods. The first sections deal with consumer subsidies both to promote the consumption of health-producing goods and of health care. The second section discusses producer subsidies.

Consumer Subsidies

Governments use consumer subsidies to encourage the use of a beneficial product by lowering the price consumers pay—usually in situations where the consumers are too poor, the market prices of the good are too high, or both situations apply—to otherwise achieve a socially optimal consumption level. Examples include subsidies for staple foods, condoms, soap, insecticide-treated bednets, cooking fuels, and medicines.

Staple Foods. Ample evidence indicates that food subsidies are effective in improving nutrition; however, appropriate targeting is often a problem (Alderman 2002). Subsidies may be targeted to specific foods, specific delivery locales or geographic areas, or specific populations. Often targeting includes all three.

Food-specific subsidies, whether in the form of general subsidies, ration cards, quotas, or food stamps, increase food consumption. They will have a positive effect on health if this consumption occurs in undernourished populations that require increased caloric or nutrient intake. In some cases, food subsidy programs have had unintended macroeconomic and

Table 11.2 Use of Taxes and Subsidies to Promote Health by Type of Intervention

	Taxes						Tax preferences	Subsidies				
Intervention	**Payroll**	**Consumer (sales and value added tax)**	**Excise**	**Production**	**Input**	**Fines**	**Credits and exemptions**	**Director-subsidized provision**	**Subcontract provision**	**Targeted consumer subsidies**	**Producers**	**Rights**
Unhealthy consumption												
Foods												
Alcohol												
Tobacco												
Health promotion and disease and accident prevention												
Hygiene (soap)												
Pollution (for example, fuels)												
Safety (for example, seat belts)												
Public health (vaccines, clean water, supplementation, education, and information)												
Child, maternal, and reproductive health (information and education, supplementation, and medical attention)												
Infectious disease (condoms and healthy workplaces)												
Healthy lifestyles (food, exercise, and healthy workplaces)												

(Continues on the following page.)

Table 11.2 Continued

	Taxes						Tax preferences	Subsidies				
Intervention	**Payroll**	**Consumer (sales and value added tax)**	**Excise**	**Production**	**Input**	**Fines**	**Credits and exemptions**	**Director-subsidized provision**	**Subcontract provision**	**Targeted consumer subsidies**	**Producers**	**Rights**
Health care goods												
Insurance												
Medical attention												
Medicines												
Human resources for health												
Other goods that indirectly promote health												
Personal leave												
Caregiving and family leave (maternity, paternity, and chronic illness)												
Education (for mothers or women, early childhood, or special needs)												
Housing (provision, flooring, and roofing)												
Agriculture (type of products produced or imported)												
Energy (types of fuels, heating, cars, and gasoline)												
Charitable giving												
Research and development												

Source: Authors.
Note: Shaded boxes indicate possible fiscal policies for each type of intervention.

Table 11.3 Taxes and Subsidies by Policy Rationale

Policy	Rationale				
	Healthy behavior	Macroeconomic or fiscal benefits	Equity	Efficiency	Promotion of another good or type of behavior
Taxes					
Payroll					
Consumer (value added tax/sales)					
Levy					
Excise					
Producer					
Input					
Fines					
Subsidies					
Tax credits					
Direct provision					
Subsidized provision					
Subcontracted provision					
Targeted subsidies					
Subsidies to producers					
Rights					
Tax exemptions					

Source: Authors.
Note: The shaded boxes indicate the possible rationale behind each type of fiscal policy.

microeconomic consequences (Adams 2000; del Ninno and Dorosh 2002; Pinstrup-Anderson 1988; Siamwalla 1988). They become expensive if they are too widely available, can create incentives for black market activities, and can affect prices and volumes in agricultural and trade markets.

