



Wyoming Moist Snuff Tobacco Taxation Policy

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Wyoming Moist Snuff Tobacco Taxation Policy

1. Executive Summary

Wyoming currently applies a 20% ad valorem tax to the wholesale price of moist snuff tobacco (MST). In January 2007, the Wyoming legislature considered a bill to replace the 20% ad valorem MST tax with a \$0.50 per ounce unit tax. The bill was vigorously supported by the U.S. Smokeless Tobacco Company. This report compares the current ad valorem and proposed unit MST taxes using several criteria. The main conclusions are as follows.

- The \$0.50 per ounce unit tax will increase annual tax revenues by about \$210,000. Raising the ad valorem tax from 20% to 22% would generate the same increase in annual revenues.
- Each tax automatically adjusts for different changes in economic conditions. The ad valorem tax adjusts for inflation. The weight tax adjusts for down-trading (consumer switching to cheaper products). This analysis suggests that adjusting for inflation is more important than adjusting for down-trading, giving an advantage to the ad valorem tax with respect to changing economic conditions.
- The ad valorem tax is less regressive than the weight tax and creates fewer market inefficiencies, giving an advantage to the ad valorem tax with respect to equity.
- It is likely that producers will respond to a weight tax by reducing the weight of their products, giving an advantage to the ad valorem tax with respect to tax avoidance.
- Neither tax has an advantage with respect to the reduction of consumption.
- The unit tax is favored by the producers (predominantly the U.S. Smokeless Tobacco Company) of premium brands of MST, while the ad valorem tax is favored by the manufactures of value brands of MST.

The conclusion of this analysis is that an ad valorem MST tax is superior to a unit MST tax. Neither tax has an advantage with respect to revenue generation or consumption reduction. However, the ad valorem tax is more equitable, automatically adjusts for inflation, and is less susceptible to tax avoidance.

2. Introduction

Wyoming currently applies a 20% ad valorem tax to the wholesale price of moist snuff tobacco (MST). In January 2007, the Wyoming legislature considered a bill to replace the 20% ad valorem MST tax with a \$0.50 per ounce unit tax. The bill was vigorously supported by the U.S. Smokeless Tobacco Company. This report compares the current and proposed MST taxation policies using several criteria. Section 3 provides information on the tobacco market in general and on the Wyoming MST market in particular. Section 4 analyses the ad valorem and unit MST tax policies with respect to tax revenue generation, adjustment to changing economic conditions, equity, tax avoidance, consumption, and precedence. Section 5 contains conclusions.

3. The Tobacco Market

There are five main types of tobacco products: cigarettes, cigars, smoking tobacco, chewing tobacco, and MST. Almost everyone is familiar with cigarettes and cigars. Smoking tobacco is loose tobacco used by those who prefer to roll their own cigarettes. Chewing tobacco is a leafy form of tobacco that users keep between the cheek and gums. Chewing tobacco is available as a plug (a brick of tobacco), a twist (tobacco twisted into a braid), or loose-leaf. Redman is a popular brand of chewing tobacco.

MST is a powdered, moist (about 50% water) form of tobacco that users put between the lower lip or cheek and the gum. MST is usually sold in round cans containing 1.2 ounces of product. Using MST (also called chew tobacco or spit tobacco) is often called “dipping.” Skoal and Copenhagen are popular brands of MST.

The tobacco industry has generally experienced declining sales in recent years with national cigarette and chewing tobacco consumption falling by about 3% per year (U.S. Department of Agriculture, 2006; U.S. Federal Trade Commission, 2003). An increasing recognition of the health hazards associated with tobacco use is one reason for the decline in tobacco consumption. For cigarettes, increasing restrictions on smoking (i.e., smokefree legislation) and increasing cigarette prices have also contributed to the decline. Excise taxes and the costs associated with the Master Settlement Agreement have been major factors in the increase in cigarette prices. While published wholesale cigarette prices have not changed since April 2002, manufacturers change costs, and hence, prices, through rebates and other marketing programs. However, impact of marketing programs on prices are difficult to quantify. MST consumption is a notable exception to the trend of declining tobacco use, with national consumption increasing by about 4% year (U.S. Federal Trade Commission, 2003).

