



COMPTROLLER  
*of* MARYLAND

*Serving the People*

William Donald Schaefer  
Comptroller

January 15, 2003

Honorable Thomas V. Miller  
President, Senate of Maryland  
State House  
Annapolis, Maryland 21401

Honorable Michael E. Busch  
Speaker, Maryland House of Delegates  
State House  
Annapolis, Maryland 21401

Dear President Miller and Speaker Busch:


Section 21 of the Acts of 2002 requires me to report to the General Assembly on the loss of gross sales revenue of retail establishments that sell cigarettes within 30 miles of the State's border with a contiguous state or the District of Columbia as a result of the increase in the tobacco tax that took effect June 1, 2002.

It should not come as a surprise that it appears there has been an increase in cross-border sales of cigarettes and that total sales of cigarettes in the state have declined—both of these effects were anticipated and noted in the fiscal note when the tax increase was considered by the General Assembly. While cross-border activity may not be desirable, and is often illegal, a decline in consumption and therefore a decline in Maryland cigarette sales was one of the expected outcomes of the legislation.

As discussed in the report, the cigarette tax increase has possibly resulted in a decline in gross sales revenues of individual retail locations near the border, as would have been predicted. The available data do not allow a definitive conclusion, but to the extent that can be gauged, the broader impact is marginal at most.

This report was produced by Robert C. Bates of the Bureau of Revenue Estimates. Questions about the report should be directed to my office or Mr. Bates at (410) 260-7450.

Sincerely,

  
William Donald Schaefer  
Comptroller of Maryland

## **EFFECT OF CIGARETTE TAX INCREASE ON RETAIL SALES**

Chapter 288 of the Acts of 2002 (Senate Bill 856) requires the Comptroller of Maryland to report "on the loss, as a result of this Act, of gross sales revenue of retail establishments that sell cigarettes within 30 miles of the State's border with a contiguous State or the District of Columbia."

### **Terminology**

For ease of readership, some terms are used in this report that are not strictly accurate. These terms are as follows:

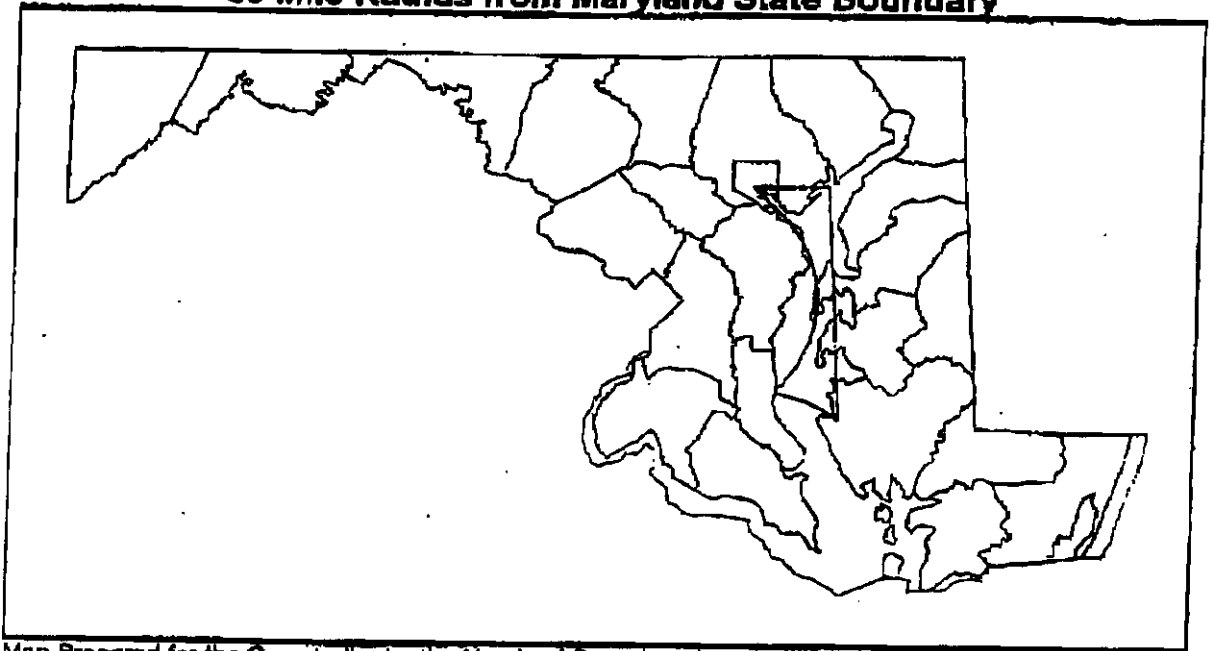
The term "contiguous states" will be used to collectively indicate the Commonwealth of Pennsylvania, the Commonwealth of Virginia, the District of Columbia, the State of Delaware and the State of West Virginia.

