

The Economic Costs of Smoking in the United States and the Benefits of Comprehensive Tobacco Legislation

Introduction

The past twenty years have seen dramatic improvements in the health of Americans along a wide variety of dimensions. Life expectancy for both men and women has increased by more than five years since the mid-1960s. Infant mortality has seen even more dramatic improvements, having fallen by nearly three-fourths since 1960 and by two-thirds since 1970.¹ Not only are Americans living longer but their health throughout their lifetime has improved due to the significant medical advances made over the past two decades.

As we move into the 21st century, the U.S. economy and its medical system are the envy of the rest of the world. Yet we enter this new century with a large blemish on our public health record: the enormous prevalence of smoking in America. Tobacco use is the second leading cause of death in the U.S., and is the largest preventable cause of death. **Over 400,000 people die prematurely each year due to tobacco related illnesses.**² In fact, tobacco use results in more deaths each year in the U.S. than AIDS, alcohol, cocaine, heroin, homicide, suicide, motor vehicle crashes, and fires combined.³ The leading causes of smoking-attributable death in the U.S. are lung cancer (an average of 123,000 deaths annually) and ischemic heart disease (an average 98,000 deaths annually).⁴

¹ Estimates taken from data compiled by the Centers for Disease Control and Prevention, National Center for Health Statistics.

² "Medical-Care Expenditures Attributable to Cigarette Smoking — United States, 1993" *Mortality and Morbidity Weekly Report*, Vol. 43, no. 26, July 8, 1994, pp. 469-72.

³ Centers for Disease Control and Prevention, 1996.

⁴ "Smoking Attributable Mortality and Years of Potential Lost Life — United States, 1984" *Mortality and Morbidity Weekly Report*, Vol. 46, no. 20, May 23, 1997, p. 449.

The impact of smoking on health is well known, but less attention has been given to the costs that smokers impose on the U.S. economy. As we will document below, these costs are enormous, and provide a further motivation for moving forward as soon as possible with comprehensive tobacco legislation. In this study, we summarize the costs of smoking for the U.S. economy in some detail; we have taken a global perspective, considering the net costs to the U.S. economy and not the distributional impacts across individuals or sectors of the economy. We then explain why comprehensive tobacco legislation along the lines the President has called for provides the only sure way to combat smoking, and outline the human and economic benefits that would come from putting such legislation in place.

I. Addiction

The approach to assessing the costs of smoking used in this paper begins with the fact that smoking is addictive. Critics of comprehensive tobacco legislation often assert that people have a choice about whether or not they wish to assume the greater risk of illness and death associated with smoking. But the broad consensus that smoking is addictive distinguishes it from other risky choices, such as poor diet or lack of exercise. **In fact, several studies have found nicotine to be as addictive as heroin, cocaine and alcohol.**⁵ The nicotine dependency caused by smoking is the most common form of drug addiction in the U.S. and causes more deaths and disease than all other addictions combined.⁶

As a result, once someone starts to smoke, stopping often becomes an overwhelmingly challenging task. This remains true even when smoking takes a toll on a smoker's health. Only about half of smokers who lose a lung to cancer or undergo major cardiovascular surgery succeed in giving up smoking for more than a few weeks.

The addictive qualities of nicotine mean that the decision to start smoking has much greater implications than most people realize at the time. What's more, the initial decision to smoke is often made by teenagers, who may not realize the dangers of tobacco use. One survey of teens found that nearly one-third of all 12th graders and half of all 8th graders see no great harm in smoking at least a pack of cigarettes a day.⁷ Given such perceptions, it is not entirely surprising that more than 90 percent of all adult smokers tried their first cigarette before they turned 18; over half had become regular smokers by that point.

By the time many of these teens decide to quit smoking, they are addicted. According to one survey, nearly half of all teenagers who smoke believe they will have dropped the habit within five

⁵ U.S. Department of Health and Human Services. *Preventing Tobacco use Among Young People: A Report of the Surgeon General*. 1994.

⁶ Ibid.

⁷ University of Michigan: Monitoring the Future

years. In reality, only about 20 percent succeed in quitting. And only 15 percent of teens who smoke less than one cigarette a day predicted they would still smoke five years down the road, but 45 percent continued to smoke — and most did so more frequently than before.