Publicly available consumption data for tobacco are not available at the state level. While state cigarette consumption can be estimated using cigarette tax revenue data, MST tax revenue data are not available so MST consumption cannot be estimated. The best state-level MST data are from industry sources and appear in unpublished presentations. Table 1 gives Wyoming data that appeared in a recent presentation by the U.S. Smokeless Tobacco Company (USSTC, n.d.). Table 1 shows that round can sales of MST in Wyoming have increased by about 8% in each of the last two years.

Table 1. Wyoming MST Market Data

Year	MST Sales (Cans)	Tier 1 Market Share	Tier 2 Market Share	Tier 3 Market Share
2001		96%	4%	0%
2002		94%	5%	1%
2003		91%	6%	3%
2004	3,500,000	88%	5%	7%
2005	3,800,000	85%	5%	10%
2006	4,100,000	84%	4%	12%

Source: USSTC, *n.d.*

A small number of brands have traditionally dominated the MST market. In recent years, lower cost brands have entered the market, leading to the definition of three product tiers. Tier 1 consists of the high-cost, traditional brands (e.g., Skoal, Copenhagen, and Kodiak), Tier 2 consists of medium-cost brands (e.g., Red Seal, Silver Creek), and Tier 3 consists of low-cost brands (e.g., Longhorn, Kayak). USSTC (*n.d.*) reports average wholesale costs of Tier 1, Tier 2, and Tier 3 products of \$3.01, \$2.10, and \$1.10, respectively. Product prices directly reflect these substantial wholesale cost differentials, with Tier 1 products costing as much as \$3.00 more at retail than Tier 3 products.

Table 1 shows the successful penetration of the Tier 3 products into the Wyoming marketplace. There has been an average annual shift of 2.4% of the market from Tier 1 to the less-expensive Tier 3, a consumer behavior known as down-trading. The Tier 2 market share has been relatively constant.

4. Tax Comparisons

An excise tax is applied to a specific commodity such as gasoline, liquor, or tobacco. Excise taxes come in two forms: ad valorem excise taxes and unit excise taxes. An ad valorem tax is applied to the price of the commodity (e.g., \$0.04 per dollar) while a unit tax is applied to each unit of the commodity (e.g., \$0.20 per gallon of gasoline).

Table 2 gives the excise tax applied by each state to each type of tobacco product. While all states apply a unit tax to cigarettes, most states apply ad valorem taxes to non-cigarette tobacco products. With respect to MST, 41 states apply ad valorem taxes, 8 states apply unit taxes, and 1 state applies no tax at all.

Wyoming currently levies a \$0.60 per pack tax on cigarettes and a 20% tax on the wholesale price of all other tobacco products. For MST, the Wyoming ad valorem rate of 20% of wholesale price falls toward the lower end of the national range of 3% (in North Carolina) to 90% (in Massachusetts). In January 2007, the Wyoming legislature considered a bill to replace the 20% ad valorem MST tax with a \$0.50 per ounce unit tax (the tax on tobacco products other than cigarettes and MST would remain at 20% of wholesale price). In this section, we compare the current ad valorem MST tax to the proposed unit MST tax using several criteria.

