

GAO

Report to the Honorable  
Richard M. Burr, House of  
Representatives

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April 1998

# TOBACCO

## Issues Surrounding a National Tobacco Settlement



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**United States  
General Accounting Office  
Washington, D.C. 20548**

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**Resources, Community, and  
Economic Development Division**

B-279155

April 15, 1998

The Honorable Richard M. Burr  
House of Representatives

Dear Mr. Burr:

On June 20, 1997, the nation's largest tobacco companies and 40 state attorneys general who had filed suit against the industry agreed on a settlement that, if implemented, would significantly change the way tobacco products are manufactured, marketed, and distributed in the United States. Under the proposed agreement, the industry would pay about \$368.5 billion over a period of 25 years, accept the Food and Drug Administration's (FDA) authority to regulate tobacco products, restrict the advertising of its products, and release internal research documents. In return, the proposed settlement would resolve the present actions by the 40 state attorneys general, drop all punitive damages claims for past conduct, and grant the tobacco industry immunity from future class-action lawsuits.

As a result of the proposed settlement, you asked us to (1) identify tobacco-related industries and summarize existing studies that assess the national and regional economic impacts of the tobacco industry, (2) examine smoking trends for U.S. and Canadian youths, (3) estimate the potential effect of a settlement on state revenues from cigarette excise taxes, and (4) investigate the extent of interstate and international cigarette smuggling affecting the United States. To respond to your request, we analyzed government, industry, and academic studies that we identified through extensive literature searches and through discussions with recognized experts in government, industry, and academia. In addition, we developed an economic model to estimate the potential lost revenues from state excise taxes as a result of an increase in the price of cigarettes. Further detail on our objectives, scope, and methodology can be found at the end of this report.

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## Results in Brief

### Tobacco-Related Employment

According to recent studies, from 353,000 to 555,000 jobs are directly related to the tobacco industry nationwide, including jobs in the tobacco growing, warehousing, manufacturing, wholesaling, and retailing

industries.<sup>1,2</sup> According to these studies, an additional 653,000 to over 2.3 million jobs nationwide are estimated to be indirectly related to the tobacco industry. This additional employment includes jobs associated with the producers that supply materials and services to the tobacco industry and jobs associated with the industries that provide goods and services to the employees of the tobacco industry and its suppliers. Two of the studies estimated that declining tobacco consumption—that would occur, for example, as a result of an increase in the price of a pack of cigarettes—would likely result in job losses in the tobacco growing and manufacturing industries.<sup>3</sup> However, it must be recognized that the money previously spent on tobacco products would not simply disappear from the nation's economy; rather, it would be reallocated to other goods and services.<sup>4</sup> These studies indicate that this reallocation could have little effect on national employment, although the Southeast Tobacco Region could experience job losses.

## Smoking Among Youths

Survey data show that in 1977, 29 percent of U.S. 12th-graders smoked daily.<sup>5</sup> After falling to a low of 17 percent in 1992, this smoking rate increased to 25 percent by 1997, erasing more than half of the reduction in smoking achieved during the preceding 15 years. Studies indicate that the real price of cigarettes (i.e., adjusted for inflation) is a significant factor affecting youths who smoke.<sup>6</sup> Consistent with this finding, the recent upswing in the smoking rate of youths coincides with a modest decline in the real price of cigarettes. Although data on the smoking behavior of Canadian youths are incomplete, available data suggest a relationship

<sup>1</sup> These studies are (1) Kenneth E. Warner; George A. Fulton; Peter Nicolas; and Donald R. Grimes, "Employment Implications of Declining Tobacco Product Sales for the Regional Economies of the United States," *Journal of the American Medical Association*, Vol. 275, No. 16 (Apr. 24, 1996), pp. 1241-46 (Warner); (2) Excerpts from the Tobacco Merchants Association's study, "Tobacco's Contribution to the National Economy," released September 17, 1996; (3) Fred Gale, U.S. Department of Agriculture (USDA)/Economic Research Service (ERS), "Tobacco Dollars and Jobs," *Tobacco Situation and Outlook Report*, USDA/ERS, TBS-239 (Sept. 1997), pp. 37-43; and (4) "The U.S. Tobacco Industry in 1994: Its Economic Impact in the States," The American Economics Group, Inc. (Mar. 1996). This study was sponsored by the Tobacco Institute.

<sup>2</sup> At least one third of these jobs involve the retail sale of tobacco products.

<sup>3</sup> However, U.S. Department of Agriculture (USDA) data indicate that tobacco production has been increasing, despite declines in domestic consumption, because tobacco exports have increased.

<sup>4</sup> USDA officials pointed out that both their study and the Warner study assume that money reallocated from the tobacco sector is spent entirely on domestic goods and services. However, a portion of this reallocation could be spent on imports.

<sup>5</sup> "Monitoring the Future," University of Michigan's long-term survey of 12th-graders, 1977 through 1997.

<sup>6</sup> The studies we reviewed are (1) "Price, Tobacco Control Policies and Youth Smoking," National Bureau of Economic Research Working Paper #5740 (1996); (2) "Economic and Other Factors in Youth Smoking," final report, National Science Foundation (1983); (3) "The Effects of Government Regulations on Teenage Smoking," *Journal of Law and Economics*, Vol. 24, (1981), pp. 545-69; and (4) "The Impact of Cigarette Excise Taxes on Smoking Among Children and Adults: Summary Report of a National Cancer Institute Expert Panel," National Cancer Institute (1993).

between the prevalence of smoking and cigarette prices that is consistent with the relationship found among U.S. youths.

## State Excise Taxes

National tobacco settlement legislation would likely result in a decline in state revenues from cigarette excise taxes. A settlement would probably contain a provision to increase the real price of cigarettes and would have the reduction of smoking as its goal. As prices increase, total cigarette consumption will fall. Our analysis indicates that the states' revenue losses from cigarette excise taxes corresponding to these consumption declines could, taken together, range from about \$673 million to \$3 billion, assuming current tax rates.<sup>7</sup> However, these excise tax losses would average less than 1 percent of the states' total tax revenues.

## Cigarette Smuggling

Cigarette smuggling from low- to high-tax states, or interstate smuggling, may be increasing. A recent estimate indicates that interstate smuggling activity may be costing the states, collectively, hundreds of millions of dollars in annual tax revenues.<sup>8</sup> International smuggling also occurs as a means to avoid both state and federal taxes. According to the Canadian government, sharp increases in Canadian federal and provincial cigarette taxes in the late 1980s and early 1990s led to large-scale international smuggling between the United States and Canada. Violence increased, merchants suffered, and in 1 year alone, Canada and its provinces lost over \$2 billion (in Canadian dollars) in tax revenues. Although the extent of U.S.-Mexican international cigarette smuggling is currently unknown, evidence exists that such activity is occurring, according to officials from the state of California, the Bureau of Alcohol, Tobacco, and Firearms (ATF), and the Mexican Embassy.

## Background

On June 20, 1997, the nation's largest tobacco companies<sup>9</sup> and attorneys general representing 40 states proposed a national settlement that, if

<sup>7</sup>Other factors are already affecting states' revenues from cigarette excise taxes, such as overall declines in consumption for reasons other than price (e.g., increasing concerns over the health consequences of smoking) and interstate and international cigarette smuggling.

<sup>8</sup>See A Tax Study: Cigarette Consumption in Washington State, Washington State Department of Health (Jan. 1997). This study statistically determines how demographic factors, such as income and religious preferences, and state tax-rate differentials affect taxed sales of cigarettes by state. The estimated relationships are used to simulate actual consumption. The quantities of cigarettes smuggled into a state are then estimated by subtracting estimated taxed sales in a state from simulated actual consumption.

<sup>9</sup>The U.S. domestic tobacco market is dominated by five cigarette manufacturers—Philip Morris, Inc.; R.J. Reynolds Tobacco Co.; Loews Corp.'s Lorillard Tobacco Co.; B.A.T. Industries Ltd.'s Brown and Williamson Tobacco Corp.; and Brooke Group Ltd.'s Liggett Group Inc. Combined, these manufacturers produce over 99 percent of the cigarettes sold in the United States.

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implemented, would significantly change the way tobacco products are manufactured, marketed, and distributed in the United States.<sup>10</sup> The tobacco industry agreed to pay about \$368.5 billion (in 1997 dollars) over a period of 25 years—subject to consumption or volume adjustment.<sup>11</sup> Annual payments would range from \$8.5 billion to \$15 billion. Among other things, these payments would be used to fund an extensive federal enforcement program, including a state-administered retail licensing system to stop minors from obtaining tobacco products; an annual national counter-advertising and tobacco-control campaign; a nationwide smoking cessation program; and expenditures for states' health benefits programs. The proposed settlement would also impose substantial surcharges on the tobacco industry if underage tobacco use does not decline by at least 30 percent in 5 years, 50 percent in 7 years, and 60 percent in 10 years. In addition, the settlement

- clarifies FDA's authority to regulate tobacco products—including regulating the level of nicotine in cigarettes—under the Food, Drug, and Cosmetic Act and requires the tobacco industry to pay for FDA's oversight of the industry;
- bans all outdoor tobacco advertising and the use of cartoon characters and human figures, such as the Marlboro Man, in tobacco advertising;
- requires manufacturers to disclose internal research relating to the health effects of their products;
- establishes a minimum federal standard to restrict smoking in public places, with enforcement funding coming from the industry's payments;
- settles all punitive damages claims against the tobacco industry and places limits on future class-action suits against the industry;
- provides for the annual payments to be reflected in the prices that manufacturers charge for tobacco products; and
- treats all payments as ordinary and necessary business expenses, which makes them tax-deductible.