It is also clear that many teens who take up smoking later regret their decision, although in many cases that realization comes too late. About two-thirds of all adult smokers say they would like to quit, and nearly half of all smokers try to quit in a given year. But few smokers succeed in stopping in the long run. Only two to three percent of smokers — or about seven to ten percent of those who try to quit — manage to stop smoking for one year.⁸

II. Costs to the American Economy

The starting point of our economic analysis follows from the observation that smoking is an addictive behavior that is largely beyond the control of individuals once they have started as teens. As a result, the costs to the American economy of smoking include the costs imposed on those individuals — as well as the costs imposed on others — by this behavior.

It is important to note, in this context, that our approach differs from that taken by other economic analyses of the costs of smoking in the U.S.⁹ These previous analyses use as their starting point the rational economic model, which considers only the costs that smokers impose upon others and not the costs that they impose upon themselves. The point of the previous section was to highlight that this model can not be taken to realistically apply to the case of smoking. Thus, we depart from this previous paradigm by considering the costs of smoking to both the smokers themselves and the society at large.¹⁰

In considering these costs, we have divided them into two categories. The first is direct and measurable costs to the economy: this consists of categories of costs which are both readily measured and unambiguously related to smoking behavior. The second is indirect and more difficult-to-measure costs to the economy: this consists of other categories of costs for which

⁸ U.S. Department of Health and Human Services. *Preventing Tobacco use Among Young People: A Report of the Surgeon General*. 1994.

⁹ Manning, W.G., E.B. Keeler, J.P. Newhouse, E.M. Sloss, J. Wasserman, *The Costs of Poor Health Habits*, Cambridge, MA: Harvard University Press: 1991, p. 83. Also, Kramer, M.S., “Determinants of Low Birth Weight: Methodological Assessment and Meta-Analysis,” *Bulletin of the World Health Organization*, Vol. 65, 1987, pp. 663-737. And, Viscusi, K.W., “The Value of Risks to Life and Health,” *Journal of Economic Literature*, Vol. 31, December 1993, pp. 1912-1946.

¹⁰ This has two particular implications, relative to previous studies. First, unlike these other studies, we consider in our calculations the costs of smoking to the smokers themselves, such as the lost wages from dying prematurely. Second, we do not follow previous studies in subtracting the “benefits” of early death that arise from reduced transfer payments to smokers (mostly from Social Security). Since these are simply reductions in transfers, there is no net gains to society from reduced payments by Social Security.

there is either dispute over the exact relationship to smoking, or the quantification of the cost figure, or both.

Direct and Measurable Costs

Adult Medical Spending

Aggregate Costs to U.S. Economy: The Surgeon General recently testified that the U.S. spends approximately \$50 billion per year treating smoking related illness.¹¹ This amount represents the estimated spending in 1993 dollars. Adjusting for inflation, tobacco use may result in excess medical expenditures of nearly \$60 billion today.¹² Public funding — primarily Medicare and Medicaid — paid over 40 percent of those costs, or more than \$20 billion.¹³ Of course, if smoking was eliminated tomorrow, the resulting savings would be partially offset by the extra medical expenses that would arise because people will live longer as a result. Taking this into account, the net cost of smoking is roughly \$45 billion per year.

The Medical Costs to Current Smokers: The future medical costs of a young person taking up smoking today can be quite large — about \$13,700 in today's dollars over the course of a lifetime. Because women live longer than men on average, the extra medical costs that will arise from their smoking differ by gender. A young man who starts smoking can expect to generate as much as \$12,700 in excess medical costs over the course of his life; if he smokes more than a pack a day he may incur up to \$19,000 in extra medical expenses over his lifetime. For a young woman,

¹¹ Statement of David Satcher, MD, Ph.D., Surgeon General and Assistant Secretary for Health, Department of Health and Human Services before the Senate Judiciary Committee on March 12, 1998.

¹² MMWR, Vol. 43, no. 26, July 8, 1994, pp. 469-472. Costs were adjusted using the CPI for medical services from the Department of Labor, Bureau of Labor Statistics.

¹³ Ibid.

smoking will increase her lifetime medical bills by \$14,800, and if she smokes more than a pack per day this figure rises to \$25,800.¹⁴

In this world of strong pressure to control medical costs, these are precious resources that could be devoted to combating other illnesses that are not under our control.

Smoking during Pregnancy

¹⁴ Hodgson, T.A., "Cigarette Smoking and Lifetime Medical Expenditures," *The Milbank Quarterly*, Vol. 70, no. 1, 1992, pp. 81-125. Figures were adjusted for inflation using medical services CPI from the Department of Labor, Bureau of Labor Statistics. These costs of smoking are in present value terms; in other words, they represent even larger expenditures many years in the future, when the effects of smoking take their full toll. They also take into account the fact that non-smokers live longer and thus require more years of medical care.