Table 2. State Tobacco Excise Tax Rates

State	Chewing Tobacco Tax	Cigar Tax	Smoking Tobacco Tax	Moist Snuff Tax	Cigarette Tax (cents/pack)
Alabama	1.5 cents/ounce	4.0 to 40.5 cents/10 cigars	4.0 cents/ounce	1.0-5.25 cents/ounce	42.5
Alaska	75% wholesale price	75% wholesale price	75% wholesale price	75% wholesale price	180
Arizona	13.25 cents/ounce	13.25 to 64 cents/10 cigars	13.25 cents/ounce	13.25 cents/ounce	118
Arkansas	32% manufactures price	32% manufactures price	32% manufactures price	32% manufactures price	59
California	46.76% wholesale price	46.76% wholesale price	46.76% wholesale price	46.76% wholesale price	87
Colorado	40% manufactures price	40% manufactures price	40% manufactures price	40% manufactures price	84
Connecticut	20% wholesale price	20% wholesale price	20% wholesale price	40 cents/ounce	151
Delaware	15% wholesale price	15% wholesale price	15% wholesale price	15% wholesale price	55
DC	None	None	None	None	100
Florida	25% wholesale price	None	25% wholesale price	25% wholesale price	33.9
Georgia	10% wholesale price	2¢/10 cigars; 13% wholesale	10% wholesale price	10% wholesale price	37
Hawaii	40% wholesale price	40% wholesale price	40% wholesale price	40% wholesale price	160
Idaho	40% wholesale price	40% wholesale price	40% wholesale price	40% wholesale price	57
Illinois	18% wholesale price	18% wholesale price	18% wholesale price	18% wholesale price	98
Indiana	18% wholesale price	18% wholesale price	18% wholesale price	18% wholesale price	55.5
Iowa	22% wholesale price	22% wholesale price	22% wholesale price	22% wholesale price	36
Kansas	10% manufactures price	10% manufactures price	10% manufactures price	10% manufactures price	79
Kentucky	7.5% wholesale price	7.5% wholesale price	7.5% wholesale price	9.5 cents per ounce	30
Louisiana	20% manufactures price	8%-20% manufactures price	33% manufactures price	20% manufactures price	36
Maine	78% wholesale price	20% wholesale price	20% wholesale price	78% wholesale price	200
Maryland	15% wholesale price	15% wholesale price	15% wholesale price	15% wholesale price	100
Massachusetts	90% wholesale price	30% wholesale price	30% wholesale price	90% wholesale price	151
Michigan	32% wholesale price	32% wholesale price	32% wholesale price	32% wholesale price	200

Table 2 Continued

State	Chewing Tobacco Tax	Cigar Tax	Smoking Tobacco Tax	Snuff Tax	Cigarette Tax (cents/pack)
Minnesota	70% wholesale price	70% wholesale price	70% wholesale price	70% wholesale price	123
Mississippi	15% manufacture's price	15% manufactures price	15% manufactures price	15% manufactures price	18
Missouri	10% manufactures price	10% manufactures price	10% manufactures price	10% manufactures price	17
Montana	50% wholesale price	50% wholesale price	50% wholesale price	85 cents per ounce	170
Nebraska	20% wholesale price	20% wholesale price	20% wholesale price	20% wholesale price	64
Nevada	30% wholesale price	30% wholesale price	30% wholesale price	30% wholesale price	80
New Hampshire	19% wholesale price	none	19% wholesale price	19% wholesale price	80
New Jersey	30% manufactures price	30% manufactures price	30% manufactures price	75 cents per ounce	257.5
New Mexico	25% manufactures price	25% manufactures price	25% manufactures price	25% manufactures price	91
New York	37% wholesale price	37% wholesale price	37% wholesale price	37% wholesale price	150
North Carolina	3% wholesale price	3% wholesale price	3% wholesale price	3% wholesale price	35
North Dakota	16 cents/ounce	28% wholesale price	28% wholesale price	60 cents/ounce	44
Ohio	17% wholesale price	17% wholesale price	17% wholesale price	17% wholesale price	125
Oklahoma	60% manufactures price	36 to 120 cents/10 cigars	80% manufactures price	60% manufactures price	103
Oregon	65% wholesale price	65% wholesale price	65% wholesale price	65% wholesale price	118
Pennsylvania	None	None	None	None	135
Rhode Island	40% wholesale price	40% wholesale price	40% wholesale price	40% wholesale price	246
South Carolina	5% manufactures price	5% manufactures price	5% manufactures price	5% manufactures price	7
South Dakota	10% wholesale price	10% wholesale price	10% wholesale price	10% wholesale price	53
Tennessee	6.6% wholesale price	6.6% wholesale price	6.6% wholesale price	6.6% wholesale price	20
Texas†	40% manufactures	1 to 15 cents/10 cigars	40% manufactures	40% manufactures	141
Utah	35% manufactures price	35% manufactures price	35% manufactures price	35% manufactures price	69.5
Vermont*	41% manufactures price	41% manufactures price	41% manufactures price	\$1.49 per ounce	179
Virginia	10% wholesale price	10% wholesale price	10% wholesale price	10% wholesale price	30
Washington	75% wholesale price	75% wholesale price	75% wholesale price	75% wholesale price	202.5
West Virginia	7% wholesale price	7% wholesale price	7% wholesale price	7% wholesale price	55
Wisconsin	25% manufactures price	25% manufactures price	25% manufactures price	25% manufactures price	77
Wyoming	20% wholesale price	20% wholesale price	20% wholesale price	20% wholesale price	60