Many of the elements of this proposed national tobacco settlement were included in a bill introduced by the Chairman, Senate Committee on Commerce, Science, and Transportation, on November 7, 1997. Over the past several months, other Members of Congress have presented their own alternative settlement proposals. Comparing the provisions of all these various proposals is beyond the scope of this report, but we note that a common goal of many of the proposals we reviewed is to reduce smoking

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<sup>10</sup>On Mar. 15, 1996, and Mar. 20, 1997, the smallest of these five cigarette companies, Liggett, and its parent company, Brooke Group Ltd., settled with each of the 22 states that had filed suit against them.

<sup>11</sup>The agreement also states that additional annual payments will continue in perpetuity.

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by youth, in part through a large increase in the price of a pack of cigarettes—ranging from 62 cents to about \$2.00 per pack.

On September 17, 1997, the President announced five key goals that he believes should be included in any national tobacco settlement legislation: (1) reducing smoking by teens, through, among other things, a combination of industry payments and penalties;<sup>12</sup> (2) granting FDA full authority to regulate the manufacturing, marketing, and sale of tobacco products; (3) changing the way the tobacco industry does business, such as through restricting the marketing and promoting of tobacco to children, and requiring the industry to disclose scientific and health-related research; (4) addressing other related public health goals, such as promoting smoking cessation, researching the health consequences of smoking, and further restricting smoking in the workplace and in public areas; and (5) minimizing the impact of a national settlement on tobacco farmers and their communities.

While the Congress has been deliberating the issue of a tobacco settlement, individual state lawsuits continue to move through the legal process, and to date, three have been settled, resulting in settlements totaling at least \$28.8 billion.<sup>13</sup> If there is a national tobacco settlement, some terms of these individual state settlements may be superseded.

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<sup>12</sup>Cigarette prices would be increased by up to \$1.50 per pack over 10 years in order for the industry to make the payments. The tobacco companies would be held accountable for meeting targets for reducing the number of teens who smoke, would be penalized when the targets are missed, and would fund a public education and counter-advertising campaign.

<sup>13</sup>On July 2, 1997, Mississippi settled its suit against Philip Morris, Inc.; R.J. Reynolds Tobacco Co.; Brown and Williamson Tobacco Corp.; and Lorillard Tobacco Co. These four tobacco companies agreed to pay Mississippi at least \$3.3 billion over 25 years, with annual payments of at least \$135 million continuing thereafter. On August 25, 1997, Florida settled its suit against Philip Morris, Inc.; R.J. Reynolds Tobacco Co.; Brown and Williamson Tobacco Corp.; Lorillard Tobacco Co.; and United States Tobacco Co. These five tobacco companies agreed to pay Florida at least \$11 billion over 25 years, with annual payments of at least \$440 million continuing thereafter. On January 16, 1998, Texas settled its suit against Philip Morris, Inc.; R.J. Reynolds Tobacco Co.; Brown and Williamson Tobacco Corp.; Lorillard Tobacco Co.; and United States Tobacco Co. These five tobacco companies agreed to pay Texas at least \$14.5 billion over 25 years, with annual payments of at least \$580 million continuing thereafter.

## Reducing Tobacco Consumption Unlikely to Increase Nation's Unemployment Rate

From 353,000 to 555,000 U.S. jobs are directly related to the growing, warehousing, manufacturing, wholesaling, and retailing of tobacco products, according to the studies we reviewed that examined the national and regional economic impacts of the tobacco industry.<sup>14</sup> These studies do not specifically address the potential economic impacts of either a national tobacco settlement or the absence of a national settlement.<sup>15</sup> However, two studies—Warner's and USDA's—examined the potential net impact on U.S. employment if tobacco consumption were to decline, which is likely in the event of a national settlement. These two studies concluded that overall, the negative impact on U.S. employment would be offset by ex-smokers' spending the money they previously spent on tobacco products on other, potentially more labor-intensive goods and services. However, the new jobs related to these other goods and services might be lower-paying, on average, than the tobacco-related jobs they replaced. The Southeast Tobacco Region,<sup>16</sup> where tobacco production is most heavily concentrated, would likely experience job losses.

## A Variety of U.S. Jobs Associated With the Tobacco Industry

The studies that we reviewed divided estimates of total tobacco-related employment into three categories—the core sector, supplier sector, and expenditure-induced sector. (See table 1.) The estimates for total core-sector employment (or direct employment) range from 353,000 to 555,000.<sup>17</sup> These jobs include, for example, ones associated with the growing, warehousing, manufacturing, wholesaling, and retailing of tobacco products. The estimates of total supplier-sector employment—indirect tobacco-related jobs associated with the producers of farm chemicals, paper, cellophane, and others that supply materials and services to the tobacco core sector—range from about 149,000 to about

<sup>14</sup>These studies are (1) Kenneth E. Warner; George A. Fulton; Peter Nicolas; and Donald R. Grimes, "Employment Implications of Declining Tobacco Product Sales for the Regional Economies of the United States," *Journal of the American Medical Association*, Vol. 275, No. 16 (Apr. 24, 1996), pp. 1241-46 (Warner); (2) Excerpts from the Tobacco Merchants Association's study, "Tobacco's Contribution to the National Economy," released September 17, 1996; (3) Fred Gale, USDA/ERS, "Tobacco Dollars and Jobs," *Tobacco Situation and Outlook Report*, USDA/ERS, TBS-239 (Sept. 1997), pp. 37-43; and (4) "The U.S. Tobacco Industry in 1994: Its Economic Impact in the States," The American Economics Group, Inc. (Mar. 1996). This study was sponsored by the Tobacco Institute.

<sup>15</sup>In addition, some of the relationships and data utilized in these studies may have changed. For example, data that address the relationships among the industries included in the studies are based on 1992 or earlier benchmark data, which were the latest available data at the time the studies were done.

<sup>16</sup>The Warner study defines the Southeast Tobacco Region as the six major tobacco-producing states: Georgia, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia. This definition is used in this report to allow comparisons to be made.

<sup>17</sup>From about 155,000 to over 250,000 of the jobs estimated to be directly related to tobacco are jobs associated with the retail sale of tobacco products. According to USDA officials, persons employed in the retail sale of tobacco products may also sell other goods and services.

213,000 employees. In addition, the income earned by tobacco growers, manufacturers, suppliers, and others is spent on a variety of consumer goods and services that generate additional revenue for a wide range of industries throughout the U.S. economy. The estimates of employment associated with this expenditure-induced sector range from about 504,000 to about 2.3 million jobs.<sup>18</sup> The combined estimates of tobacco-related employment associated with the supplier and expenditure-induced sectors range from about 653,000 to over 2.3 million jobs. Overall, according to the studies we reviewed, tobacco-related employment totals from about 1.2 million to 3.1 million jobs nationwide. (For more detailed information on tobacco-related employment by industry, see app. I, tables I.1, I.2, and I.3.)

**Table 1: Estimated Number of Jobs Associated With Tobacco Nationwide, by Sector**

Type of sector	Studies' estimates of the number of jobs associated with tobacco <sup>a</sup>			
	Tobacco Institute, 1994	Warner, 1993	Tobacco Merchants Association, 1995	USDA, 1995
Core sector	449,426	353,000	<sup>b</sup>	555,000
Supplier sector	212,976	<sup>c</sup>	<sup>b</sup>	149,000
Total, core and supplier sector	662,402	<sup>c</sup>	730,000	704,000
Expenditure-induced sector	1,150,110	<sup>c</sup>	2,330,000	504,000
<b>Total</b>	<b>1,812,512</b>	<b>1,786,938</b>	<b>3,060,000</b>	<b>1,208,000</b>

<sup>a</sup>The number of jobs estimated is not strictly comparable across studies because different methods, models, and assumptions were used to generate the estimates.

<sup>b</sup>Combined total of 730,000 provided for core and supplier sectors.

<sup>c</sup>Supplier and expenditure-induced sector totals were not reported separately.

Source: GAO's analysis of Tobacco Institute's, Warner's, Tobacco Merchants Association's, and USDA's data.

<sup>18</sup>According to USDA officials, the number of jobs associated with the expenditure-induced sector are the most difficult to estimate with certainty; therefore, these estimates are the least reliable.

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## Declines in Cigarette Consumption Could Cause Job Losses in the Southeast but Have Little Impact Nationwide

The estimates shown in table 1 indicate the total number of jobs (or gross impact) associated with the production and sales of U.S. tobacco products. However, if tobacco consumption were to fall, according to Warner's and USDA's studies,<sup>19</sup> the money previously spent on tobacco products would be spent on other consumer goods and services, and, therefore, employment in other sectors would rise, offsetting part or all of the employment decline in the tobacco industry.<sup>20</sup>

Warner estimated the impact of decreasing tobacco consumption under two scenarios. (See table 2.) The first scenario assumes that all domestic spending on tobacco stops immediately (which is unlikely in the absence of an outright tobacco ban), while the second scenario assumes that annual domestic spending on tobacco decreases at twice the current rate, or at about 4 percent.<sup>21</sup> This study also assumes that money previously spent on tobacco products would be reallocated to all goods and services in the U.S. economy in the same proportions as these goods and services currently contribute to the gross domestic product. As table 2 shows, under the first scenario, the U.S. economy would gain 133,000 jobs nationwide over a 7-year period and about 20,000 jobs under the second scenario. Job losses in the retail and wholesale trade, farm, manufacturing, and government sectors would be more than made up by job gains in the services and other private industry sectors. Warner explained the reason for this net gain by suggesting that most of the industries that produce the products that would replace tobacco are more labor intensive than the tobacco industry.<sup>22</sup> However, because 91 percent of tobacco farming and manufacturing jobs are located in the Southeast Tobacco Region, this region could suffer net job losses in all sectors of the economy. These total losses are likely to be less than 1 percent of the region's total

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<sup>19</sup>Declines in domestic consumption will result in production declines, unless export growth makes up the difference. USDA data indicate that, in recent years, domestic cigarette consumption has been falling while cigarette exports and total cigarette production have been rising.