A clear example of the human and economic cost that smoking imposes on the U.S. economy, and national well-being, is the effect of smoking during pregnancy. Smoking while pregnant has been found to increase the severity of complications during pregnancy and delivery; according to one estimate, a smoker who develops complications not only costs more than an average pregnancy, but also costs about \$8,000 more on average than a non-smoker who develops complications.¹⁵ Smoking while pregnant also doubles the risk of having a low birth-weight baby and is responsible for about 48,000 low-weight births per year. As many as half of these babies are admitted to neonatal intensive care units — at a cost of thousands per day — and low birth-weight babies face the risk of developmental and medical difficulties throughout their childhood. Indeed, not only are low birth-weight babies likely to have higher medical costs, but they are also more likely to repeat a grade and 50 percent more likely to wind up in special education classes.^{16,17}

The increased costs of complicated deliveries, costs of increased medical care of low-weight babies — in their first year of life and throughout their adolescence — and the increased costs due to developmental difficulties all add up to about \$4 billion per year.¹⁸ These expenses are in addition to the medical costs of smoking-related diseases like lung cancer and heart disease that were cited above.

Even so, these figures for the increased costs due to smoking during pregnancy do not take into account costs that are more difficult to measure, like the increased risk of fetal death and the increased chance of post-adolescent problems for low-birth weight babies. Smoking is estimated to cause 2,500 fetal deaths each year.¹⁹ Additionally, because low birth-weight babies are more likely to repeat a grade, they are also at more risk of dropping out of school, having lower earnings, requiring additional social services, and committing

¹⁵ "Medical Care Expenditures Attributable to Cigarette Smoking During Pregnancy — United States, 1995," *MMWR*, Vol. 46, no. 44, November 7, 1997, pp. 1048-1050.

¹⁶ Manning, W.G., E.B. Keeler, J.P. Newhouse, E.M. Sloss, J. Wasserman, *The Costs of Poor Health Habits*, Cambridge, MA: Harvard University Press: 1991, p. 83. Also, Kramer, M.S., "Determinants of Low Birth Weight: Methodological Assessment and Meta-Analysis," *Bulletin of the World Health Organization*, Vol. 65, 1987, pp. 663-737.

¹⁷ Lewit, E.M., L.S. Baker, H. Corman, P.H. Shiono, "The Direct Cost of Low Birth Weight," *The Future of Children*, Vol. 5, no. 1, Spring 1995, pp.35-56.

¹⁸ Treasury Department, Office of Economic Policy Estimate

¹⁹ Surgeon General as cited in Manning (1991).

crimes.²⁰ The fact that smoking imposes such large negative effects on children who had no choice at all about their parents' decision to smoke highlights the enormous toll extracted by smoking on the young in the U.S.

Lost Output and Workdays

Smokers tend to die younger and retire sooner than non-smokers. Over and above the medical costs, this would carry a price to the economy in lost output and lost wages; based on previous analysis, this cost is estimated at \$80 billion a year. In addition, there is a further tangible drain on the economy of around \$500 million, due to the fact that smokers miss 50 percent more work days than their non-smoking colleagues.²¹

Other Direct Economic Costs

²⁰ Lewit, et. al. (1995).

²¹ Manning (1991).

As previously noted, both the fact that smoking is addictive and that most smokers start as teens indicate that costs which smokers impose on themselves should be included. Even so, there are additional real costs that smoking imposes on others but which smokers don't take into account — so-called “externalities” — that should be included as well. Fires started by smoking cause an estimated \$500 million worth of damage every year, and this does not even begin to account for the roughly 2,000 lives that are lost every year in these fires. Additionally, some studies have even estimated large costs for cleaning and repainting homes and offices due to smoking, but these are not included in the total.²²

Indirect and More Difficult-to-Measure Costs

Lower Productivity Among Workers

In addition to losing wages because they work fewer years than non-smokers, some studies have found that smokers also earn lower wages when they are working — even after other observable differences between smokers and non-smokers are taken into account. In particular, one recent paper found that siblings who smoke earn 4-8 percent less than their non-smoking siblings. This may be due to the fact that these smokers have higher medical costs — costs that employers who offer health insurance will want to pass on to their employees who smoke, and that smokers may accept because they have a greater need for health insurance. But even removing the potential pass-through of medical costs, these estimates could be translated into an annual loss of another \$50-\$125 billion in productivity.²³

Experts disagree, however, as to whether these estimates capture the true costs of smoking or simply reflect other differences between smokers and non-smokers that affect their earnings but are difficult for analysts to measure. The former interpretation is suggested by some evidence that young smokers are physically less productive than non-smokers. But given the uncertainties of interpretation here we have chosen not to add these costs to our basic estimates.