Source: Campaign for Tobacco-Free Kids, 2006

4.1 Revenue Generation

Revenue generation is one of the main reasons governments levy taxes. The Wyoming Department of Revenue (n.d.) estimated 2006 MST tax revenue to be \$2,250,408 using the data in Table 1 and other USSTC (n.d.) data¹. Using a different, but less precise method, the Wyoming Department of Revenue (n.d.) obtained an alternative estimate of MST tax revenue of \$2,065,611. The similarity of the two estimates gives some confidence to the data in Table 1. Using the data in Table 1, the annual predicted tax revenue from a \$0.50 per ounce MST tax is \$2,460,000.

While the proposed unit tax will generate \$209,592 more annual tax revenue than the current ad valorem tax, revenue generation is not a basis for differentiating ad valorem and unit excise taxes. The reason is that ad valorem and unit taxes can always generate equal tax revenues if the tax rates are set at the correct levels. For example, Tables 3 and 4 give Wyoming MST consumption and tax revenue for various levels of the ad valorem tax and the unit tax, respectively. Table 3 shows that increasing the MST ad valorem tax to 22% would generate about the same tax revenue as the \$0.50 per ounce unit tax.

4.2 Economic Conditions

In this section, we examine how changing economic conditions affect the tax revenue generated by ad valorem and unit MST taxes. One economic condition we consider is inflation. Almost all modern economies experience some level of inflation. The inflation rate has ranged from 0.7% to 11.3% in the U.S. over the last 50 years (U.S. Department of Labor, n.d.). Because ad valorem taxes are computed as a percent of price, ad valorem tax revenues automatically adjust for inflation. For example, if prices increase by 5%, tax revenues will increase by 5% also. With unit taxes, tax revenues do not increase with inflation. The automatic adjustment for inflation is an important advantage of ad valorem taxes over unit taxes. Because inflation will cause the buying power of unit tax revenues to steadily decline over time, regular legislative adjustment of the tax rate will be required to maintain real (i.e., inflation-adjusted) tax revenues.

The second economic condition we consider is down-trading. In Section 3, we noted that USSTC (n.d.) reports that the MST market has experienced considerable down-trading in recent years. Down-trading occurs when consumers switch from high-price products (e.g., Skoal) to low-price products (e.g., Kayak). The recent introduction and promotion of low-priced brands has contributed to down-trading in the MST market. Because unit taxes are based upon the number of units sold, down-trading does not affect unit tax revenues. With ad valorem taxes, however, down-trading will result in reduced tax revenues. For example, the ad valorem tax on a Tier 1 can of MST is \$0.60 while the ad valorem tax on a Tier 3 can is \$0.22. When a consumer purchases a Tier 3 can rather than a Tier 1 can, tax revenue decreases by \$0.38. Consequently, down-trading can significantly decrease ad valorem tax revenue.