<sup>20</sup>USDA officials pointed out that both their study and Warner's assume that money reallocated from the tobacco sector is spent entirely on domestic, rather than imported, goods and services. In addition, USDA officials noted that total tobacco production includes leaf and other non-cigarette tobacco products. Depending upon how tobacco price support and quota programs are treated in a settlement, the production of these other tobacco products could change.

<sup>21</sup>The Bureau of Labor Statistics estimated the current rate of annual decline to be 2.06 percent through the year 2000.

<sup>22</sup>This study assumes that there are unemployed workers in the economy who can fill these jobs.

employment.<sup>23</sup> (For more detailed information see app. I, tables I.4 and I.5.)

**Table 2: Estimated Net Impact on National and Southeast Tobacco Region’s Employment If the Money Previously Spent on Tobacco Is Spent on Other Goods and Services in the United States**

Scenario analyzed	Number of jobs gained or (lost)		
	National employment	Employment in Southeast Tobacco Region	Employment in nontobacco regions
Domestic spending on tobacco is stopped immediately	133,000	(222,248)	355,248
Domestic spending on tobacco decreases at twice the current rate of decline <sup>a</sup>	19,719	(36,584)	56,303

Notes: Warner examined the net economic impact in 2000 of either eliminating or reducing tobacco spending beginning in 1993. Warner defined the Southeast Tobacco Region as the six major tobacco-producing states: Georgia, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia.

<sup>a</sup>The Bureau of Labor Statistics estimated the current rate of annual decline to be 2.06 percent through the year 2000.

Source: Warner.

In 1995, USDA also estimated the net impact of immediately ending domestic tobacco consumption. Under a scenario that USDA examined, the money currently spent on tobacco products would be reallocated to snack food and beverage products, and the U.S. economy would gain 156,000 jobs nationwide—a result similar to that of Warner’s scenario described above. USDA’s study concluded that jobs in tobacco farming and tobacco manufacturing would be reduced considerably. However, the industries that produce the products that would replace tobacco are more labor-intensive, although, on average, lower paying, and thereby would more than offset the job losses resulting from reductions in tobacco consumption. The study also concluded that the general result does not change—that is, an overall gain in jobs nationwide—regardless of how tobacco expenditures are assumed to be reallocated.<sup>24</sup> Although numerical results were not presented specifically for the Southeast Tobacco Region, USDA noted that Kentucky, North Carolina, Tennessee, and Virginia would lose tobacco farming and manufacturing jobs.

<sup>23</sup>According to the 1994 Statistical Abstract of the United States, the Southeast Tobacco Region—Georgia, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia—employed approximately 15.6 million in 1993 (the year studied by Warner).

<sup>24</sup>This study, like Warner’s, assumes that there are unemployed workers in the economy who can fill these jobs.

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## Trends Indicate Prices May Influence Smoking Among Youths

According to a 1997 University of Michigan survey, in 1977, about 29 percent of 12th-graders smoked daily.<sup>25</sup> This level decreased to about 17 percent by 1992 and then rose to about 25 percent in 1997. The recent increase in smoking probably occurred because the upward trend in real cigarette prices ceased. The most recent estimates indicate that an increase in the price of cigarettes leads to a drop in the smoking rate for youths.<sup>26</sup> The data available on smoking behavior for Canadian youths indicate a trend that is consistent with that shown for the United States.

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## U.S. Youths' Purchase of Cigarettes Is Sensitive to Price

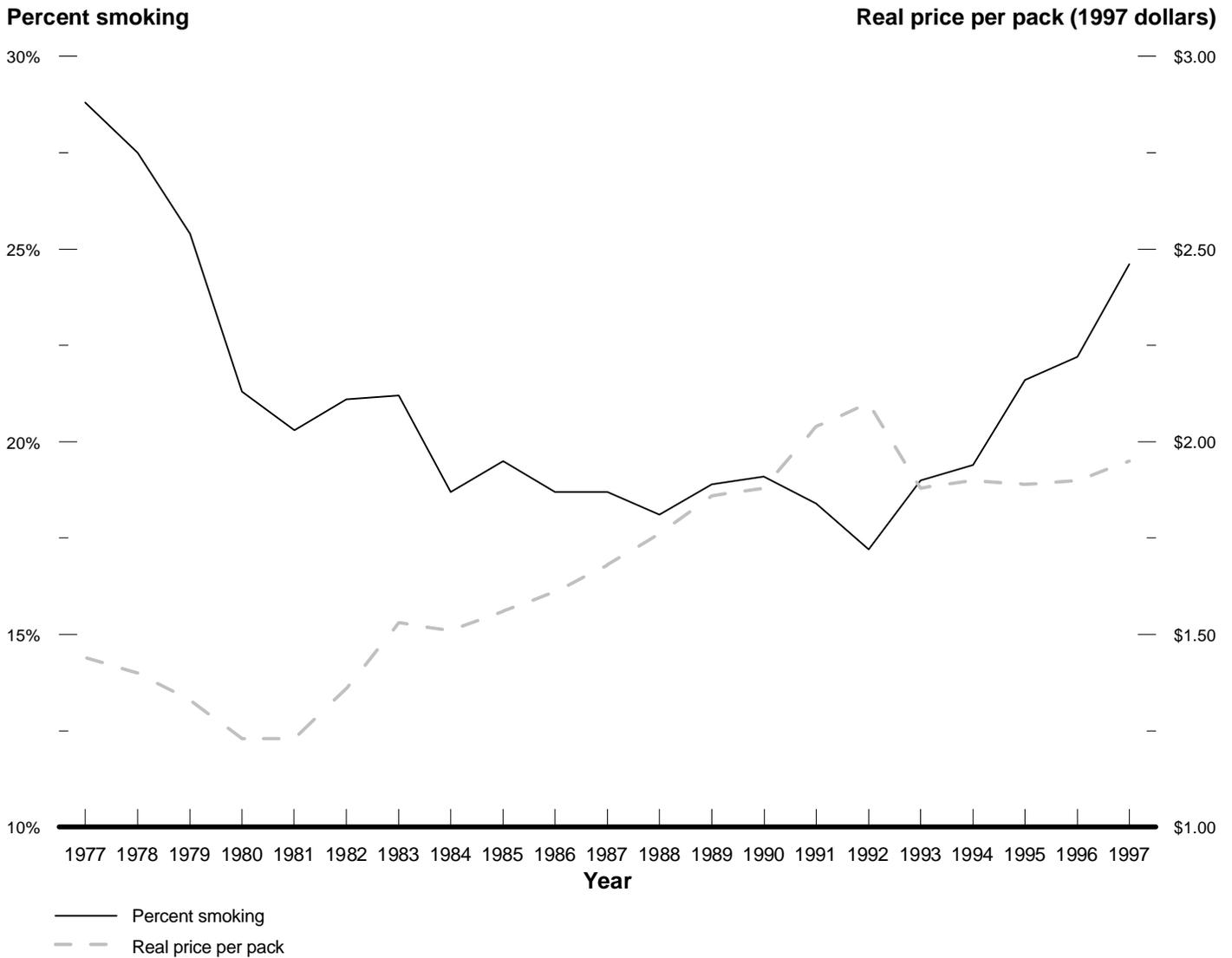
Studies indicate that increases in the real price of a pack of cigarettes contribute to decreases in the percentage of U.S. youths who smoke daily. According to the University of Michigan survey, from 1977 through 1992, the percentage of U.S. 12th-graders smoking daily generally declined from about 29 percent in 1977 to about 17 percent in 1992. (See fig. 1.) However, since 1992, the smoking rate has risen significantly, to about 25 percent in 1997. After initially decreasing from about \$1.44 per pack of cigarettes in 1977 to about \$1.23 per pack in 1981, the real price of a pack of cigarettes (in 1997 U.S. dollars) rose steadily, to a high of about \$2.10 in 1992, before falling to about \$1.95 in 1997. These two trends show an inverse relationship between the real price of a pack of cigarettes and the smoking rate for youths. The most recent estimates indicate that this inverse relationship remains strong, even when antismoking regulations and restrictions on youths' access are included in the analysis. According to these estimates, a real price increase of 10 percent will cause a 4- to 9-percent decrease in the percentage of youths who smoke.

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<sup>25</sup>"Monitoring the Future," University of Michigan's long-term survey of 12th-graders, 1977 through 1997. Each year, approximately 16,000 completed interviews are obtained from a nationally representative sample of high school seniors.

<sup>26</sup>See "Price, Tobacco Control Policies and Youth Smoking," National Bureau of Economic Research Working Paper #5740 (1996).

**Figure 1: Percentage of U.S. 12th-Graders Smoking Daily in Relationship to the Price of a Pack of Cigarettes, 1977 Through 1997**



Note: The data on smoking by youths presented here are the only long-term annual data available and are widely accepted as methodologically sound.