Indonesia switched from a general rice support system to a limited subsidy during the 1997 macroeconomic crisis. The earlier system had successfully reduced food insecurity to low levels, but higher prices increased the cost of maintaining the subsidy and led to food being smuggled out of the country (Tabor and Sawit 2001). The government targeted the new rice subsidy to the poor and issued ration cards. Within roughly a year of implementation, the subsidy was reaching an estimated 85 percent of the poor. Only about 10 percent of the subsidy appeared to be reaching nontarget population groups.

India has subsidized essential consumer goods for decades, including health-related goods such as food grains, edible oils, sugar, and fuels (S. Jha 1992). The government rationed certain goods in the belief that only the truly needy would endure waiting in lines and purchasing the poorer quality products that were involved in the subsidy schemes. This is called *self-targeting*. However, Jha shows that 40 percent of the population purchased subsidized rice in 1990, only half of whom were poor. The government recently modified the program to better target the subsidy to the poor and removed such barriers as bulk purchasing (Rao 2000).

The Arab Republic of Egypt's generalized program also illustrates the problems that beset broad food subsidy programs. The program reached its zenith in 1980, when it subsidized 20 food products and accounted for 15 percent of government expenditures (Adams 2000). The program has been scaled back to cover four staple foods and now accounts for 6 percent of government expenditures. Nevertheless, about 75 percent of the population holds ration cards entitling them to purchase the subsidized foods. The program is intended to achieve self-targeting, but the nonpoor purchase many of the subsidized foods. The program accounts for 44 percent of the total calorie supply of the poorest quintile group, but in rural areas, the rich obtain more calories from subsidized food than the poor do.

Musgrove (1993) reviews 104 supplementary feeding programs in 19 countries in Latin America and the Caribbean. The review covers a range of program sizes, from those serving 1,000 individuals to those supplying 28 million people; of types of subsidies (namely, food distribution, direct feeding, and direct payments); of levels of coverage of the targeted population, ranging from 1.9 to 100.0 percent; and of extent of coverage of the poor, varying from 5.8 to 88.0 percent. The per capita costs of reaching beneficiaries differed widely. The most common reasons for program ineffectiveness were spreading resources too thinly across beneficiaries, targeting foods with minor health benefits, choosing inappropriate beneficiaries, and encountering excessive costs in distributing resources. These kinds of issues underscore the importance of design considerations and country conditions in creating effective and efficient food subsidy programs.

In sum, many food subsidy programs avoid the political and administrative challenges of explicit targeting by allowing universal access to the subsidies on the assumption that the needy will self-select into the programs. However, Adams (2000) shows that countries with targeted food programs—for example, Chile, Jamaica, and Peru—provide much higher income transfers to the poor than do self-targeted programs of the kind used in Egypt, Morocco, and Tunisia.

Condoms. Preliminary investigation indicates that subsidies on condoms can be effective in increasing their use in both general and high-risk populations, but whether price reduction, increased access, or education leads to greater use is not clear (Price 2001) because information campaigns about the health benefits of condoms usually accompany price subsidies. Recent surges in social-marketing schemes to distribute condoms as part of the fight against HIV/AIDS, especially in Africa, have increased condom use.[2]

Few researchers have compared HIV infection rates—or even condom use rates—before and after the introduction of a subsidy on condoms. Cohen and others (1999) conclude that in a particular jurisdiction in Louisiana, free distribution through public clinics and 1,000 small businesses in areas with high levels of HIV and other sexually transmitted diseases achieved significantly higher condom distribution than a fee-based system (77 percent use during the last sexual encounter compared with 64 percent) and that the revenues from cost recovery were insufficient to justify imposition of the fee. The dropoff in condom use during the cost-recovery period persuaded the jurisdiction to reinstate the free distribution program.

Another example suggests that promotion and information are also effective. A social-marketing effort in Turkey in the early 1990s offered condoms at a commercial price but included intensive advertising and other promotional efforts. It achieved sales well beyond original expectations and gained 41 percent of the market share (Yaser 1993).