¹ Both the ad valorem and unit tax revenue estimates are computed assuming total current sales of 4,100,000 cans; Tier 1, 2 and 3 market shares of 84%, 4%, and 12%, respectively, and Tier 1, 2 and 3 wholesale prices of \$3.01, \$2.10, and \$1.10, respectively (USSTC, n.d.). A \$0.50 per ounce tax generates \$0.60 for each 1.2 ounce round can sold. The revenue estimates in Table 3 assume a price elasticity of -0.41 for MST. The Wyoming price elasticity of MST is assumed to equal that of cigarettes, which is estimated in WYSAC (2007).

To compare the relative impacts of inflation and down-trading, we computed tax revenues for a \$0.50 per ounce unit tax and for a 22% ad valorem tax (these tax rates generate equivalent revenue) now through the year 2020. We assumed an inflation rate of 2.5% (the most recent ten-year average) and a Tier 1 to Tier 3 down-trade rate of 2.4% (computed from Table 1). We give other market assumptions in footnote 1. We plot the results in Figure 1, which shows that the ad valorem tax generates greater future tax revenue than the unit tax, given our assumptions. Of course, if the down-trade rate was large enough and the inflation rate was small enough, the result would be reversed and the unit tax would generate more revenue than the ad valorem tax. However, the scenario of a sustained inflation rate lower than the current 2.5% (the lowest rate in the last 35 years) is implausible.

Table 3. Predicted Wyoming Ad Valorem Tax Revenue and Sales

Ad Valorem Rate	Cans Sold	Tax Revenue
20%	4,100,000	\$2,250,408
21%	4,085,992	\$2,354,855
22%	4,071,983	\$2,458,533
23%	4,057,975	\$2,561,443
24%	4,043,967	\$2,663,583
25%	4,029,958	\$2,764,954
26%	4,015,950	\$2,865,557
27%	4,001,942	\$2,965,391
28%	3,987,933	\$3,064,456
29%	3,973,925	\$3,162,752
30%	3,959,917	\$3,260,279
31%	3,945,908	\$3,357,037
32%	3,931,900	\$3,453,026
33%	3,917,892	\$3,548,246
34%	3,903,883	\$3,642,698
35%	3,889,875	\$3,736,381
36%	3,875,867	\$3,829,294
37%	3,861,858	\$3,921,439
38%	3,847,850	\$4,012,815
39%	3,833,842	\$4,103,422
40%	3,819,833	\$4,193,260
41%	3,805,825	\$4,282,330
42%	3,791,817	\$4,370,630
43%	3,777,808	\$4,458,161
44%	3,763,800	\$4,544,924
45%	3,749,792	\$4,630,918
46%	3,735,783	\$4,716,143
47%	3,721,775	\$4,800,598
48%	3,707,767	\$4,884,286
49%	3,693,758	\$4,967,204
50%	3,679,750	\$5,049,353