Reduced Mortality

²² "The Costs and Benefits of Smoking Restrictions," EPA, April 1994.

²³ Levine, P., Gustafson, T., Velenchik, A, “More Bad News for Smokers? The Effects of Cigarette Smoking on Wages,” *Industrial and Labor Relations Review*, Vol. 50, no. 3 , April 1997.

The cost smoking imposes on the U.S. economy because it cuts short people's working lives has been noted, but some would argue that this does not fully capture the costs of smoking-induced mortality. It is certainly true that society invests resources — and people invest their own resources — in order to lower the risk of mortality. This suggests that there are additional costs to individuals, above and beyond the cost of lost wages, of leading shorter lives.

One way to measure these costs is through standard risk comparisons; that is, by examining the steps people take to avoid such risks or the extent to which they must be compensated in order to accept them. Studies suggest that the value of a life measured in this way may be \$3 million or even higher, but we make an illustrative calculation using a relatively conservative estimate.²⁴

With each cigarette smoked taking seven minutes from the average smoker's life — and taking into account the lives lost due to smoking-related fires and smoking during pregnancy — the estimated cost of reduced mortality is approximately \$120 billion per year. This cost is the equivalent of \$5 dollars for every pack sold, and represents the amount over and above the lost productive output mentioned earlier.

While these costs are impressive, they are highly subjective. Exactly how one would apply this methodology to the human costs of smoking is a complex and certainly controversial question. As a result, we have chosen not to include the costs of reduced mortality in estimating the cost of smoking in the U.S.

Second Hand Smoke

Several studies have also shown that exposure to second hand smoke also imposes a serious health threat to infants, children and adults.²⁵ Each year, exposure to second hand smoke may cause between 150,000 and 300,000 cases of lower respiratory tract infections such as bronchitis and pneumonia in infants and young children up to 18 months. Between 7,500 and 15,000 of these lower respiratory tract infections result in hospitalization.²⁶ Second hand smoking also increases the prevalence of asthma in children,²⁷ and increases the risk of sudden infant death syndrome.²⁸

²⁴ Viscusi, K.W., "The Value of Risks to Life and Health," *Journal of Economic Literature*, Vol. 31, December 1993, pp. 1912-1946.

²⁵ Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders: EPA (1992); Environmental Tobacco Smoke: Measuring Exposures and Assessing Health Effects: NRC (1986).

²⁶ U.S. EPA: "Fact Sheet: Respiratory Health Effects of Passive Smoking." <http://www.epa.gov/iedweb00/pubs/etsfs.html>, January 1993.

²⁷ Gergen PJ, Fowler JA, Maurer KR, Davis WW, Overpeck MD, "The Burden of Environmental Tobacco Smoke Exposure on the Respiratory Health of Children Two Months Through Five Years of Age in the United States: Third National Health and Nutrition Examination Survey, 1988 to 1994," *Pediatrics*, Vol. 101, no. 2, February 1, 1998.

²⁸ NCI, and Mitchell EA, et. al., "Risk Factors for Sudden Infant Death Syndrome

Following the Preventions Campaign in New Zealand: A Prospective Study ,” *Pediatrics* Vol. 100, no. 5, pp. 835-40, November 1997.

Exposure to second hand smoke for adults each year may also cause approximately 3,000 cases of lung cancer,²⁹ be linked to over 37,000 deaths due to heart disease,³⁰ and increase the risk for atherosclerosis.³¹

“Gateway Effects”

The costs of smoking that we report here may be multiplied if there are important “gateway effects.” One type of gateway is the effect of smoking by parents or siblings on the decision of children to start smoking; to the extent that there are real effects of this type, the cost of smoking by any one individual is much greater than the costs to that individual alone. A second type of gateway is between the use of tobacco and the increased use of other dangerous substances. Smoking is highly correlated with alcohol consumption and illegal drug use. According to the Centers for Disease Control, current smokers are 26.5 times more likely to use marijuana and 39.0 times more likely to use cocaine than never-smokers. Of course, correlation does not prove causation, and there may be other reasons why the smoking of family members is correlated, and why smoking and illegal substance use go hand-in-hand. But some recent evidence is suggestive of causal effects: one new study found that states with higher cigarette prices have lower rates of marijuana use, confirming the notion of a gateway from cigarettes to illicit drugs.