Water Purification. The U.S. Centers for Disease Control and Prevention and the Pan American Health Organization designed the Safe Water System Initiative to improve the quality of drinking water for households that draw their water from sources outside the home. The principle underlying the initiative is to subsidize storage containers, disinfectant, and education on proper handling to avoid contamination (Quick and others 1999). Numerous countries have implemented similar initiatives, including Bangladesh, Bolivia, Burkina Faso, Kenya, and Zambia. The government provides containers and chemicals at subsidized prices, but the costs are still higher than the cost of boiling water (Quick and others 2002).

Soap. Another proven method for reducing the incidence of diarrhea and other hygiene-related diseases is hand washing, with or without soap. Whether the key factor is education or the subsidized provision of soap is unclear. Some investigators claim that small-scale programs that subsidize soap and educate households about the benefits of hand washing are self-financing because of the consequent reduction in disease (Borghi and others 2002).

Luby and others' (2001) results from Pakistan suggest that education alone may be just as effective as education accompanied by soap provision in reducing diarrheal disease. By contrast, Hoque (2003) and other researchers suggest that the cost of soap is a barrier to its widespread use among extremely poor populations and that behavioral change may be difficult to achieve without a subsidy.

Insecticide-Treated Bednets. The degree of subsidization of bednets has become a controversial issue, with some arguing for full subsidization and others for partial subsidization. Most long-term studies indicate that consumers resist purchasing bednets even at subsidized prices after they have had access to free bednets (Snow and others 1999).

A number of researchers have undertaken studies in various locations in Africa to assess the effect of selling bednets rather than providing them free to vulnerable populations (Armstrong-Schellenberg and others 2001; Kolaczinski and others 2004; Snow and others 1999). The key issue is consumers' responsiveness to changes in the prices of bednets, through either subsidies or a reduction in taxes and tariffs. Many households do not own a bednet because they cannot afford it, while other reasons are lack of information, poor access to markets, and cultural preferences (Hanson and Worrall 2002; Simon and others 2002). The evidence suggests that responsiveness to price changes alone may be modest, but in combination with removing some of the other barriers, demand for bednets could increase substantially in malaria-affected regions (Simon and others 2002).

Nigeria removed tariffs and taxes on bednet insecticide in 2001, and the 18 percent price drop resulted in an estimated 9 to 27 percent increase in purchases (Simon and others 2002). Another study that reviewed a public sector subsidy for bednets combined with private sector marketing and distribution by means of a social-marketing scheme concluded that the program was successful because 18 percent of children slept under bednets as a result; however, the low insecticide retreatment rate led the authors to conclude that subsidies were needed on both bednets and insecticide (Armstrong-Schellenberg and others 2001).

Clean Cooking Fuels. High rates of respiratory illness occur as a result of exposure to smoke and particle emissions from biomass burning in many developing countries. Fuel subsidy programs have been designed to promote the use of liquid petroleum gas, natural gas, or kerosene, which burn more cleanly and emit a low amount of smoke and particulates, but none has been efficacious or efficient (UNDP 2003).

Liquid petroleum gas subsidies have been shown to benefit middle- and higher-income families in urban areas rather than the poor (UNDP 2003). In attempting to target the poor more accurately, Côte d'Ivoire and Senegal focused subsidies on smaller liquid petroleum gas cylinders but found that poor consumers still preferred charcoal (UNDP 2003). Electricity subsidies in low-income countries are also often skewed toward the well off, who are more likely than the poor to be connected to the electricity grid (Alderman 2002).

Medicines and Medical Supplies. In relation to the direct provision of health-related goods, including drugs, supplies, and services of medical personnel, governments may subsidize and regulate drug prices, make bulk purchases from manufacturers for distribution at reduced prices, and distribute certain drugs with complete or partial subsidies to target populations. Specific interventions—for instance, antiretrovirals, vaccines, or reproductive health care—are often more heavily subsidized or may be targeted by population group or disease—for example, child and maternal health, tuberculosis, and malaria. With the exception of antiretroviral drugs, the health benefits and low costs of these medicinal interventions make them good targets for subsidization.