Table 4. Predicted Wyoming Unit Tax Revenue and Sales

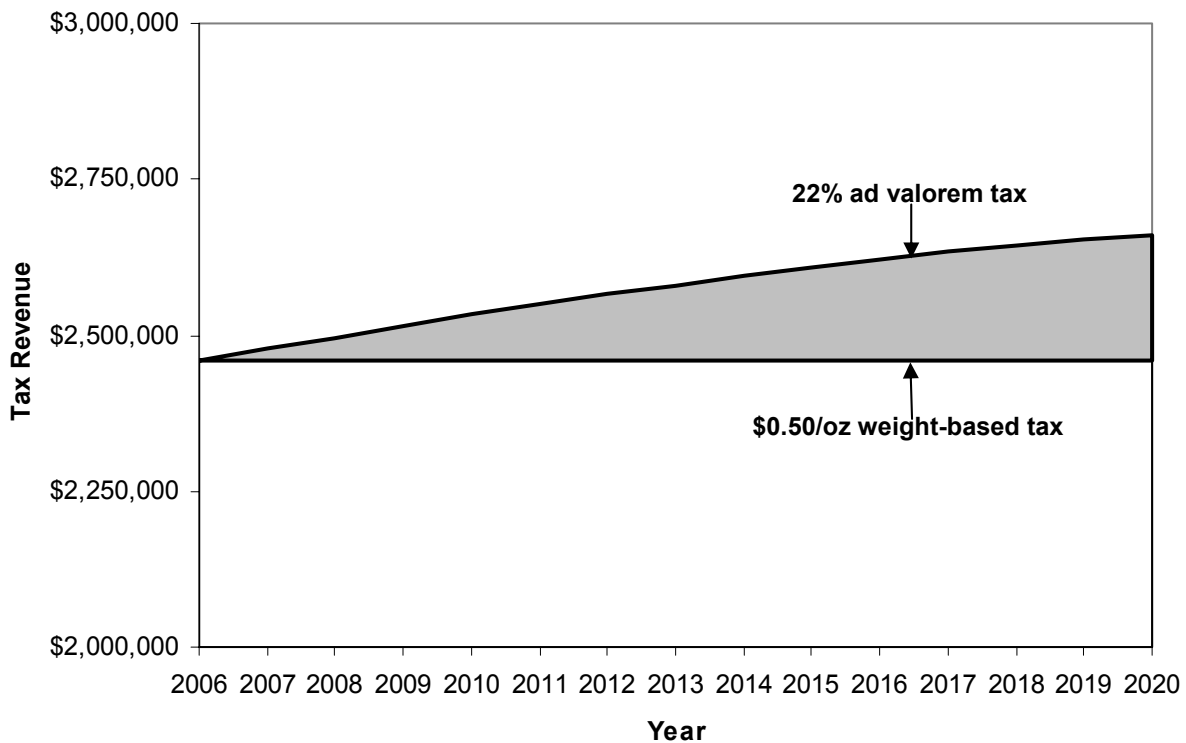
Tax Per Ounce	Cans Sold	Tax Revenue
\$0.50	4,100,000	\$2,460,000
\$0.55	4,034,202	\$2,662,573
\$0.60	3,968,404	\$2,857,251
\$0.65	3,902,606	\$3,044,032
\$0.70	3,836,807	\$3,222,918
\$0.75	3,771,009	\$3,393,908
\$0.80	3,705,211	\$3,557,003
\$0.85	3,639,413	\$3,712,201
\$0.90	3,573,615	\$3,859,504
\$0.95	3,507,817	\$3,998,911
\$1.00	3,442,019	\$4,130,422
\$1.05	3,376,220	\$4,254,038
\$1.10	3,310,422	\$4,369,757
\$1.15	3,244,624	\$4,477,581
\$1.20	3,178,826	\$4,577,510
\$1.25	3,113,028	\$4,669,542
\$1.30	3,047,230	\$4,753,678
\$1.35	2,981,432	\$4,829,919
\$1.40	2,915,634	\$4,898,264
\$1.45	2,849,835	\$4,958,714
\$1.50	2,784,037	\$5,011,267

4.3 Equity

In this section, we discuss two equity issues related to ad valorem and unit taxes. The first is tax regressivity. With a regressive tax, individuals with low incomes pay a *larger* share of their income in taxes than individuals with high incomes. The converse is true with a progressive tax; individuals with low incomes pay a *smaller* share of their income in taxes than individuals with high incomes. While it is a subjective decision, it is a generally accepted principle in the U.S. that regressive taxes are unfair, inequitable, and should be avoided.

Unit taxes tend to be more regressive than ad valorem taxes. The reason is that individuals with lower incomes are more likely to buy cheaper (Tier 3) products and individuals with higher incomes are more likely to buy expensive (Tier 1) products. With an ad valorem tax, the cheaper products have lower taxes and the more expensive products have higher taxes. Consequently, lower income individuals pay lower taxes and higher income individuals pay higher taxes. However, with a unit tax, all individuals pay the same tax. Therefore, lower income individuals will pay more taxes with a unit tax than an ad valorem tax, and unit taxes are more regressive than ad valorem taxes.