The Total Costs of Smoking

Our discussion thus far has highlighted a number of different potential sources of costs of smoking in the U.S. In computing our basic estimates of the costs of smoking, we have included the categories of direct and measurable costs of smoking noted above: medical costs; the costs of smoking during pregnancy; the costs of lost workdays; the cost of lost output from early death and retirement; and the costs of external costs such as fires caused by smoking. Putting these

²⁹ U.S. EPA: “ Fact Sheet: Respiratory Health Effects of Passive Smoking.” <http://www.epa.gov/iedweb00/pubs/etsfs.html>, January 1993.

³⁰ Ibid.

³¹ Howard, G. et. al., “Cigarette Smoking and Progression of Atherosclerosis,” *Journal of the American Medical Association*, Vol. 279, pp 119-124, 1998.

factors together, we find a cost to the U.S. economy of smoking of about \$130 billion per year.

This figure is much higher if we include as well some of the costs that are indirectly related to smoking and are more difficult to measure; adding either the cost of lost wages or foregone years of life could double our estimates. And these figures are also very conservative in that they do not account at all for the other potential costs of second hand smoke or gateway effects.

TABLE 1
The Economic Costs of Smoking in the United States

Source of Cost	Cost of Smoking in U.S. (\$1998 billions)	Possible Long Run Benefits from Legislation (\$1998 billions)
Adult Medical Spending	\$45	\$27
Smoking During Pregnancy	\$4	\$2.4
Lost Workdays	\$0.5	\$0.3
Lost Output from Shortened Work Lives	\$80	\$48
Smoking-Induced Fires	<u>\$0.5</u>	<u>\$0.3</u>
TOTAL SOCIAL COSTS OF SMOKING AND BENEFITS OF SMOKING REDUCTIONS	\$130	\$78
<u>Additional Potential Costs</u>		
Value of Reduced Mortality	\$120	\$72
Possible Productivity Reductions for Smokers	\$50-\$125	\$20-\$75

Office of Economic Policy, U.S. Treasury Department

It is important to recognize that all of these represent, in the language of economics, real resource costs. That is to say, the \$130 billion that smoking costs is much more burdensome to our economy than the same amount levied in taxes, which impose a cost on consumers, but provide offsetting revenues to our government. It is proverbial that there is no such thing as a free lunch. But in a sense, successfully preventing people from acquiring an addiction they do not want to have — by effectively combating youth smoking — is a free lunch with real benefits for

our economy as well our nation.

III. Case for a Comprehensive Settlement

The health and economic costs outlined above make a compelling case for action to reduce smoking in America. The question is how best to act. Experience yields two major conclusions. The first is that the single most effective way to reduce smoking is to stop it when it starts: in adolescence. Everyday 3,000 teens start smoking regularly, and 1,000 of them will die prematurely as a result. As we noted earlier, smoking as a teen is highly correlated with smoking as an adult, even if (as a number of studies suggest) adults would very much like to stop.

The second conclusion is that preventing youth smoking demands a comprehensive approach, an approach that makes tobacco companies part of the solution rather than part of the problem. The fact is that the piecemeal approaches of past years have not worked. The real level of combined federal and state taxes that existed in 1964 — when the surgeon general first warned of the dangers of smoking — will not be restored until 2002, when the historic increase in the federal excise tax that was enacted in last summer's budget agreement is fully implemented. In the absence of comprehensive federal legislation, states have and will continue to take their own measures to reduce smoking, but they do not have the benefits of an integrated federal plan to restrict access and marketing to youth. In 1996, the Administration took the historic step of asserting FDA jurisdiction over tobacco products, but its use of that authority has been hampered by a number of recent court actions. Meanwhile, youth tobacco use in America has continued to grow throughout the 1990s.

What is required to combat this dangerous trend is a coordinated, comprehensive approach that relies on combining the most effective means of reducing youth smoking. This type of approach will have real and tangible benefits for the health of the U.S. population and the U.S. economy. This approach, as outlined by the President last fall, is based on the five core components.

1. A combination of annual payments and penalties on the tobacco industry designed to achieve targeted reductions in teen smoking by raising the price of a pack of cigarettes by up to \$1.50 over 10 years.

