

Observations

CONTINUED FROM PREVIOUS PAGE

information—which is forwarded to the dealer assigned to the area.

And customers may be reaping the benefits. Economists Florian Zettelmeyer, Fiona Scott Morton, and Jorge Silva-Risso found that buyers who used Autobytel saved an average of 1.2 percent compared to those who purchased a car through conventional means. The researchers estimate that the savings are even greater—slightly above 2 percent—if the customers who opted for the Internet are those that pay higher prices at conventional dealers (such as those who are poor bargainers).

The researchers found several reasons for the lower prices. First, dealers have a contract with Autobytel that provides incentives to offer lower prices. Dealers are required to have a salesperson who only handles Internet requests and is paid based on sales volume, rather than on the profit extracted from negotiating with each customer.

In addition, some customers used Autobytel but made their purchase at a dealer other than the one they were referred to—and they also received lower prices. This suggests that Internet research makes online consumers more educated about their purchase and, thus, better negotiators. The low cost of searching on the Internet could also expand buyers' options and make it easier to explore distant dealerships and more types of cars in search of a better deal. Or, perhaps a specific price quote from an Autobytel-associated dealer gives them leverage to obtain a better price elsewhere.

Alas, the emergence of the Internet has not made haggling a thing of the past. A recent online buyer found that instead of being given a direct quote on a new car, dealerships invited him to come in and discuss the issue with them. According to JD Power and Associates, 14 percent of dealers associated with Autobytel will quote a discounted price by email or phone only if the customer insists, and 2 percent won't give quotes at all until the customer comes to the dealership.

—Jennifer Duval

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perspective

Tobacco manufacturers are now compensating states for smoking-related costs. How will this affect the economy?

By David M. Cutler, Jonathan Gruber, Raymond S. Hartman, Joseph P. Newhouse, and Meredith B. Rosenthal

SMOKING COSTS THE Massachusetts Medicaid program money. The more people smoke, argues the Attorney General's office, the more the state spends on Medicaid to pay for smoking-related illnesses. To recoup these costs, the Attorneys General of Massachusetts and 45 other states took the tobacco manufacturers to court. In November 1998, cigarette companies agreed to pay out \$104.7 billion in damages through the year 2025—the largest sum of money paid in any civil litigation in American history. The master settlement agreement (MSA) requires tobacco manufacturers to pay reparations for states' Medicaid expenses, totaling up to \$9 billion per year. They must also sponsor several billion dollars' worth of anti-smoking advertising and education over the next ten years and must restrict their advertising in public places such as outdoor arenas and public transit. The cost will be covered by a 45 cent per pack price increase on cigarettes, which was put into effect immediately following the settlement.

What are the economic impacts of the settlement for Massachusetts? The most obvious is an increase in state revenues; the MSA will net the Commonwealth an estimated \$4.2 billion in revenues over the next quarter-century, roughly 2 percent of total tax receipts. But, while this will be an important source of funds to cover the state's smoking-related expenses, it doesn't lead to a net gain for society since it simply represents a transfer of resources from one group (future smokers) to another (all the citizens of the state). The benefits to society depend on how much smoking rates decline due to the agreement, and on assumptions about why people start smoking in the first place.

THE SOCIAL PAYOFF OF IMPROVED HEALTH

How big a social benefit we reap is determined, in part, by how the settlement influences smoking behavior. First, the 45 cent per pack price increase raised the cost of cigarettes by about 15 percent per pack. This is likely to reduce tobacco consumption since as the price of cigarettes increases, smokers cut back and nonsmokers are less likely to start smoking. In fact, recent research shows that the 15 percent price increase should lead to about a 5 percent decline in smoking participation among adults. Estimates of the impact of the price increase on youth smoking are somewhat more difficult to quantify and range from zero to about 6 percent. The anti-smoking advertising campaign should also cut smoking rates; other experiments with this type of advertising have yielded a 5 percent or greater reduction in smoking. The

new restrictions on advertising in public places, however, are unlikely to reduce smoking since there is no constraint on the tobacco industry's increasing advertising expenditures in other venues in compensation. With all these effects taken together, and after adjusting for the overall decrease in smoking rates, the settlement means 11 to 13 percent fewer people in Massachusetts will smoke in 2025 than today.