Sources: University of Michigan, DRI/McGraw-Hill, and the Tobacco Institute.

## Data on Smoking by Canadian Youths Are Incomplete

Data describing the smoking behavior of youths in Canada are incomplete. (See fig. II.1 in app. II for available data.) The data that are available, which we obtained from Canada's National Clearinghouse on Tobacco and Health, suggest that the percentage of Canadians aged 15 to 19 who smoke daily fell sharply, from about 42 percent in 1977 to about 16 percent in 1991. Since then, however, the data suggest that smoking by youths is on the rise—reaching the rate of about 20 percent in 1994. From the data available, it is impossible to conclude with any certainty the reason for the higher 1994 rate. However, we believe two likely factors are (1) a possible reaction to the federal and provincial cigarette tax decreases enacted earlier that year, which suggests a relationship between smoking by youths and the price of cigarettes consistent with that observed for U.S. youths, and (2) Canadian youths' increasing access to contraband cigarettes.

## A Tobacco Settlement Would Likely Reduce States' Tax Revenues

National tobacco settlement legislation would likely result in a decline in state revenues from cigarette excise taxes. A settlement would probably contain a provision to increase the real price of cigarettes, with the goal of reducing the smoking rate. Already, several legislative proposals would increase real cigarette prices. According to our analysis, if such price increases were to take effect, they alone could cause cigarette consumption to fall substantially. As a result, states, collectively, could lose billions of dollars annually in associated revenues from cigarette excise taxes;<sup>27</sup> however, individual states, on average, would lose less than 1 percent of their total tax revenues.<sup>28</sup>

## Increases in the Price of Cigarettes Could Significantly Reduce Consumption

Several current tobacco settlement proposals contain provisions to increase the price of cigarettes. It has been estimated that the original \$368.5 billion settlement proposal between the tobacco industry and 40 state attorneys general is likely to be passed on to consumers, resulting in a price increase of about 62 cents per pack. The President's plan calls for an increase of up to a \$1.50 per pack over a 10-year period. Table 3 presents a range of estimated changes in consumption that could result from these price increases. A price increase of \$2.00 per pack is included in table 3 to illustrate a reasonable upper bound on the likely impact on

<sup>27</sup>This analysis assumes state rates for cigarette excise taxes stay constant.

<sup>28</sup>Other factors that already affect states' cigarette excise tax revenues include declines in consumption resulting from reasons other than price (e.g., increasing concerns over the health consequences of smoking) and interstate and international cigarette smuggling. This analysis does not include any federal collections from a nationwide settlement that may be allocated to the states.

consumption, because one tobacco bill we reviewed, although not a comprehensive settlement proposal, proposed a price increase higher than the one proposed by the President.<sup>29</sup> As table 3 shows, an increase of 62 cents per pack in the real price of cigarettes could result in a 9- to 16-percent decline in cigarette consumption, depending on how consumers react to these increases. The President’s \$1.50 per pack increase could result in an even greater decline in cigarette consumption—from about 19 to 33 percent. Overall, table 3 shows that the price increases included in current proposals could reduce consumption from about 9 to 40 percent.

**Table 3: Estimates of Declining Cigarette Consumption Resulting From Changes in the Real Price of Cigarettes for Selected Assumed Price/Quantity Trade-Off Responses**

Price increase per pack	Percent change in consumption	
	Lower bound estimate	Upper bound estimate
Original settlement: \$0.62	9	16
President’s plan: \$1.50	19	33
Current upper bound: \$2.00	24	40

Note: Studies indicate price elasticities of demand for cigarette consumption ranging from -3.5 to -6 percent, which we present here to serve as lower and upper bounds, respectively, on the potential impact on consumption of increased cigarette prices. In other words, a 10-percent increase in the price of cigarettes has been estimated to result in a decline in consumption of between 3.5 (lower bound) and 6 (upper bound) percent. If the real price of a pack of cigarettes were to increase by \$0.62, which represents about a 30-percent increase in price, consumption is estimated to decline by 9 (lower bound) to 16 (upper bound) percent. In computing the percentage changes in consumption, we used a constant elasticity demand function in our economic model. It should be noted that these estimates of price elasticities are based on historical cigarette price increases that are much smaller and at lower levels than the price increases expected in a tobacco settlement. As a result, any forecast of consumption changes based on these elasticities is uncertain.

Source: GAO’s analysis. Elasticity bounds based on “The Impact of Cigarette Excise Taxes on Smoking Among Children and Adults: Summary Report of a National Cancer Institute Expert Panel,” National Cancer Institute (Bethesda, MD, 1993); and “Smoke and Mirrors: Understanding the New Scheme for Cigarette Regulation,” W. Kip Viscusi, *The Brookings Review* (Winter 1998).

### Cigarette Excise Tax Losses Could Cost States an Average of Less Than 1 Percent of Total Tax Revenues

Nationwide, the increase in the real price of cigarettes resulting from various tobacco settlement proposals could end up costing the states from about \$673 million to \$3 billion annually in lost revenues from cigarette excise taxes. (See table III.1 in app. III. Table III.1 provides a range of the estimated lost revenues from cigarette excise taxes for each state.) The

<sup>29</sup>S. 1343, the Public Health and Education Resource Act, introduced by Senator Frank Lautenberg on October 29, 1997, provides for increasing the federal excise tax on cigarettes by \$1.89 per pack by 2002.

states that stand to lose the most tax revenues are those with large populations of smokers and/or the highest state rates for cigarette excise taxes. For example, Michigan, which has one of the highest rates, could lose from about \$50 million to \$220 million in annual tax revenues. On the other hand, Ohio, which has approximately the same population of smokers as Michigan, or more, would stand to lose from \$26 million to \$117 million because of its much lower tax rate. Overall, all but one state would lose less than 2 percent of their total tax revenues from all sources (see app. III, table III.1); on average, states would lose less than 1 percent of their total tax revenues.

## Cigarette Prices Affect Extent of Smuggling Activity

Smuggling cigarettes from low- to high-tax states, or interstate smuggling, which was prominent in the 1970s, may now be a reemerging problem.<sup>30</sup> The opportunity for individuals to profit from interstate smuggling exists because of the wide disparity in excise taxes across the states. Currently, the states' cigarette excise taxes range from 2.5 cents per pack in Virginia to \$1.00 per pack in Alaska. (See fig. 2.) According to the Department of the Treasury's Bureau of Alcohol, Tobacco, and Firearms (ATF), cigarettes are currently being smuggled across state borders to avoid the payment of state excise taxes. This activity can violate federal and/or state laws.<sup>31</sup> A January 1997 study by the Washington State Department of Health estimated the extent of interstate smuggling activity in terms of packs per capita by state—which we converted to the associated loss (or gain) of state tax revenue. (See app. IV, table IV.1.)<sup>32</sup> According to our analysis of these data, some states are losing up to about \$100 million annually in

<sup>30</sup>The profitability of interstate smuggling depends on the real (inflation-adjusted) value of differences in states' tax rates. By the early 1980s, inflation had eroded the relatively large differentials existing in the 1960s and 1970s, resulting in relatively little smuggling activity. The mid-1980s, however, marked a new round of tax-rate increases, which returned the real differentials to mid-1970s levels. According to the Bureau of Alcohol, Tobacco, and Firearms, interstate smuggling activity has been increasing in recent years.

<sup>31</sup>All forms of tax avoidance—both large and small—are considered “smuggling,” even though some actions, such as local cross-border purchases in small quantities, may not be illegal. It is unlawful for any person to ship, transport, receive, sell, distribute, or purchase 60,000 cigarettes or more that bear no evidence of state tax payment in the state in which the cigarettes are found, if such state requires a stamp to demonstrate payment of taxes (18 U.S.C. 2342). States may also have stricter laws related to cigarette smuggling. For example, in Maryland, it is generally illegal for a consumer to bring more than two packs of cigarettes on which Maryland taxes have not been paid into the state.

<sup>32</sup>See A Tax Study: Cigarette Consumption in Washington State, Washington State Department of Health (Jan. 1997). This study statistically determines how demographic factors—such as income, race, and religious background—and state tax-rate differentials affect the taxed sales of cigarettes by state. The estimated relationships are used to simulate actual consumption. The quantities of cigarettes smuggled into a state are then estimated by subtracting estimated taxed sales in a state from simulated actual consumption.

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potential tax revenues.<sup>33</sup> As expected, the Washington State study indicated that substantial smuggling occurs from states with low tax rates to states with high tax rates. For example, Washington and Michigan, states with among the highest tax rates, had estimated annual losses in tax revenues of \$51 million and \$105 million, respectively. On the other hand, exporting states—such as Kentucky, North Carolina, and Virginia—did not show revenue losses; however, at most, they showed only modest revenue gains because their tax rates are so low that extra sales to buyers in the high-tax states do not generate significant tax revenues.

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<sup>33</sup>For some states, revenue from state sales taxes, in addition to cigarette excise taxes, may also decline because of cross-border purchases and contraband sales. For this reason and others, the Washington State study results should be viewed as providing ballpark estimates of revenues lost. In addition, estimates of lost revenues may be (1) overstated because they do not account for the fact that smokers would buy fewer cigarettes if they were unable to avoid the state cigarette tax (and therefore pay more for their cigarettes on average) or (2) understated because they do not account for federal and state tax revenues avoided because of international smuggling.

Figure 2: State Cigarette Tax Rates, in Cents, Per Pack of 20 Cigarettes, as of January 1, 1998



Source: The Tobacco Institute.