General Health Care. In developing countries, where informal sectors tend to be large, providing subsidized health care is an important tool for health promotion. Some countries have chosen direct provision of health goods, whereas others combine the public provision of services with subsidized health insurance for families below a certain income cutoff. Both models require identifying the families that are unable to afford health care and the types of services that are considered public goods.

One example of subsidizing the production and provision of health care is the Mexican program originally called PROGRESA and now known as Oportunidades. This program is also an example of how income transfers for other goods can affect health and how cross-subsidies can be used to strengthen the incentive effects of a fiscal policy to promote healthy behavior. The government launched the program in 1997 to provide subsidized health, nutrition, and education to poor families. By mid 2004, it was serving the majority of those living below the poverty line. Oportunidades combines a cash transfer equivalent to 20 to 30 percent of families' incomes that includes incentives for positive behaviors in relation to health, nutrition, and schooling with subsidized basic health interventions. The program is largely financed from federal budgets.

Oportunidades is successful both in terms of targeting the poorest households and in terms of achieving measurable gains in health, health care use, nutritional status and growth, school attendance, and school achievement. Gertler (2004), for example, finds significant and cumulative reduction in illness rates among children, lower prevalence of anemia, and an additional centimeter of growth in the first year of the program.

The program's success is attributable to many factors, including a rigorous longitudinal evaluation process; an integrated package of services; and the presence of financial stimuli tied to school attendance, visits to health clinics, and participation in health education initiatives. Furthermore, the program incorporates several targeting methods.

Producer Subsidies

Governments use producer subsidies to encourage production that improves health by lowering manufacturers' costs in situations in which the private market supply is inadequate to meet social needs. Examples include medical supplies, vaccines, food additives, and medical research.

Food Fortification. Governments sometimes subsidize the fortification of staple foods through the addition of selected micronutrients as a way of achieving broadly based nutrition improvements. Challenges involve maintaining a relationship between the public sector, which initiates and funds the program, and the private sector, which implements the fortification. Incentives for private providers are often needed in the form of tax exemptions, import preferences, subsidies for start-up costs, quality control, and training. Illegal markets selling nonfortified products at a lower price often arise in response (Alderman 2002; Dorosh, del Ninno, and Sahn 1996; Rao 2000).

Health Research. Government support for health research consists of the provision of direct subsidies for private sector investment, the granting of tax benefits for private research and development (R&D) investment, the establishment of property rights and a system to protect them, and the promotion of private goods by other means (OECD 2003). Despite the strong evidence from developed countries that the private sector will underinvest in R&D and that tax incentives increase R&D investment, developing countries should be cautious in applying those results to their own situations. Empirical investigations tend to conclude that producer subsidies for R&D in developing countries are not effective (Shah 1995; Zee, Stotsky, and Ley 2002). Many conditions need to be in place to realize high social returns and to minimize rent seeking and profiteering, including a strong private sector research effort that is stimulated by the public investment, the presence of appropriate targeting, a transparent and fair set of public laws and institutions to grant and monitor the tax benefits, and the ability to forgo alternative public investments.

TAXES AND TAX EXPENDITURES: DESIGN AND OUTCOMES

The following section describes various examples of the use of taxation directed at both consumers and producers. This section of the chapter also analyzes the design issues that are important in order to guarantee that these instruments contribute to achieving healthy fiscal policy.

Taxes on Consumers

Sales taxes—including excise taxes and value added taxes—and exemptions from those taxes are the most common fiscal policy tools used to influence consumers' health purchases. Examples are exempting medicines and foods from sales tax and imposing an excise tax on cigarettes and alcohol. Developed countries often use income tax incentives to provide deductions and credits for specific health care purchases. Box 11.1 discusses issues surrounding use of taxes for health.