The rates for tobacco taxes will be used as they apply to a standard pack of 20 cigarettes. Tax rates for other pack sizes and other tobacco products may vary from the rate for a 20-cigarette pack. For example, the Maryland tobacco tax rate will be referred to as \$1 per pack, even though the rate is actually 50¢ for a pack of 10 or fewer cigarettes, \$1 for packs of 11-20 cigarettes, and 5¢ for each cigarette in packs larger than 20.

### **Study Geography**

The first step in the analysis is to determine the geographic reach of the study as the law requires this report to cover retail establishments within 30 miles of the Maryland boundary. Maryland's size and shape means much of the land area of the State is in close proximity to a contiguous state. To determine the study area, the Comptroller obtained from the Maryland Department of Planning a map showing the State's borders and indicating the portion of the State within 30 miles of the Maryland border. The map is shown below. The area within 30 miles of the border includes the entire area of 18 counties. Three additional counties, Anne Arundel, Dorchester and Talbot, have only small areas with comparatively little economic activity beyond the 30 mile limit. Only Baltimore City, Baltimore County and Queen Anne's County have areas with significant economic activity outside the study area (although it is not clear from the map below, the entire land area of Calvert County is within 30 miles of the border with either the Commonwealth of Virginia or the District of Columbia.). Thus, the legislation asks for a study of gross sales revenues of nearly all cigarette retailers in the State.

### 30 Mile Radius from Maryland State Boundary



Map Prepared for the Comptroller by the Maryland Department of Planning, August 2002

Because such a small part of the State is excluded by the geographic limits of the study, and because it is virtually impossible to obtain complete and accurate geolocation data for economic activity, for purposes of this study it is assumed that the entire State is within 30 miles of a contiguous state.

It should be noted that there are portions of the State within 30 miles of a contiguous state but not within a 30 mile drive of a contiguous state. For example, Lexington Park in St. Mary's County is 12 miles from the Commonwealth of Virginia, however the shortest driving distance on paved roads is 38 miles. The round-trip drive would take about two hours, and the driver of a two-axle vehicle would be charged a toll of \$3 on the southbound Harry M. Nice Memorial Bridge (assuming the driver did not have an E-ZPass commuter plan).

#### Data Sources

Because of the expense and poor response rates to past surveys, the Comptroller did not engage in a formal survey of retailers for this report. Prior surveys of retailers, such as for the tax-free week in 2001, were met with extremely low response rates and many responses that were on their face inaccurate. Instead, the Comptroller contacted three industry groups: the Mid Atlantic Region Petroleum Distributors' Association (MAPDA), the Maryland Retailers

Association (MRA), and Manis Canning & Associates, a firm representing 7-Eleven. All three organizations responded. In October, a representative of the Comptroller met with a representative of MAPDA and officials of Southern Maryland Oil, Inc. to discuss the effect of the tax increase on Southern Maryland Oil's non-fuel retails sales. 7-Eleven also responded with information that has been used in this report. Although the MRA had indicated they would provide information, as of the time this report was written no data or other information has been received.

Southern Maryland Oil and 7-Eleven both provided confidential data for this report with the understanding that no proprietary data would be released. While the data provided by these two companies is useful to understand the effect of the excise tax increase, because there are only two sources, the data cannot be aggregated and reported in any manner without disclosing the source. As a result, this report does not provide any actual data provided by these companies on their sales. Southern Maryland Oil also provided national information on the convenience store/gas station industry that has been used in this report.