Figure 1. Predicted Ad Valorem and Unit Tax Revenues*



*We assume a 2.5% rate of inflation and a 2.4% rate of down-trade.

The second equity issue is related to market efficiency. Markets are efficient when the goods society most desires are the goods that are actually produced, and goods are produced at the lowest possible cost. One of the most important properties of the market economic system is that it automatically results in efficient markets. Ad valorem taxes are superior to unit taxes in terms of maximizing market efficiency. The reason is that ad valorem taxes leave relative prices unchanged. If one product costs twice as much as another before the ad valorem tax, it costs twice as much after. Because ad valorem taxes maintain relative prices, the impact of the tax on consumer choice is minimized, which minimizes the tax impact on market efficiency. Unit taxes, however, can create substantial distortions in relative prices, with corresponding decreases in market efficiency.

4.4 Tax Avoidance

Corporations have an obligation to their stockholders to maximize profits. With a unit (weight) tax, reducing product weight will reduce taxes and market price and hence, will increase consumption and profit (assuming product characteristics are not materially altered). Consequently, a weight tax creates a corporate incentive and responsibility to reduce product weight. Because MST is 50% water, and because weight is not a critical product characteristic, it is expected that a weight-based unit tax will result in product modifications that reduce weight and reduce tax revenues. Consequently, we expect that a unit tax will result in tax avoidance.

4.5 Consumption Impacts

While taxes are generally used to generate tax revenue (as described in Section 4.1), governments sometimes impose excise taxes with the objective of reducing the consumption of specific commodities. Such governmental intervention in the market is justified when a commodity generates externalities. Externalities exist when the price of a good does not reflect all the costs to society that are generated when the good is consumed. In particular, the significant and well-documented health impacts associated with tobacco consumption (Campaign for Tobacco-Free Kids, 2002) create significant externalities. Tobacco-induced health impacts are externalities because the prices of tobacco products do not reflect the health care costs or lost productivity associated with the illness and death caused by tobacco consumption. Because of the externalities (i.e., illness and death) associated with tobacco consumption, the government is justified in applying excise taxes to tobacco products with the objective of reducing tobacco consumption.

Economic theory predicts that an excise tax will increase price and reduce consumption. The magnitude of the price increase and consumption decrease depends upon the nature of the particular product being taxed. For tobacco products, the characteristics of the market are such that suppliers often pass the entire tax directly to consumers so the price increase equals the amount of the tax (Chaloupka et al., 2000). The magnitude of the consumption decrease depends on how responsive the consumption side of the market is to price changes. Numerous studies have demonstrated that a 10% price increase tends to reduce overall consumption by 3% to 5% and youth consumption by 7% (see, for example, Centers for Disease Control, 1999; Chaloupka, 2000).

From the perspective of reducing consumption, the optimal tobacco tax is such that market price reflects all costs associated with tobacco consumption. Assuming that the health impacts of MST consumption are the same across all product tiers (i.e., Skoal and Kayak do the same harm), the optimal MST tax would be a constant unit tax (Tax Foundation, 2006). However, if the social cost of MST consumption substantially exceeds current tax rates, neither tax structure (unit or ad valorem) has an advantage over the other; any change in taxation policy that increases market price and reduces consumption will generate a social improvement. While MST consumption creates numerous health problems including oral cancer, gum disease, and cardiovascular disease (Campaign for Tobacco-Free Kids, 2002), estimates of the social costs associated with MST consumption do not exist. It is known that the social costs of cigarette consumption, estimated by the Campaign for Tobacco-Free Kids (2005) estimates to be \$8.44 per pack, far exceeds the market price of \$4.40 (Campaign for Tobacco-Free Kids, 2007)