"Sin" Taxes on Tobacco and Alcohol. A wide range of countries and local jurisdictions have taxed tobacco, with acknowledged success in reducing consumption (P. Jha 1999). The health benefits of curbing the demand for cigarettes may go beyond eliminating the health consequences of smoking and secondhand smoke if consumer expenditures are diverted from cigarettes to healthier alternatives (for example, food).

Taxes on alcohol are widespread and are used primarily to raise revenue. Governments typically impose taxes at the producer, wholesale, and retail levels that are levied as a percentage of the sale price or are based on a flat amount per unit. Harmful alcohol consumption is controlled through prohibition, government monopolization of sales, "dry" days, restrictions on hours when sales are legal, restrictions on age and locations for sales and consumption, laws against drinking and driving, limits to alcohol content, laws against the sale of certain types of alcohol, and licensing.

Alcohol taxes do contribute revenue to government coffers in developing countries, generally in higher proportions than in developed countries (WHO 2002a), but smuggling and tax evasion are common. For example, Zimbabwe raised taxes on certain beers in 1995 but repealed the increase within months when tax revenues dropped significantly (WHO 2002a). Some developing countries have lowered alcohol taxes with consequent negative results. Mauritius experienced a dramatic increase in drunk-driving arrests, alcohol-related fatalities, and hospital admissions after it reduced taxes on alcohol (WHO 2002a). In sum, alcohol taxes do reduce drinking, but the evidence that such taxes are well targeted to those most at risk of problem drinking is not strong.

Box 11.1

Using Taxes to Influence Consumption and Production Behavior

Taxes as a tool for health policy face significant implementation obstacles. First, targeting can be difficult. A close link must exist between the consumption of the product or behavior to be taxed and a specific population with a health risk. For instance, all consumers would pay a tax on "junk" food, even though it would only present a health threat to a small percentage of them. The taxed good must also be appropriately defined in relation to close substitutes; for example, taxing only certain forms of tobacco such as cigarettes, but not chewing tobacco, may increase consumption of the latter. Governments may also distinguish between locally produced goods and imported goods, often because of lobby groups. If governments place a higher tax on the good that is less harmful, this action will encourage greater consumption of the more harmful good.

Key weaknesses in using taxes for health policy include the feasibility of smuggling and the existence of large informal or illegal markets. Smuggled or contraband products that cannot be regulated or certified for quality and safety, such as alcohol or tobacco in particular, may be more harmful to health than goods that are legally produced and sold.

Any tax should be efficient in terms of both its administration and its effect on resource allocation. Tax authorities need a well-functioning system for imposing, collecting, and monitoring taxes and taxed products, and the public should perceive the system as fair and credible in order to achieve a high degree of compliance.

Finally, a tax should be cost-effective in achieving its stated goal of improving health outcomes. The net costs of imposing the tax should compare favorably with the net costs of using another policy instrument, such as regulation or direct government provision. Depending on the characteristics of the tax base, the health goal and the revenue goal may even be at odds.

Source: Authors.

Food Taxes. The issue of taxing unhealthy foods has received increasing attention in the wake of the Global Strategy on Diet, Physical Activity, and Health, which was approved by member countries of the World Health Organization (WHO 2004). The global strategy points to the rising prevalence of obesity and overweight in developing countries, along with that of nutrition-related noncommunicable diseases, and recommends that countries consider fiscal policies and other measures to reduce those problems.

Governments can use excise taxes to reduce the consumption of unhealthy foods only if tax rates are sufficient to change consumption in a way that improves health outcomes, if they tax enough harmful foods or food ingredients, and if they levy the taxes in an effective manner. Guo and others' (1999) study in China demonstrates significant potential for price changes to affect consumption. The researchers studied dietary intake in a sample of urban and rural Chinese households and show that a 10 percent increase in the price of pork potentially reduces fat consumption by 8 percent. Energy and protein intake would both drop by 2 percent. The overall effect may be different for the poor and the rich. The potentially harmful effects on the poor of increasing the price of pork would be buffered by substitutions from other food groups, such as oil, wheat flour, and coarse grains, but concerns remain that overall nutrition would worsen. These results suggest that using price changes to alter dietary intake in a setting where overnutrition and undernutrition coexist may have mixed outcomes.