Because of the way the data was obtained, there is an automatic selection bias in the data. This is *not* to suggest the data provided was inaccurate or misleading. Rather, retailers who saw no or very little decrease in sales had no reason to spend the time and effort to provide data needed for this report. Those retailers who experienced a large decline in sales or believed they were otherwise negatively affected by the tax increase had the most incentive to provide data and other information.

Data collected by the Comptroller in the process of administering the sales and use tax and the tobacco tax were also used in this report.

### Hypothesis

The hypothesis of this study, derived implicitly from the language of the law, is that increasing Maryland's tobacco tax to \$1 would lead to lower retail sales in part because Maryland residents would purchase cigarettes in other states and make other purchases, incidental or otherwise, in contiguous states rather than in Maryland.

### Economic Theory

Economic theory indicates as the price of a product increases, demand will decrease. The tobacco tax increase was designed as both a revenue generator and as a disincentive to smoking. As a result, the increased cost of cigarettes due to the tax should discourage some Maryland residents from buying cigarettes and lead most others to reduce their consumption. To the extent that cigarettes do not follow this classical economic model due to the addictive quality of nicotine, spending would be reduced on non-cigarette purchases to support a higher level of spending on cigarettes.

But in the case of the tobacco tax, there are ways to avoid or evade the tax and thus reduce the cost—by buying cigarettes outside of Maryland. A basic tenet of economic theory is that consumers have complete information and make rational decisions based on that information. Theoretically, Maryland smokers would determine how much additional expense, including time and inconvenience, they would incur to travel outside the State to purchase cigarettes. If the additional expense is less than the difference in price between cigarettes in Maryland and a contiguous state, they will travel to the contiguous state to purchase cigarettes. If the additional expense is higher than the marginal difference in price, the Maryland resident will purchase cigarettes in Maryland.

In the real world, people do not have perfect information and rarely make these detailed calculations necessary for economic efficiency. The perception of lower cost may be enough to encourage some consumers to make inefficient decisions. This may be particularly true in the case of taxes, where many consumers make counterproductive decisions in order to reduce the amount of tax they perceive they are paying.

### Cross-Border Activity

One way consumers can reduce their costs is by purchasing cigarettes where they cost less, whether it be a retailer with lower prices, or buying cigarettes where the tax (hence price) is lower. The table below shows the tax rates in Maryland and the contiguous states. It is legal for a Maryland resident to have two packs of cigarettes that do not carry Maryland tax stamps.<sup>1</sup> As most of the jurisdictions surrounding the State have a lower cigarette tax, it could be to the consumer's benefit to purchase cigarettes outside the State, assuming the cost of completing a purchase outside the State does not exceed the price difference.

State	Tax Rate per 20 Cigarettes	Notes
Delaware	24¢	
Dist. of Columbia	65¢	In FY03 will change to \$1
Maryland	\$1.00	Effective 1-Jun-02
Pennsylvania	\$1.00	Effective 15-Jul-02
Virginia	2.5¢ - 17.5¢	Varies by county; generally higher in Northern Virginia
West Virginia	17¢	

<sup>1</sup>The limit is two cartons for a member of the armed services who buys the cigarettes at a post exchange. These sales are not addressed in this analysis as post exchanges had a significant price advantage over civilian retailers even before the tax increase addressed in this report.

It is assumed that Maryland residents, particularly those who regularly travel to Delaware, Virginia, or West Virginia, would buy more cigarettes in those states and fewer in Maryland. These contiguous states have a tax advantage over Maryland that existed even prior to the June 1 tax increase. The larger difference in tax rates, however, encourages more cross-border activity, and may encourage some people to evade the tax by importing cigarettes in illegal quantities. For several reasons, including the 1999 tax increase, the Comptroller has made more cigarette-smuggling arrests since that tax increase than in the few preceding years (although many of the confiscated cigarettes are headed from Virginia to New York City, where there is a \$2.975 per pack margin between the Virginia rate and the combined New York State and City rate). There is no tax differential between Pennsylvania and Maryland, nor, in all probability, will there be one between Maryland and the District of Columbia when the District's fiscal year 2003 budget is passed by Congress, so there is no tax-driven incentive to purchase cigarettes from those jurisdictions rather than Maryland.