Recent experience demonstrates that international smuggling can occur when differences in cigarette tax rates are substantial. For example, international smuggling has occurred recently between Canada and the United States. From 1984 through 1993, the average real price of a pack of cigarettes in Canada—in 1994 Canadian dollars—increased from \$2.64 in 1984 to \$5.65 in 1993, as a result of sharp increases in Canadian federal and provincial cigarette taxes. According to a 1994 study for the National Coalition Against Crime and Tobacco Contraband, because of these price increases, Canadians found lower-priced alternatives on the black

market.<sup>34</sup> Organized criminal groups purchased Canadian cigarettes that had been exported tax-free to the United States and smuggled them back into Canada. The Canadian government estimated that, in 1993, contraband cigarettes made up over 60 percent of the Québec market and from 15 to 40 percent of the market in other parts of the country. Violence increased, merchants suffered, and in 1 year alone, Canada and its provinces lost over \$2 billion (in Canadian dollars) in tax revenues. The Canadian Prime Minister believed that Canadian tobacco manufacturers were aware that tobacco exports to the United States had been reentering Canada illegally and that these manufacturers benefited directly from this illegal trade. Canada responded in 1994 by sharply reducing federal and provincial cigarette taxes and increasing its enforcement efforts, among other steps. Since then, international cigarette smuggling has declined considerably. Available evidence also shows that international smuggling is currently occurring between the United States and Mexico; however, the extent of this activity is not known. (For more information on international cigarette smuggling, see app. V.)

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## Agency Comments

We provided a draft of this report to USDA for review and comment. We met with officials from the Economic Research Service, including two agricultural economists; Foreign Agricultural Service, including a senior tobacco economist; and Farm Service Agency, including the Deputy Administrator for Farm Programs. USDA generally agreed with the accuracy of the report and provided clarifications on the economic impact of the tobacco industry. USDA noted that employment in the tobacco industry is most accurately characterized by counting only employment in the growing, processing, manufacturing, and wholesaling of tobacco products. Because the studies we reviewed generally included a broader definition of jobs directly related to tobacco by including the retail industry, we used this broader definition throughout our report. In addition, USDA commented that it is important to note that while cigarette consumption has been declining, production and exports have been increasing. We included language in our final report to make this point clear. We also incorporated other suggested clarifications where appropriate.

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## Scope and Methodology

We searched the literature to identify studies that assessed the national and regional economic impacts of the tobacco industry and talked to

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<sup>34</sup>The National Coalition Against Crime and Tobacco Contraband is a U.S. coalition composed primarily of retailers, wholesalers, and tobacco manufacturers. The coalition's report on smuggling entitled Cigarette Smuggling in the United States (Aug. 15, 1994) was prepared by Lindquist Avey Macdonald Baskerville, Inc.

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officials at USDA, the tobacco industry, and academia. We obtained data on smoking trends for U.S. youths from the University of Michigan's "Monitoring the Future" survey; obtained information on cigarette prices from the Tobacco Institute, which we converted to 1997 dollars; and searched the economic literature for estimates of the price/quantity elasticities for cigarette purchases by youths. We obtained all available data on the smoking rate for Canadian youths from Canada's National Clearinghouse on Tobacco and Health, which Statistics Canada reviewed for accuracy. The National Clearinghouse also provided us with the latest available information on the price of Canadian cigarettes. We obtained estimates of price elasticities for U.S. domestic cigarette consumption by reviewing the economics literature and used a methodology similar to the Federal Trade Commission's to estimate the impact of price increases on cigarette consumption.<sup>35</sup>

The Tobacco Institute provided us with the states' rates for cigarette excise taxes and data on the states' revenues from these excise taxes, which we used to calculate estimates of the impact of declining cigarette consumption on states' revenues from cigarette excise taxes. We obtained data on total state revenues (from all sources) from the Statistical Abstract of the United States, 1997. For information on interstate smuggling in the United States and U.S.-Canadian international smuggling, we talked to officials from ATF; USDA; Canada's Office of the Auditor General; FIA International Research, Ltd.; and Empire Pacific Group; and we obtained a study that estimated the extent of interstate cigarette smuggling from the Washington State Department of Health. To obtain information on U.S.-Mexican smuggling, we interviewed officials from the California Board of Equalization; California Alcoholic Beverage Control; Glendale, California Police Department; ATF; the U.S. Customs Service; U.S. Border Patrol; FIA; Empire Pacific Group; and the Mexican Embassy, and we visited the border ports of San Ysidro, California; and Otay Mesa, California; and the border checkpoint at San Clemente, California. We conducted our review from July 1997 through February 1998 in accordance with generally accepted government auditing standards.

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Unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time we will send copies to the Senate Committee on Agriculture, Nutrition, and Forestry; Senate Committee on Commerce, Science, and

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<sup>35</sup>See "Competition and the Financial Impact of the Proposed Tobacco Industry Settlement," Federal Trade Commission (Sept. 1997).

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Transportation; House Committee on Agriculture; House Committee on Commerce; the Secretaries of Agriculture, the Treasury, and Health and Human Services; the Attorney General; and other interested parties. We will also make copies available to others upon request.

Please contact me at (202) 512-5138 if you or your staff have any questions. Major contributors to this report are listed in appendix VI.

Sincerely yours,

A handwritten signature in black ink that reads "Robert A. Robinson". The signature is written in a cursive style with a large, stylized initial "R".

Robert A. Robinson  
Director, Food and  
Agriculture Issues

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# Contents

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Letter		1
Appendix I National and Regional Economic Impact of the Tobacco Industry		24
Appendix II Smoking Among Canadian Youths		29
Appendix III Declining State Excise Tax Revenues Resulting From Cigarette Price Increases		30
Appendix IV Estimates of Magnitude of Interstate Cigarette Smuggling in the United States		32
Appendix V Additional Information on International Cigarette Smuggling	Canada Mexico	34 34 36

<b>Appendix VI</b>	39
<b>Major Contributors to This Report</b>	

<b>Tables</b>		7
	Table 1: Estimated Number of Jobs Associated With Tobacco Nationwide, by Sector	7
	Table 2: Estimated Net Impact on National and Southeast Tobacco Region’s Employment if the Money Previously Spent on Tobacco Is Spent on Other Goods and Services in the United States	9
	Table 3: Estimates of Declining Cigarette Consumption Resulting From Changes in The Real Price of Cigarettes for Selected Assumed Price/Quantity Trade-off Responses	13
	Table I.1: Estimated Current Number of Jobs Associated With Tobacco Nationally and in the Southeast Tobacco Region, by Industry, 1994	24
	Table I.2: Suppliers to the Tobacco Core Sector	25
	Table I.3: The U.S. Tobacco Industry’s Contribution to National Employment, 1995	27
	Table I.4: Estimated Net Impact on Employment by Region of Reducing Domestic Tobacco Spending at Twice the Current Rate of Decline and Spending the Money Elsewhere	28
	Table I.5: Estimated Net Impact on Employment Nationally and in the Southeast Tobacco Region, by Sector, of Reducing Domestic Tobacco Spending at Twice the Current Rate of Decline and Spending the Money Elsewhere	28
	Table III.1: Illustration of the Potential Magnitude of Reductions in State Cigarette Excise Tax Revenues as a Result of Consumption Declines Resulting From Cigarette Price Increases, by State	30
	Table IV.1: Estimates of Changes in State Cigarette Tax Revenues Because of Interstate Cigarette Smuggling and Cross-Border Sales, by State	32

<b>Figures</b>		11
	Figure 1: Percentage of U.S. 12th-Graders Smoking Daily in Relationship to the Price of a Pack of Cigarettes, 1977 Through 1997	11
	Figure 2: State Cigarette Tax Rates, in Cents, per Pack of 20 Cigarettes, as of January 1, 1998	16

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**Contents**

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Figure II.1: Percentage of Canadians 15 to 19 Years Old Smoking Daily, Selected Years, 1977 Through 1996, in Relationship to Real Price of Cigarettes, 1977 Through 1994	29
Figure V.1: U.S. Cigarette Imports From Canada, 1984-96	35

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**Abbreviations**

ATF	Bureau of Alcohol, Tobacco, and Firearms
ERS	Economic Research Service
FDA	Food and Drug Administration
FIA	FIA International Research Ltd.
FTC	Federal Trade Commission
USDA	U.S. Department of Agriculture

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# National and Regional Economic Impact of the Tobacco Industry

**Table I.1: Estimated Current Number of Jobs Associated With Tobacco Nationally and in the Southeast Tobacco Region, by Industry, 1994**

<b>Tobacco employment category</b>	<b>Number of jobs nationally</b>	<b>Number of jobs in the Southeast Tobacco Region</b>
<b>Total, core sector</b>	<b>449,426</b>	<b>221,222</b>
Tobacco growing	142,059	130,521
Tobacco warehousing/distribution	10,510	9,342
Tobacco manufacturing	42,260	37,627
Tobacco wholesaling	98,866	16,304
Tobacco retailing	155,731	27,428
<b>Total, supplier sector<sup>a</sup></b>	<b>212,976</b>	<b>85,809</b>
<b>Total, expenditure-induced sector</b>	<b>1,150,110</b>	<b>386,109</b>
Agriculture	26,703	15,930
Mining and construction	33,516	11,141
Manufacturing	185,430	90,652
Wholesale & retail trade	308,475	77,049
Transportation, communications, and utilities	87,426	30,804
Finance, insurance, & real estate	92,734	29,087
Business & personal services	383,688	118,165
Government	32,138	13,281
<b>Grand total</b>	<b>1,812,512</b>	<b>693,140</b>

Note: Kenneth E. Warner; George A. Fulton; Peter Nicolas; and Donald R. Grimes, "Employment Implications of Declining Tobacco Product Sales for the Regional Economies of the United States," *Journal of the American Medical Association*, Vol. 275, No. 16 (Apr. 24, 1996), pp. 1241-46 (Warner). Warner defined the Southeast Tobacco region as the six major tobacco-producing states: Georgia, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia. This definition is used here to allow comparisons to be made.