A natural experiment in Poland during the economic downturn of the 1990s suggests a beneficial role for price policy in a consumer switch from animal fats to vegetable fats with lower amounts of trans fatty acids (Zatonski, McMichael, and Powles 1998). A dramatic decline in ischemic heart disease and related circulatory system diseases during the first half of the 1990s is most easily explained by the removal of consumer subsidies from foods of animal origin, the aggressive marketing of margarines, and a general decline in food purchasing power. The major change in the food supply appeared to be a reduction in foods containing animal fats; however, no direct relationship can be conclusively attributed without further study of the Polish experience and the experiences of other countries undergoing similar transitions.

Governments may choose to address food-related health problems by taxing imports of high-fat or high-sugar food; however, such efforts conflict with rules governing international trade. Fiji, for example, tried to ban the import of mutton flaps, an extremely fatty food that was contributing to the country's obesity problem. To comply with its World Trade Organization obligations, Fiji had to ban the sale of all mutton flaps, not just imports (Evans and others 2001). One analysis suggests that the same kind of broad treatment would be necessary to grant subsidies to healthy foods, but taxing unhealthy

domestic foods alone would probably not pose a problem under World Trade Organization rules (WHO 2003). Furthermore, avenues for using other regulatory and economic policies to improve the consumption of healthy foods may be acceptable under the World Trade Organization Agreement on Technical Barriers to Trade and the Agreement on Agriculture if countries can justify them as contributing to legitimate national health objectives.

Agricultural policies affect food prices, food choices, and farm incomes in addition to the food security of both rural and urban populations. Each country must assess the potential for reorienting its agricultural policies so as to produce a healthier food supply. Developing countries are generally more likely to directly subsidize food consumption than food production; however, they frequently make indirect subsidies available through the provision of cheap fuel, chemical inputs, water, and loans to the agriculture sector. These policies may be environmentally and fiscally costly and rarely contribute to improved population health.

Research is needed on individual countries' agricultural policies and food supply needs to make them more compatible (Nugent 2004). At the same time, the dynamics of food choice and the effects of price manipulation need to be better understood before tax and subsidy systems can be designed to effectively promote healthy food choices.

Sales Tax Exemptions on Healthy and Staple Foods and Medicines and Other Health Care Goods. Governments may set tax policies to ensure that certain expenditures on health-related behaviors and health goods are tax deductible or tax exempt for firms, employers, or individuals. Exemptions should apply to a limited number of goods that are easily differentiated from goods that are not exempted. Note that in countries with large informal sectors, income tax systems are weak, and fiscal policies for the deductibility of credits are unlikely to be effective.

South Africa provided value added tax exemptions for a short list of essential foods and found a varied consumption pattern by commodity, with the poor receiving most of the benefits of the maize exemption, but few of the benefits of the milk exemption (Alderman and del Ninno 1999).

Mexico imposes a 15 percent value added tax on almost all goods. Exemptions include medicines, physician's services, and some foods. Recently, a government proposal to make drug and food purchases eligible for value added tax and to channel the resulting revenues into financing programs targeted to the poor has given rise to extensive debate. Those in favor have argued that the existing subsidy is regressive because most drug and food purchases are by the wealthy (Fundación Mexicana para la Salud 2001).

Many developing countries concerned about the spread of HIV/AIDS have dropped import taxes on condoms, but others continue to impose tariffs on imports. For example, Malaysia is a major producer and imposes a 25 percent tax on imports. Brazil used to impose both an import tax and a distribution tax that amounted to a total of 45 percent of the original condom price, but it granted a permanent sales tax exemption when condom sales increased following a temporary tax holiday.

Taxes on Producers

Producer taxes are usually aimed at discouraging socially harmful products or processes. They can be imposed either on the use of certain inputs, such as more heavily polluting fuels, or on their outputs, such as emissions of air pollutants.