Substantial real price increases are the best way to combat smoking, particularly among youth. A large number of rigorous economic studies have shown that teen smoking is responsive to changes in price. A consensus view is that for every ten percent rise in price, at today's prices, seven percent fewer youths will smoke.³² These estimates suggest that each ten cent increase in the price of a pack of cigarettes will, over the next five years, result in 270,000 fewer teens becoming smokers and more than 90,000 premature deaths avoided.

³² Chaloupka, F., and M. Grossman, "Price, Tobacco Control Policies, and Youth Smoking," NBER Working Paper # 5740, 1996.

Tough penalties will also provide incentives to tobacco companies to stop targeting youths. President Clinton has asked for legislation that would set targets of reducing teen smoking by 30 percent in five years, 50 percent in seven, and 60 percent in ten years, and impose severe financial penalties that hold tobacco companies accountable to meet those targets.

2. Full authority for the Food and Drug Administration to regulate tobacco products.

In 1996, the Administration took the historic step of asserting FDA jurisdiction over tobacco products but its use of that authority has been hampered by a number of recent court actions. Full authority for the FDA to regulate tobacco products is essential because the FDA needs a comprehensive set of tools to craft appropriate restrictions on youth access to, and the advertising of, tobacco products. Providing FDA this authority would also enable a coordinated federal response to changing circumstances in supporting parents' efforts to protect would-be teen smokers.

3. Changes in the way that the tobacco industry does business.

Real restrictions on youth access to tobacco products and marketing to youth by tobacco companies are a key component of a comprehensive solution. The 1994 Surgeon General's report concluded that cigarette advertising significantly increased young people's risk of smoking by changing their perception of the extent, image, and function of smoking in our society. Unfortunately, studies have shown that almost as many six-year-olds can recognize Joe Camel (91 percent) as Mickey Mouse (96 percent). The prevalence of advertising aimed at young people matters because teens are much more likely than adults to buy the three most heavily advertised brands.³³

Additionally, surveys have shown that it has been far too easy for children and youth to buy tobacco products. Almost 80 percent of 12- to 17-year-old smokers reported buying their own cigarettes at one point, and almost half of those that had bought their own cigarettes reported never being asked to show proof of age.³⁴ In a recent review of several surveys, on average, children and adolescents were successful in buying tobacco products 67 percent of the time.³⁵

³³ DiFranza, F., et. al., "RJR Nabisco's Cartoon Camel Promotes Camel Cigarettes to Children," *Journal of the American Medical Association*, Vol. 266, no. 22, December 11, 1991: 3149-53. Fischer, P., et. al., "Brand Logo Recognition by Children Aged 3 to 6 Years," *Journal of the American Medical Association*, Vol. 266 no. 22, December 11, 1991: 3145-48.

³⁴ "Accessibility of tobacco Products to Youths Aged 12 to 17 Years — United States, 1989 and 1993," MMWR, Feb 16, 1996.

³⁵ Preventing Tobacco use Among Young People, "A Report of the Surgeon General, 1994.

At the same time, there exist a number of inspiring success stories. Studies found a 69 percent decline in daily use by seventh and eighth graders in Woodridge, Illinois following legislation and enforcement of restrictions on cigarette sales to minors, and a 44 percent decline in junior high school students= smoking in Leominster, Massachusetts as a result of strictly enforced sales restrictions.³⁶ A recent study comparing different state youth access restrictions estimates that a comprehensive national system could reduce youth smoking by almost 20 percent.³⁷ Based on these findings, we use a somewhat conservative estimate that a comprehensive set of sales and marketing restrictions will reduce youth smoking by 15 percent nationwide.

4. **Progress toward other public health goals**, including biomedical and cancer research, a reduction of second hand smoke, promotion of smoking cessation programs, and other urgent priorities.

It will be necessary to organize the combined resources and expertise at the national, state and community level to expand our knowledge of the causes and effects of smoking and use our knowledge and resources more effectively. For example, experiments in second hand smoke reduction and smoking cessation programs around the U.S. have been yielding important lessons on what works and what does not. And it is crucial to remember that large price increases will impose pain on the almost 50 million adult smokers who are addicted to tobacco products. Thus, it is imperative to finance a national cessation campaign to help wean smokers from this addictive product.

5. **Protection for tobacco farmers and their communities.**

Finally, a comprehensive approach to reducing youth smoking can and must take account of the legitimate concerns of the 124,000 farmers who are involved in tobacco production and the families who depend on them. A commitment to compensating these communities for a new nationwide approach to tobacco is integral to our search for a comprehensive solution.