<sup>a</sup>See table I.2 for supplemental information on the gross impact of tobacco on the supplier sector.

Source: The Tobacco Institute.

**Appendix I  
National and Regional Economic Impact of  
the Tobacco Industry**

**Table I.2: Suppliers to the Tobacco  
Core Sector**

Dollars in millions	
<b>Major industry</b>	<b>1994 sales to tobacco core-sector firms <sup>a</sup></b>
Agricultural products, forestry, and fishery services	\$396.8
Coal mining	9.9
Miscellaneous mining	8.3
New and maintenance construction	206.2
Food and tobacco	659.9
Textile mill products	4.0
Apparel	10.6
Paper and allied products	1,210.9
Printing and publishing	1,885.5
Chemicals and petroleum	383.8
Rubber and leather	106.1
Lumber, wood products, and furniture	40.3
Stone, clay, and glass	11.4
Primary metal	2.1
Fabricated metal	189.8
Machinery, except electrical	75.2
Electric and electronic equipment	26.2
Motor vehicles and equipment	18.3
Transportation equipment, except motor vehicles	3.7
Instruments and related products	12.5
Miscellaneous manufacturing industries	16.1
Transportation	535.5
Communication	220.8
Electric, gas, water, and sanitation services	418.6
Trade and distribution	1,724.2
Finance	340.1
Insurance	114.4
Real estate	886.2
Hotels and amusements	112.5
Personal services	77.4
Business services	2,894.2
Eating and drinking	228.6
Miscellaneous services	496.8
<b>Total, all suppliers</b>	<b>\$13,326.8</b>

(Table notes on next page)

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**Appendix I  
National and Regional Economic Impact of  
the Tobacco Industry**

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Note: Although the Tobacco Institute did not break down its estimate of tobacco-related jobs into various subcategories of the supplier sector, it did provide this information on 1994 sales to firms in the tobacco core sector. These data provide some insight to the relative contributions to total employment made by each major industry in the supplier sector.

<sup>a</sup>Based on latest data available at the time of the analysis.

Source: The Tobacco Institute.

**Appendix I  
National and Regional Economic Impact of  
the Tobacco Industry**

**Table I.3: the U.S. Tobacco Industry's  
Contribution to National  
Employment, 1995**

Jobs in thousands			
Major industry	Core and supplier sectors	Expenditure-induced sector	Total, all sectors
<b>Total, manufacturing</b>	<b>90</b>	<b>490</b>	<b>580</b>
Apparel	0	30	30
Chemicals	10	20	30
Electrical machinery	0	50	50
Fabricated metals	0	40	40
Food	0	40	40
Furniture	0	20	20
Instruments	0	20	20
Motor vehicles	0	30	30
Nonauto transportation equipment	0	20	20
Nonelectrical machinery	0	50	50
Paper	10	20	30
Petroleum	0	10	10
Primary metals	0	30	30
Printing	10	30	40
Rubber and plastics	10	20	30
Stone	0	20	20
Textiles	0	20	20
Tobacco	40	0	40
Wood	0	20	20
Miscellaneous	0	10	10
<b>Total, nonmanufacturing</b>	<b>460</b>	<b>1,620</b>	<b>2,080</b>
Communications	0	20	20
Finance, insurance, and real estate	10	120	130
Government	0	10	10
Services	70	690	760
Transportation	0	70	70
Utilities	0	20	20
Wholesale and retail trade	370	690	1,060
Agriculture	170	40	210
Construction	10	160	170
Mining	0	20	20
<b>Total employment</b>	<b>730</b>	<b>2,330</b>	<b>3,060</b>

Note: Based on latest data available at the time of the analysis.

Source: Tobacco Merchants Association.

**Appendix I  
National and Regional Economic Impact of  
the Tobacco Industry**

**Table I.4: Estimated Net Impact on Employment by Region of Reducing Domestic Tobacco Spending at Twice the Current Rate of Decline and Spending the Money Elsewhere**

Region	Number of jobs gained or (lost)
<b>United States overall</b>	<b>19,719</b>
<b>Southeast Tobacco (Ga., Ky., N.C., S.C., Tenn., Va.)</b>	<b>(36,584)</b>
<b>Nontobacco regions</b>	<b>56,303</b>
New England (Conn., Mass., Maine, N.H., R.I., Vt.)	2,205
Mideast (Del., Md., N.J., N.Y., Pa.)	8,991
Great Lakes (Ill., Ind., Mich., Ohio, Wis.)	13,231
Plains (Iowa, Kans., Minn., Mo., N.D., Nebr., S.D.)	5,835
Southeast Nontobacco (Ala., Ark., Fla., La., Miss., W.V.)	8,251
Southwest (Ariz., Okla., N.M., Tex.)	6,467
Rocky Mountain (Colo., Idaho, Mont., Utah, Wyo.)	2,343
Far West (Alaska, Calif., Hawaii, Nev., Oreg., Wash.)	8,980

Note: Warner examined the net economic impact in 2000 of reducing tobacco spending beginning in 1993.

Source: Warner.

**Table I.5: Estimated Net Impact on Employment Nationally and in the Southeast Tobacco Region, by Sector, of Reducing Domestic Tobacco Spending at Twice the Current Rate of Decline and Spending the Money Elsewhere**

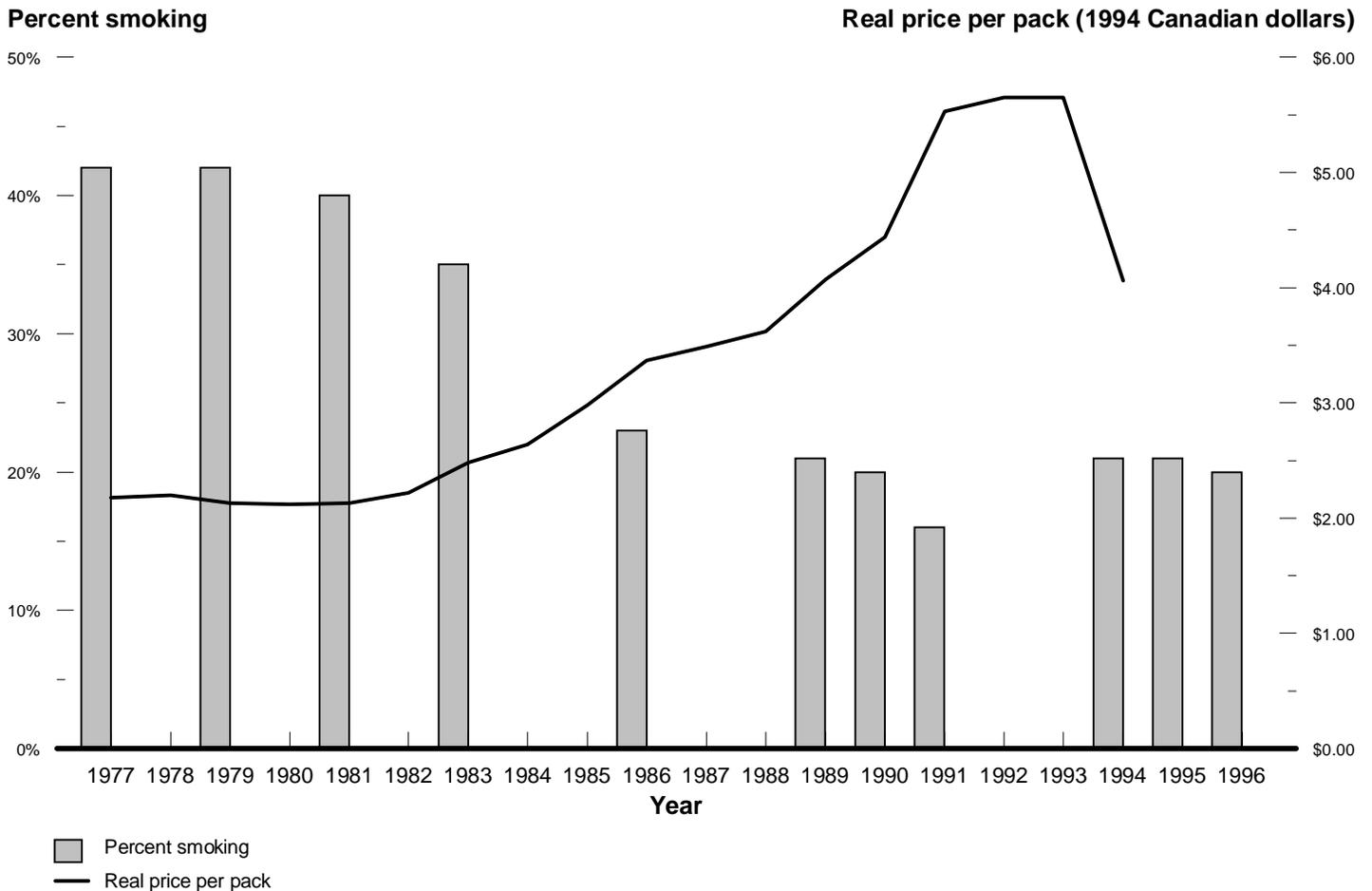
Sector	Number of jobs gained (or lost) nationally	Number of jobs gained (or lost) in Southeast Tobacco Region
Retail trade	(6,004)	(6,477)
Wholesale trade	(6,401)	(2,713)
Farm	(5,472)	(7,554)
Manufacturing	(846)	(5,957)
Services	27,641	(7,069)
Other private	10,879	(3,890)
Government	(78)	(2,924)
<b>Total</b>	<b>19,719</b>	<b>(36,584)</b>

Note: Warner examined the net economic impact in 2000 of either eliminating or reducing tobacco spending beginning in 1993. Warner defined the Southeast Tobacco Region as the six major tobacco-producing states: Georgia, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia.