The less people smoke, the healthier they will be—but what does this mean for society? Improved health will translate into lower Medicaid spending, savings which directly benefits taxpayers. Without the MSA, Massachusetts would have spent about \$7.2 billion on smoking-related illnesses by 2025; as smoking declines, so will these costs. In the end, the MSA will save Massachusetts approximately \$65 million in Medicaid spending by 2025.

But even more important, the extra years of life gained by not smoking also have a value to society. In Massachusetts, the MSA will reduce the number of adults who ever smoke by about 45,000 and the number of youth smokers by anywhere from 2,100 to 13,000, adding an average of six years of life per person. These reductions in smoking will save approximately 550,000 life-years. Measuring the economic value of these life-years saved is a challenge, but economists have developed several techniques to estimate this figure. One is to survey people about how much they would be willing to pay to reduce their probability of dying. The other is to measure the increase in pay associated with performing high-risk jobs, called a compensating wage differential. The relationship between the increased risk of death and either increased wages or willingness to pay can then be used to calculate the value of an additional year of life. Employing these techniques, we estimate that the 550,000 life-years saved by the agreement will yield between \$43 billion and \$87 billion in social benefits through the year 2025—hundreds of times the savings from reduced Medicaid spending.

This means, for every dollar transferred from cigarette companies (and future smokers) to the state, the social benefits from reduced Medicaid spending and improved health will amount to \$15.50. These benefits would be even greater if we had also included the positive effect of reduced smoking-related illnesses such as chronic bronchitis or emphysema. Some studies indicate that people are willing to pay about \$100 to avoid a single day of coughing due to bronchitis, for instance. It's hard to measure these effects due to the difficulties of identifying new cases of disease and of quantifying how much people would be willing to pay to avoid illness. But if these effects could be included, the measured benefits of the settlement would substantially increase.

VICE OR VIRTUE?

But how to account for the pleasures of smoking to the smoker? Some economists argue that smokers must feel that the enjoyment they experience from smoking is worth its price to their health; otherwise they wouldn't smoke in the first place. If this theory of "rational addiction" is correct, then the social benefits of reduced smoking are completely offset by the social cost of lost smoking pleasure. This argument is only convincing, however, if smokers make a rational choice to smoke. But 90 percent of smokers begin to smoke when they are under 18, an age when they may not be capable of making decisions in an adult capac-

ity and when they are overly optimistic about their ability to quit. Furthermore, studies show that smokers tend to underestimate by about 40 percent the future costs (primarily to their health) that they themselves will bear from smoking, making it hard to argue that they are properly accounting for these costs in their decisions to smoke. And the addictive quality of nicotine means that an irrational youthful decision to start smoking, for many, becomes permanent. While it is indisputable that smokers derive pleasure from smoking, they may excessively weight short-term pleasure over longer-term costs. Thus, our estimates show that even if smokers do get some pleasure from smoking, there is still likely to be a substantial social benefit to reduced



smoking—and one much greater than the direct payments of the tobacco manufacturers to the Commonwealth's coffers.

SO GOES THE NATION

While our study only examined the effects of the settlement in Massachusetts, the social gains are likely to be similar in other states. The improved health of the population due to decreased smoking, which should be similar across states, accounts for 99 percent of the social benefits. By comparison, reduced Medicaid payments, which vary from state to state, account for only 1 percent. As a result, the nation as a whole can expect to reap 30 to 40 times the benefits found for Massachusetts—an overall social gain in the trillions of dollars. We can be sure that smoking will always have social costs, but the tobacco settlement will help offset them for at least the next 25 years. *

DAVID M. CUTLER, JOSEPH P. NEWHOUSE, AND MEREDITH B. ROSENTHAL ARE PROFESSORS AT HARVARD UNIVERSITY. JONATHAN GRUBER IS A PROFESSOR AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY. RAYMOND S. HARTMAN IS A SPECIAL CONSULTANT FOR LEXECON, INC. THE AUTHORS' ARTICLE, "THE ECONOMIC IMPACTS OF THE TOBACCO SETTLEMENT," APPEARED IN THE WINTER 2002 ISSUE OF *JOURNAL OF POLICY ANALYSIS AND MANAGEMENT*.