Theoretical and simulation models have examined the use of taxes on fuels and emissions taxes to control air pollution (World Bank 1994a, 1994b), but empirical data are lacking. Models of taxes suggest potential to induce substitution by cleaner fuels and reductions in overall energy use, but actual results will depend on the availability of fuel substitutes within countries. Data on Chilean manufacturing support the possibility of clean fuels substitution but indicate the likelihood of uneven sectoral incidence of the emissions tax. For example, bakeries were responsive to changes in relative prices, whereas metal products plants were unresponsive, and meat packers were unable to adjust their electricity demand but could reduce energy from other sources (World Bank 1994b). If this potential were realized on a global or regional basis—for example, through agreements to the Kyoto Protocol—a double benefit of reducing harmful externalities and raising significant revenues might be achieved.

FISCAL POLICY TO PROMOTE HEALTH

The fiscal policies discussed in this chapter in relation to health and health care goods can be applied to other goods and markets, such as housing and education, some of which may have important effects on health. This chapter does not provide an exhaustive discussion of the goods that indirectly promote health, but it does briefly consider some of these policies in relation to workplaces, employment leave policies, and day care. Note that policies focused on formal labor markets will not be effective in reaching large segments of the population in many countries. Policies that provide health-related services, such as day care, that are not based on formal labor market participation may have a broader effect.

Workplace Health

Governments can use tax relief and financial support to producers to encourage firm-specific actions to promote health. Many countries mandate safeguards in the workplace and levy penalties against occupational health violations. Most

government actions are mandates rather than fiscal policies, but a combination of approaches may also be used.

A growing area for workplace health promotion is HIV/AIDS. Bloom and others (2004) suggest that the failure on the part of most firms to act—even if they correctly perceive the business, human, and social challenges HIV/AIDS poses—is attributable to a lack of incentives. Significant externalities (benefits to society and firms) are likely to result from promoting greater action by firms. Some private firms have begun providing HIV/AIDS prevention and treatment services to employees, families, and their communities ("Face Value: AIDS and Business" 2004). Sometimes government support is involved, but little information is available to evaluate the potential of fiscal policy.

Maternity Leave, Sick Leave, and Family Care Leave

Government policy can alter choices regarding different types of worker leave. Many countries have financial or legislative support for caregiving, although most focus on children. Rhum (1998) cites evidence that more than 100 countries—and almost all the industrial countries—have some legislation about parental leave, although in several countries it is unpaid.

Caregiving policies that allow people to take time off work to care for aged and chronically ill family members are less common than policies for child care, particularly in developing countries, but tax benefits and allowances for these types of caregiving are becoming increasingly available in the industrial countries (Brodsky, Habib, and Mizrahi 2000; Pijl 2003; Wiener 2003). Although the provision of services in kind by the government is still an important mechanism, the trend is toward empowering consumers by offering subsidies or tax deductions that allow them to choose among caregiving options. Countries tend to use a combined approach to financing that relies on payroll taxes imposed on employees and employers, general taxation, and copayments. Important issues that developing countries need to address in this respect include targeting compared with universal provision, the mechanisms to pay for or to insure care, and the extent to which long-term care should be integrated into the health care and social service systems (Brodsky, Habib, and Mizrahi 2000; WHO 2003).

Day Care and Early Childhood Education

Some countries use targeted fiscal policies, such as income tax deductions or direct provision, to increase the use and quality of early childhood education and child care services. Important health, labor market efficiency, growth, and equity arguments support subsidizing these services, particularly for low-income families, because without subsidies women may be forced to limit their work or to leave the labor market, and families may have to use low-quality care or leave children unattended. Van der Gaag and Tan (1997) argue for public subsidies based on cost-benefit analysis of early childhood development programs. They conclude that the greatest payoff comes from targeting the most deprived families and that the private benefits are sufficient to expect better-off parents to pay.