Source: Warner.

# Smoking Among Canadian Youths

**Figure II.1: Percentage of Canadians 15 to 19 Years Old Smoking Daily, Selected Years, 1977 Through 1996, in Relationship to Real Price of Cigarettes, 1977 Through 1994**



Note: Latest available data. Data not available for every year between 1977 and 1996. Real price estimates shown do not account for contraband sales and therefore likely overstate actual real prices.

Sources: Canada's National Clearinghouse on Tobacco and Health and Statistics Canada.

# Declining State Excise Tax Revenues Resulting From Cigarette Price Increases

**Table III.1: Illustration of the Potential Magnitude of Reductions in State Cigarette Excise Tax Revenues as a Result of Consumption Declines Resulting From Cigarette Price Increases, by State**

<b>State/district</b>	<b>State cigarette tax rate, as of July 1, 1997</b>	<b>Lower bound: state cigarette tax losses associated with a consumption loss of 9 percent (dollars in millions)</b>	<b>Upper bound: state cigarette tax losses associated with a consumption loss of 40 percent (dollars in millions)</b>	<b>Upper bound: state cigarette tax losses as a percentage of total state tax revenues associated with a consumption loss of 40 percent</b>
Alabama	\$0.165	\$7	\$30	0.6
Alaska	.290	1	6	0.4
Arizona	.580	15	66	1.0
Arkansas	.315	8	35	1.0
California	.370	57	253	0.4
Colorado	.200	6	25	0.5
Connecticut	.500	11	50	0.6
Delaware	.240	2	9	0.5
District of Columbia	.650	2	7	<sup>a</sup>
Florida	.339	41	182	0.9
Georgia	.120	8	36	0.4
Hawaii	.600	3	14	0.5
Idaho	.280	2	10	0.6
Illinois	.440	38	168	1.0
Indiana	.155	11	49	0.6
Iowa	.360	9	39	0.9
Kansas	.240	5	22	0.5
Kentucky	.030	2	8	0.1
Louisiana	.200	8	37	0.8
Maine	.370	4	19	1.0
Maryland	.360	12	54	0.7
Massachusetts	.760	28	123	1.0
Michigan	.750	50	220	1.2
Minnesota	.480	17	75	0.8
Mississippi	.180	5	21	0.5
Missouri	.170	10	44	0.6
Montana	.180	1	6	0.5
Nebraska	.340	4	19	0.8
Nevada	.350	5	21	0.7
New Hampshire	.370	7	30	3.6

(continued)

**Appendix III  
Declining State Excise Tax Revenues  
Resulting From Cigarette Price Increases**

<b>State/district</b>	<b>State cigarette tax rate, as of July 1, 1997</b>	<b>Lower bound: state cigarette tax losses associated with a consumption loss of 9 percent (dollars in millions)</b>	<b>Upper bound: state cigarette tax losses associated with a consumption loss of 40 percent (dollars in millions)</b>	<b>Upper bound: state cigarette tax losses as a percentage of total state tax revenues associated with a consumption loss of 40 percent</b>
New Jersey	.400	22	98	0.7
New Mexico	.210	2	9	0.3
New York	.560	59	263	0.8
North Carolina	.050	4	18	0.2
North Dakota	.440	2	9	0.9
Ohio	.240	26	117	0.7
Oklahoma	.230	8	34	0.7
Oregon	.680	18	78	1.8
Pennsylvania	.310	32	141	0.8
Rhode Island	.710	6	25	1.6
South Carolina	.070	3	13	0.3
South Dakota	.330	2	9	1.2
Tennessee	.130	7	33	0.5
Texas	.410	51	228	1.1
Utah	.515	5	23	0.8
Vermont	.440	2	10	1.2
Virginia	.025	2	7	0.1
Washington	.825	23	103	1.0
West Virginia	.170	3	14	0.5
Wisconsin	.440	19	83	0.9
Wyoming	.120	1	3	0.4
<b>50-state total</b>	<sup>b</sup>	<b>\$673</b>	<b>\$2,993</b>	<sup>b</sup>
<b>50-state average</b>	<b>\$0.347</b>	<sup>b</sup>	<sup>b</sup>	<b>0.7</b>

Note: Estimates were calculated using states' revenue data for fiscal year 1997 (the latest available). The tax rates as of July 1, 1997, are included here for comparison purposes. This analysis assumes state rates for cigarette excess taxes stay constant. Other factors that already affect states' cigarette excise tax revenues include declines in consumption resulting from reasons other than price (e.g., increasing concerns over the health consequences of smoking) and interstate and international cigarette smuggling. This analysis does not include any federal collections from a nationwide settlement that may be allocated to the states.

<sup>a</sup>Not available.

<sup>b</sup>Not applicable.

Source: GAO's analysis.

# Estimates of Magnitude of Interstate Cigarette Smuggling in the United States

**Table IV.1: Estimates of Changes in State Cigarette Tax Revenues Because of Interstate Cigarette Smuggling and Cross-Border Sales, by State**

<b>State/district</b>	<b>State cigarette tax rate in effect from July 1995 to July 1996</b>	<b>Change in state cigarette tax revenues (1996 dollars in millions)<sup>a</sup></b>
Alabama	\$0.165	(\$3)
Alaska	.290	(1)
Arizona	.580	(16)
Arkansas	.315	(6)
California	.370	(80)
Colorado	.200	(4)
Connecticut	.500	(12)
Delaware	.240	4
District of Columbia	.650	(7)
Florida	.339	(32)
Georgia	.120	(4)
Hawaii	.600	(6)
Idaho	.280	0
Illinois	.440	(56)
Indiana	.155	5
Iowa	.360	(6)
Kansas	.240	(4)
Kentucky	.030	5
Louisiana	.200	(4)
Maine	.370	(4)
Maryland	.360	(17)
Massachusetts	.510	(41)
Michigan	.750	(105)
Minnesota	.480	(19)
Mississippi	.180	(3)
Missouri	.170	(3)
Montana	.180	(1)
Nebraska	.340	(4)
Nevada	.350	(4)
New Hampshire	.250	18
New Jersey	.400	(21)
New Mexico	.210	(1)
New York	.560	(93)
North Carolina	.050	0
North Dakota	.440	(2)
Ohio	.240	(5)

(continued)

**Appendix IV  
Estimates of Magnitude of Interstate  
Cigarette Smuggling in the United States**

<b>State/district</b>	<b>State cigarette tax rate in effect from July 1995 to July 1996</b>	<b>Change in state cigarette tax revenues (1996 dollars in millions)<sup>a</sup></b>
Oklahoma	.230	(3)
Oregon	.380	(3)
Pennsylvania	.310	(20)
Rhode Island	.610	(6)
South Carolina	.070	(1)
South Dakota	.330	(1)
Tennessee	.130	12
Texas	.410	(57)
Utah	.265	(3)
Vermont	.440	5
Virginia	.025	0
Washington	.815	(51)
West Virginia	.170	(1)
Wisconsin	.440	(14)
Wyoming	.120	0
<b>50-state total</b>	<sup>b</sup>	<b>(\$674)</b>
<b>50-state average</b>	<b>\$0.327</b>	<sup>b</sup>

Note: Table is based on results from Washington State Department of Health's Study.

<sup>a</sup>Changes in tax revenue derived from estimates of nontaxed sales (packs per capita, 1995) presented in *A Tax Study: Cigarette Consumption in Washington State*, Washington State Department of Health, Youth Tobacco Prevention Program, 1997. State cigarette tax rates from 1995-96, and 1996 state population data were used in our analysis to be consistent with the time period of the study.

<sup>b</sup>Not applicable.

Source: GAO's analysis of Washington State Department of Health's, U.S. Bureau of Labor Statistics', and Tobacco Institute's data.

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# Additional Information on International Cigarette Smuggling

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This appendix presents information on cigarette smuggling between the United States and Canada and between the United States and Mexico.

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## Canada

According to the Canadian government, Canada increased the price of cigarettes through federal and provincial excise taxes for several years, which resulted in a steady decline in the number of Canadians who smoke. From 1984 through 1993, federal taxes on a pack of 20 cigarettes increased from 42 cents to \$1.93 Canadian. Provincial taxes, levied in addition to the federal taxes, increased significantly as well. For example, from 1984 through 1993, Québec's cigarette taxes rose from 46 cents to \$1.78 per pack, and Ontario's rose from 63 cents to \$1.66 per pack (in Canadian dollars).