While overall consumption can be reduced using ad valorem or unit taxes, the two taxes do differ in their impact on the distribution of consumption within the market. For example, consider the impacts of a \$0.50 per ounce unit tax and a revenue-equivalent 22% ad valorem tax on consumption relative to the current 20% ad valorem tax. A 22% ad valorem tax will increase the price of all MST brands, and consequently, the consumption of all brands will decrease. The unit tax generates quite different results. A \$0.50 per ounce unit tax will result in a \$0.60 tax per 1.2-ounce can, regardless of market tier. Using the wholesale price data given by USSTC (n.d.), the current taxes on Tier 1, 2, and 3 products are \$0.60, \$0.42, and \$0.22 per can, respectively. Consequently, the \$0.50 per ounce unit tax will cause the price of Tier 2 and 3 brands to increase and the consumption of those brands to decrease. Because the tax and price of Tier 1 brands will be unchanged, the unit tax will have no direct impact on consumption. However, there will be a secondary impact as some individuals switch from the now-higher priced Tier 2 and 3 markets to the Tier 1 market, resulting in a net increase in Tier 1

consumption. In summary, the \$0.50 per ounce unit tax will decrease consumption in Tier 2 and Tier 3 and will increase consumption in Tier 1, while the ad valorem tax reduces consumption uniformly across all three tiers. Of course, a sufficiently high unit tax will reduce consumption across all three tiers, but the relative impact of a unit tax will always be greater in Tier 3 than in Tier 1.

Because tobacco use is often initiated by teenagers and young adults, tax impacts on consumption by age group is of interest. Table 4 gives the percent of three age groups that consumed Tier 1 brands in 2002 and 2003, and shows that teenagers and young adults are more likely to consume Tier 1 brands than are older individuals. However, even though an ad valorem tax impacts Tier 1 consumption more than Tier 3 consumption, it is not possible to infer from the data in Table 4 that an ad valorem tax will have a greater impact on teenagers and young adults than will a unit tax. The reason is that the relative impacts of ad valorem and unit taxes depend not only on the distribution of consumption, but also upon the relative prices and price responsiveness between the tiers.

Table 5. Tier 1 Consumption Percentages by Age Group, 2002 and 2003

Brand	12-17 Years Old		18-25 Years Old		26 or Older	
	2002	2003	2002	2003	2002	2003
Copenhagen, Kodiak, or Skoal	65.0%	65.1%	73.7%	73.3%	56.5%	51.4%

Source: U.S. Department of Health and Human Services, 2005.

4.6 Producer Impacts

As has been discussed in Sections 4.3 and 4.5, ad valorem and unit taxes affect relative prices within the MST market in different ways. In particular, ad valorem taxes leave relative prices unchanged across the three product tiers, while unit taxes make Tier 1 brands cheaper relative to Tier 3 brands and will increase the market share of Tier 1 products. UST Inc. manufactures the majority of Tier 1 brands (in particular Skoal and Copenhagen). It is not surprising that UST Inc. is a strong supporter of unit taxes, a sentiment UST Inc. expressed in their 2005 filing with the Securities and Exchange Commission (UST Inc., 2006, p. 9):

“Furthermore, the current ad valorem method of taxation, which is utilized by most states, bases the amount of taxes payable on a fixed percentage of the wholesale price, as opposed to some states which tax premium and price value brands equitably based on weight. Therefore, the ad valorem method of taxation has the effect of increasing the taxes payable on premium brands to a greater degree than the taxes payable on price-value brands, which further exacerbates the price gap between premium and price-value brands.”

Because unit taxes shift market share toward Tier 1 brands, manufacturers of Tier 2 and Tier 3 brands tend to prefer ad valorem MST taxes.

5. Conclusions

The conclusion of this analysis is that an ad valorem MST tax is superior to a unit MST tax. Neither tax has an advantage with respect to revenue generation or consumption reduction. However, the ad valorem tax is more equitable, automatically adjusts for inflation, and is less susceptible to tax avoidance.

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