Two large-scale, home-based day care programs targeted to poor families are Community Well-Being Homes (Hogares Comunitarios de Bienestar) run by the Colombian Institute for Family Well-Being (Instituto Colombiano de Bienestar Familiar) in Colombia (Myers 1995) and the Integrated Child Development Program in Bolivia. The former is an interesting case of a targeted cross-subsidy because the financing comes from the wealthier formal sector by means of a payroll tax, whereas the services are targeted to the poorest families. The program was 85 percent subsidized in the early 1990s. Parents paid a proportion of the caregivers' wages on a sliding-scale user fee (Young 1996). The Bolivian program includes nutrition, health, and cognitive development interventions and is one of the few early childhood programs in developing countries that has been formally evaluated (Behrman, Cheng, and Todd 2000). The evaluation shows that the program significantly increases cognitive achievement, although the results depend on age and the duration of exposure to the program.

CONCLUSIONS

A broad range of experiences cited in this chapter demonstrates that fiscal and health policies interact in a number of areas. Although substantial research has focused on tobacco and alcohol, other links—for example the promotion of health in the workplace—have been much less recognized or studied, particularly in developing countries.

The research presented in this chapter suggests that fiscal policy can be a useful tool for influencing health in developing countries. Nevertheless, budgetary limitations to withstand pressure for program expansion, leakages to unintended beneficiaries, public compliance with the tax system, and corruption among both government officials and the public are important factors to take into account in design and implementation. Table 11.4 summarizes some lessons learned on the use of fiscal policy to promote health.

Governments may find it worthwhile to examine their use of fiscal policies to identify the entire range of effects and have health ministries participate in this exercise. More generally, the chapter indicates an area for increased interaction between ministries of health and finance. Healthy fiscal policy and fiscal policy for health should be topics that are debated, agreed on, and formalized between the two areas of policy making to guarantee that those developing fiscal policy take both its economic and its health implications into account.

Table 11.4 Lessons in Using Fiscal Policy for Health Promotion

Intervention choice	Program design	Instrument design	Policy regime
• Select interventions that directly address the health objective. • Ensure that interventions are sufficient to effect the health change, but not excessive. • Choose interventions with high health returns and low costs relative to alternatives.	• Ensure that the health benefits of the desired change are apparent and significant. • Make sure that the tax base is adequate and stable and that no untaxed close substitutes are available. • Be aware that a large informal labor sector will limit the effectiveness and equity of benefit delivery. • Avoid programs whose expenses may become unsustainable because of uncontrollable factors.	• Choose the appropriate recipients for a subsidy or tax preference. • Do not spread the benefits across too large a group. • Note that targeting by demographic, geographic, or need categories is more efficient than no targeting or self-targeting. • Be aware of the price elasticities of a taxed good so that its incidence is clear.	• Ensure that policy is consistent and predictable. • Ensure that institutions carrying out a policy are open, accountable, and uncorrupted. • Consider tradeoffs between efficiency and distributional goals. • Seek non–health sector opportunities to effect health goals.

Source: Authors.

Rigorous evaluation studies are needed of most of the fiscal policy interventions discussed in this chapter. Such studies should address the health, fiscal, macroeconomic, and distributional effects of using fiscal policy to achieve health goals and should be performed in a range of countries with mixed public and private sector capacity to deliver health services. The studies should also examine the differing effects of policies in urban and rural settings and across income quintiles. Of particularly high priority are further studies of the results of subsidizing drugs, medical supplies, and hygiene interventions with or without education campaigns. Those areas may reveal new fiscal approaches for addressing the disease burden in developing countries.

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NOTES

1. The idea of healthy fiscal policy is discussed in Cook and Vlaisavljevich (1994), Joffe and Mindell (2004), and Secretaría de Salud (2001).

2. *Social marketing* is defined as the use of marketing principles to influence behavior for a socially desirable outcome. It provides a desirable product at an affordable price with adequate promotion and placement (that is, access).

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