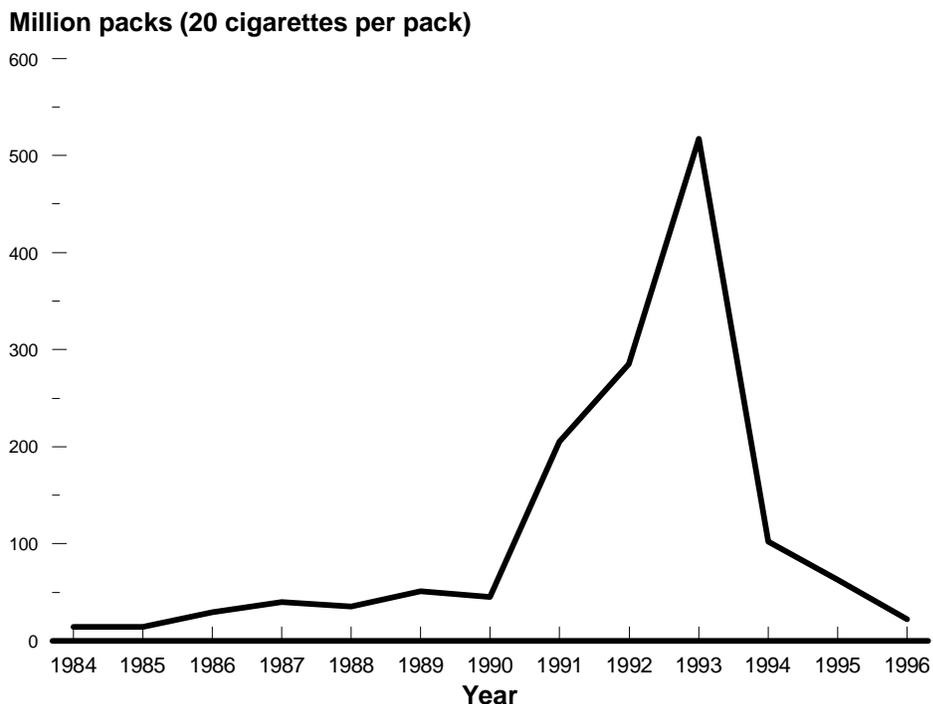
However, during most of this period, cigarettes made in Canada were exported tax-free to the United States. According to the 1994 study for the National Coalition Against Crime and Tobacco Contraband, an Indian reserve that straddles the U.S.-Canadian border between Cornwall, Ontario, and Massena, New York, had become the primary conduit for smuggling these cigarettes back into Canada. Once in Canada, the cigarettes were passed through elaborate networks for distribution to vendors throughout the country. By evading the Canadian federal and provincial taxes, smugglers were able to earn huge profits from contraband cigarettes. According to the Canadian government, profits for smuggled cigarettes were an estimated \$500 per case,<sup>1</sup> or \$500,000 per truckload, in Canadian dollars.<sup>2</sup> The extent of this smuggling activity is indicated by the more than an 11-fold increase in U. S. cigarette imports from Canada from 1990 to 1993. (See fig. V.1.) In addition, according to the Canadian government, in 1993, approximately 2.1 million Canadians consumed an estimated 90 million to 100 million cartons of contraband cigarettes with a legal retail value of about \$4.5 billion in Canadian dollars.

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<sup>1</sup>A case of Canadian cigarettes contains 50 cartons.

<sup>2</sup>Prime Minister Jean Chrétien, Government Action Plan on Smuggling, House of Commons (Feb. 8, 1994).

Figure V.1: U.S. Cigarette Imports  
From Canada, 1984-96



Source: GAO's analysis of USDA's data.

While citing the effectiveness of past efforts to reduce smoking by increasing cigarette taxes, Canadian Prime Minister Chrétien stated in February 1994 that the widespread availability of relatively inexpensive contraband cigarettes was negating government controls on the distribution, sale, and consumption of cigarettes. According to the Prime Minister, as the portion of the Canadian market supplied by smuggled tobacco increased, the average price paid for cigarettes dropped. Access to cheap contraband tobacco undermined the government's health policy objectives of reducing tobacco consumption, particularly among youths.

In February 1994, Prime Minister Chrétien addressed the smuggling problem by proposing, among other actions,

- strengthening enforcement at targeted smuggling areas, particularly along the U.S.-Canadian border;

- reducing the federal cigarette tax by \$5 per carton in all provinces, effective February 9, 1994, and matching any provincial tax reduction over \$5, to a maximum federal reduction of \$10 (in Canadian dollars);
- imposing an export tax of \$8 per carton (in Canadian dollars) to be paid by tobacco manufacturers, with an exemption provided for shipments in accordance with each manufacturer's historic level of exports;
- imposing a 3-year federal surtax on tobacco manufacturers' profits to fund a major public education program and other health measures;
- requiring manufacturers to clearly mark individual cigarettes to differentiate cigarettes manufactured for domestic and export use; and
- further restricting access to cigarettes by minors.

From February 9 through April 15, 1994, federal and provincial taxes were significantly lowered in the five provinces—including Québec and Ontario—where international smuggling was particularly troublesome. For example, combined taxes in Québec fell by \$2.10 per pack, and taxes in Ontario fell by \$1.92 per pack (in Canadian dollars).<sup>3</sup> Although taxes in these provinces have increased slightly since, once the initial tax cuts took effect, the contraband cigarette market dried up, according to the 1994 study for the National Coalition Against Crime and Tobacco Contraband. Consistent with the study's findings, U.S. cigarette imports from Canada dropped about 96 percent from 1993 through 1996. (See fig. V.1.)

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## Mexico

With respect to international cigarette smuggling that may be occurring between the United States and Mexico, currently, there is no consensus among the authorities we interviewed on the extent of this activity. An official from California's Board of Equalization, which, among other things, is responsible for ensuring that state excise taxes are paid, told us that curtailing U.S.-Mexican smuggling of cigarettes is a priority for their agency. The California Board of Equalization estimates that California loses from \$20 million to \$50 million annually in revenues from state cigarette excise taxes because of tax evasion, most of which it believes is a result of smuggling between the United States and Mexico. In addition, officials from the Bureau of Alcohol, Tobacco, and Firearms (ATF) told us that such international cigarette smuggling activity is widespread, and they suspect the main source of the cigarettes is duty-free shops located along the border. They stated that instead of permanently leaving the United States through the export market, cigarettes are diverted mostly back to the Los Angeles area, where they are sold on the black market. Both California Board of Equalization and ATF officials told us that for the most

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<sup>3</sup>Based on 20 cigarettes per pack.

part, the tobacco companies and the duty-free shops were not helpful in the government's attempts to stop the cigarette smuggling occurring between California and Mexico. These officials also said that the tobacco companies profit from the sales of their products whether or not federal and state taxes have been paid. An official from the Mexican Embassy in Washington, D.C., also told us that the Mexican government has recently become aware of cigarette smuggling occurring between the United States and Mexico. Although his government did not have any data on the extent of this activity, he believes it is increasing. He also told us that cigarettes are being brought into Mexico and then being smuggled back into the United States; however, he was not sure where the majority of these cigarettes came from.

On the other hand, U.S. Customs Service officials at the ports of San Ysidro, California, and Otay Mesa, California, and U.S. Border Patrol officials at San Clemente, California, told us that they have not seen much evidence of cigarette smuggling between the United States and Mexico. Although Customs officials told us their number one priority is preventing the smuggling of narcotics into the country, this focus does not preclude them from finding other contraband products during their routine searches of vehicles. Customs officials at Otay Mesa—a large border port in California for commercial vehicles entering the United States—told us that their inspections of commercial vehicles over the last 4 years have yielded virtually no instances of cigarette smuggling. At San Ysidro—a border port through which some 40,000 personal vehicles enter the United States each day, Customs officials also told us that they have found very little evidence of cigarette smuggling as a result of their inspections. Our discussions with U.S. Border Patrol officials in San Clemente yielded similar results. The Border Patrol conducts vehicle inspections to search for illegal aliens. These inspections could uncover a wide range of contraband goods. However, although the officials in San Clemente have discovered contraband cigarettes as a result of these inspections, to date, they have not found quantities sufficient to conclude such smuggling activity is widespread.

Although the extent of U.S.-Mexican cigarette smuggling is unknown, a 1995 case in the Los Angeles area illustrates that this activity is occurring. A 1998 study by FIA International Research Ltd. (FIA), a Toronto-based investigative research firm, concluded that international cigarette smuggling is occurring between California and Mexico involving “For Export Only” cigarettes. For example, FIA described a scheme in which a cigarette smuggling operation linked to Mexico was supplying contraband

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**Appendix V**  
**Additional Information on International**  
**Cigarette Smuggling**

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cigarettes to the Los Angeles and San Diego areas.<sup>4</sup> Raids conducted in 1995 yielded 13 arrests and the seizure of seven vehicles and over 4,700 cartons of cigarettes. Authorities found that Mexican citizens had crossed into California and purchased cigarettes from duty-free stores and brought them back into Mexico. Once these duty-free cigarettes were in Mexico, smugglers concealed them in personal vehicles and smuggled them back across the border into California. Once in California, the cigarettes were consolidated at storage facilities before being distributed to the San Diego and Los Angeles areas, where they were sold in small convenience stores, on street corners, and out of catering trucks and the trunks of cars. This case illustrates that cigarette smugglers are profiting by evading federal, state, and local taxes through a variety of export- and duty-free-cigarette diversion schemes. Currently, the price of a carton of cigarettes in California is about \$10.50 at duty-free stores—as compared with a retail price of about \$20. If a tobacco settlement increases the price of cigarettes, this differential could increase further, thus further increasing the profitability of obtaining these cigarettes for resale.

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<sup>4</sup>An official from California's Board of Equalization, who was heavily involved in the case, corroborated the details of this case as presented by FIA.

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