IV. Benefits from a Comprehensive Settlement

A comprehensive plan that incorporates the five principles outlined by the President would provide real health and economic benefits to the United States. Treasury Department estimates suggest that a comprehensive approach to combating smoking which combines the price increase anticipated in the

³⁶ Jason, L. A., P. Ji, M. Anes, and S. Birkhead, "Active Enforcement of Cigarette Control Laws in the Prevention of Cigarette Sales to Minors," *Journal of the American Medical Association*, Vol. 266, no. 22, December 11, 1991: 3159-61. DiFranza, J. R., R. R. Carlson, R.E. Caisse, "Reducing Youth Access to Tobacco," *Tobacco Control*, 1992.

³⁷ Chaloupka, F., and M. Grossman, "Price, Tobacco Control Policies, and Youth Smoking," NBER Working Paper # 5740, 1996.

President's budget with tighter restrictions on youth access and marketing would lead to dramatic reductions in youth smoking, with substantial positive effects for the U.S. economy.

Health Benefits

The Treasury Department has recently conducted an analysis of the effect on youth smoking of the price increases resulting from the Administration's FY 1999 budget, along with the aforementioned reductions that arise from the access and marketing restrictions that are central to comprehensive tobacco legislation. At the national level, this study found that, in combination with these access and marketing restrictions, the Administration's budget would:

- lower youth smoking by 42 percent by 2003;
- reduce the number of youths smoking each year by 1.6 million by 2003;
- reduce the cumulative number of youths who smoke by 2003 by 3 million; and
- avoid roughly 1 million premature deaths as a result.

We have also examined these benefits on a regional level, considering the state-by-state impact of our budget, along with access and marketing restrictions, on teen smoking. These estimates are presented in Table 2, which illustrates that a combination of price increases and access/marketing restrictions will have a major impact on youth smoking in every state and region of the country.

The percentage reductions in underage teen smoking and resulting premature deaths range from 33 percent to 36 percent in states like Washington, Massachusetts, and Michigan, to 47 percent to 51 percent in states like Wyoming, South Carolina, and Kentucky; while the steps taken in each state will be the same, the percentage reductions that result differ across states because each is starting with different cigarette price levels. In 2003 alone, individual states will see smoking reductions ranging from a few thousand in the smaller states up to about 132,000 in California. Over the next five years, typical states such as Oklahoma, Mississippi, and Maryland will see cumulative reductions of about 29,000 to 47,000 underage teen smokers. As a result of these reductions over the next five years, there will be 3,000 to 6,000 premature deaths avoided in smaller states such as Idaho, Maine, and Delaware, with 21,000 to 35,000 premature deaths avoided in larger states such as New Jersey, North Carolina, and Wisconsin.

Economic Benefits

Above, we described the current costs of smoking to the U.S. economy. Even if all smoking ceased tomorrow, smoking would still impose costs into the future because of its long lasting health effects. As a result, the appropriate way to evaluate the effect of tobacco legislation on the economy is to consider the long run impacts of youth smoking reductions today; a generation of youths that avoids smoking today will never impose on the U.S. economy the dramatic costs that are associated with their older counterparts.

The long term goal of the President's plan is to reduce teen smoking by a

minimum of 60 percent in 10 years. Since teens who are stopped from smoking are unlikely to take up smoking later in their life, reaching this goal would reduce the cost of smoking to the U.S. economy by 60 percent in the long run. That is, as shown in Table 1, *meeting this youth reduction target would imply a real gain to the economy of \$78 billion per year.*