There is no way for the Comptroller to estimate any increase in illegal cross-border activity with regard to cigarettes headed to Maryland consumers. Large-scale smugglers are most likely to resell cigarettes in New York City where their margin is greatest. Most illegal activity benefitting Maryland smokers is likely to be individuals purchasing cigarettes for their own consumption and small-time smuggling. This is particularly true on the Eastern Shore, where much of the retail activity is concentrated in Delaware; in southern Charles and Western St. Mary's counties where the tax differential between Maryland and Virginia is the greatest; and in the DC metro area where commuters have easy access to stores near their places of employment. These differentials, however, existed before the tax increase, and will be mitigated to some extent when the tax rate in the District of Columbia increases to \$1 per pack.

#### Data from Retailers

Both Southern Maryland Oil and 7-Eleven stated that they have had a measurable drop in cigarette sales at their stores after the tax increase went into effect on June 1. According to the National Association of Convenience Stores, cigarettes are the largest category of convenience store sales, excluding fuel. In 2001, cigarette sales accounted for 38.7% of non-fuel revenue, dwarfing the next highest categories of beverages and food, at 11.7% and 11.4%, respectively.

Both companies supplied data that allowed a direct comparison between the average number of packs of cigarettes sold per store in the periods before and after the tobacco tax increase. What is striking is that the figures do not uniformly decline after June 1. In fact, looking at the figures in aggregate for each company, the number of packs sold does not fit any discernable pattern. Using May 2002 as a base month, pack sales either increased or declined in the post-tax-increase period, depending on the month or number of months used for the comparison. Sales in May could have been higher than normal as people bought cigarettes in advance of the tax increase; if so, an increase over that level following a 50% increase in the tax is particularly notable.

Significantly, Southern Maryland Oil provided data demonstrating that stores closer to states with lower tobacco tax rates were much more likely to have a decrease in cigarette sales and in total sales than stores further away in the period following the cigarette tax increase. This suggests that there has, in fact, been an increase in cross-border activity as a result of the cigarette tax hike, and that increase in cross-border activity has had an impact on gross sales revenues in the case of specific stores only.

### Sales Tax Collections

The Comptroller has no data on gross revenues of retailers who sell cigarettes. To attempt to determine the effect of the tobacco tax increase on total sales of cigarette retailers, the sales tax revenue (a proxy for revenue from taxable and non-taxable sales) from several categories of retailers was examined. These categories included independent grocery stores (e.g., 7-Eleven, Royal Farms), drug stores (e.g., CVS, Rite Aid), gas stations, cigarette dealers, and news stands. Although these are retailers likely to have a high percentage of sales from cigarettes, the sales tax figures also contain data from some retailers selling very few or no cigarettes.

The chart below shows, for the retail categories specified above, the change in sales tax revenue over the prior year for the three months before and after the tobacco tax increase. For comparison, the figures for the same months in 2001 are provided. Although the chart shows a

Year	March-May	June-August
2001	-7.0%	-18.2%
2002	2.3%	-1.3%

clear decline in sales in these retail categories in the three months immediately following the cigarette tax increase, there is no evidence to indicate what part of the decline, if any, is due to higher cigarette prices. The difference between the two periods was much smaller in 2002, when the tax was increased, than in 2001, suggesting many other factors have a role. While this analysis is admittedly blunt, there is no reason to conclude that there is necessarily any correlation between the cigarette tax rate and total retail sales in the study area as a whole.

### Conclusions

Data available to the Comptroller's Office support few conclusions. The anecdotal data do show the tax increase has reduced cigarette and other sales in some individual stores close to the border of states with lower tobacco taxes. When all taxable sales throughout the entire study area for retailers typically selling cigarettes are examined, however, there is no evidence that the increase in tobacco taxes has had a direct and measurable impact on gross revenues.