TABLE 2
ONE MILLION PREMATURE DEATHS PREVENTED

STATE-BY-STATE ANALYSIS

	Percent Reductions in 2003	Cut in the Number of Teen Smokers		Premature Deaths Prevented 1999-2003
		in 2003	1999-2003	
Alabama	46%	27,000	50,000	17,000
Alaska	38%	5,000	9,000	3,000
Arizona	38%	26,000	49,000	16,000
Arkansas	43%	15,000	28,000	9,000
California	40%	132,000	248,000	83,000
Colorado	45%	27,000	51,000	17,000
Connecticut	39%	16,000	29,000	10,000
Delaware	45%	5,000	10,000	3,000
DC	37%	1,000	2,000	1,000
Florida	43%	90,000	168,000	56,000
Georgia	48%	43,000	81,000	27,000
Hawaii	35%	5,000	10,000	3,000
Idaho	43%	7,000	14,000	5,000
Illinois	41%	74,000	139,000	46,000
Indiana	48%	48,000	90,000	30,000
Iowa	42%	16,000	30,000	10,000
Kansas	45%	16,000	29,000	10,000
Kentucky	51%	31,000	58,000	19,000
Louisiana	46%	34,000	64,000	21,000
Maine	42%	9,000	17,000	6,000
Maryland	42%	25,000	47,000	16,000
Massachusetts	35%	26,000	49,000	16,000
Michigan	36%	59,000	111,000	37,000
Minnesota	38%	26,000	49,000	16,000
Mississippi	46%	16,000	29,000	10,000
Missouri	47%	39,000	73,000	24,000
Montana	46%	5,000	9,000	3,000
Nebraska	43%	11,000	20,000	7,000
Nevada	41%	9,000	17,000	6,000
New Hampshire	44%	7,000	14,000	5,000
New Jersey	41%	39,000	74,000	25,000
New Mexico	44%	10,000	19,000	6,000
New York	37%	100,000	188,000	63,000
North Carolina	49%	56,000	106,000	35,000
North Dakota	41%	4,000	7,000	2,000
Ohio	46%	92,000	172,000	57,000
Oklahoma	45%	20,000	38,000	13,000
Oregon	41%	18,000	33,000	11,000
Pennsylvania	44%	85,000	159,000	53,000
Rhode Island	38%	6,000	12,000	4,000
South Carolina	49%	22,000	42,000	14,000
South Dakota	43%	4,000	8,000	3,000
Tennessee	47%	34,000	65,000	22,000
Texas	42%	109,000	205,000	68,000
Utah	43%	10,000	19,000	6,000
Vermont	40%	3,000	7,000	2,000
Virginia	48%	45,000	84,000	28,000
Washington	33%	25,000	48,000	16,000
West Virginia	47%	13,000	24,000	8,000
Wisconsin	40%	33,000	62,000	21,000
Wyoming	47%	3,000	6,000	2,000
U.S.	42%	1,581,000	2,972,000	991,000

Estimates include a 15% reduction in teen smoking and premature deaths due to advertising and marketing restrictions.

This is an enormous benefit for the U.S. economy, amounting to almost 1 percent of the GDP of the U.S. To put this in perspective, the benefits to the economy from a 60 percent reduction in smoking is equivalent to almost 5 percent of total Federal government spending, or almost one-quarter of the total health spending of the Federal government.

To generate the same annual stream of real resources, we would have to invest \$780 billion at a rate of return of 10 percent — significantly more than the entire amount the American corporate sector invested in machinery and equipment last year.

The long run return to a reduction in smoking of this magnitude would come in a variety of ways:

- in the \$27 billion that would have been spent treating smoking-related diseases that can now be spent on other medical priorities — or anything else;
- in the \$2.4 billion freed from meeting avoidable costs due to smoking while pregnant;
- in the \$300 million that will not be spent mending the damage caused by smoking-induced fires and \$300 million in additional output produced on the days that smokers would previously have been off sick;
- and the \$48 billion in reclaimed productive capacity due to so many longer, more productive working lives.

While our main purpose is furthering the public health, we should not forget that comprehensive legislation consistent with the President's proposals would also make it possible to make critical public investments in our nation's health and other pressing priorities. These include:

- funding research into tobacco-related and other diseases through the National Institutes for Health and a cancer clinical trial demonstration project for Medicare beneficiaries;
- providing support for smoking prevention efforts by the Centers for Disease Control and smoking cessation programs;
- strengthening the FDA's enforcement programs and supporting America's tobacco farmers;
- promoting State child care and development programs, efforts to reduce class sizes, and Medicaid child outreach reforms.

Conclusion

The country is making enormous strides to solve what were once seemingly unsolvable medical problems, while at the same time effectively restraining the underlying growth in medical care costs which once threatened the stability of the system.

But we can no longer ignore the one place where the answer is so simple: reducing smoking. Other solutions are no solution at all. For example, future advances in treatments may reduce the effect of smoking on longevity, but they will likely do so at the expense of higher medical costs.

By passing the President's budget plan as part of comprehensive tobacco legislation, Congress can save about 3 million children from taking up smoking by 2003. And by meeting the 60 percent youth reduction target laid out by the President, legislation can ultimately achieve benefits for the U.S. economy of \$78 billion per year. These benefits to the public and economic health of America of smoking reductions are too large to ignore, and point to the importance of passing comprehensive tobacco legislation as soon as possible.