SB

253

SENATE COMMITTEE REPORT

FIRST COMMITTEE OF REFERRAL

Date of 5-DAY NOTICE Waived 4/3/89
IN ACCORDANCE WITH UNIFORM RULE 23

FURTHER

**FISCAL NOTE(S) MUST BE ATTACHED
IN ACCORDANCE WITH AS 24.08.035

DATE TURNED INTO OFFICE 5/3/89

3/31/89

Mr. President:

FINANCE Committee considered SB 253

state and municipal taxation of alcoholic beverages, cigarettes, and tobacco products; efd

and recommended:

[✓] replace with CS SB 253 (FIN) [ ] same title [✓] new title

[ ] attached amendment(s) and

[ ] _____ letter of intent adopted

[ ] do pass

[ ] do not pass

[ ] no recommendation

[✓] individual recommendations

[ ] further referral to _____

FISCAL NOTE(S) attached [ ] zero [✓] fiscal impact DOR 5308.5 Revenue
[ ] appropriation no FN attached [ ] Gov. FN introduced w/ bill

MEMBERS SIGNING DO PASS

OTHER RECOMMENDATIONS

- No Rec
- No Rec
- No Rec
- No Rec
- (No Rec)

Chair: signature and recommendation

Do-Pass

[ ] Committee backup attached

R/O SFC 5-3-89

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: CSSB 253 (Finance)
PUBLISH DATE:

FISCAL NOTE

REQUEST:

Revision Date:
Title: Increase in tax on alcoholic beverages - Equalize + 8%
Sponsor: Finance
Requestor: Finance Committee

Agency Affected: Revenue
BRU: Income & Excise Audit
Components: Operating

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
OPERATING						
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	5.0	0	0	0	0	0
SUPPLIES	0	0	0	0	0	0
EQUIPMENT	0	0	0	0	0	0
LANDS & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	5.0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	5508.5	5508.5	5508.5	5508.5	5508.5	5508.5

FUNDING: (Thousands of Dollars)

GENERAL FUND	5.0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	5.0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: See attached.

Prepared By: Steven E. Kettel
Division: Income and Excise Audit
Phone: (907) 465-2320
Date: April 25, 1989

Approved by Commissioner: Hugh Malone
Agency: Department of Revenue
Date: April 25, 1989

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

RECEIVED
APR 27 1989
LEGISLATIVE FINANCE

Prepared by:
Steven E. Kettel
Income and Excise Audit Division
April 25 1989

CSSB 253
ANALYSIS:

The estimates which have been used for purposes of this fiscal note is conservatively the least amount of revenue which can be expected, given an anticipated drop in consumption.

Our estimates assume that as the tax rates on alcohol increase, consumption will decrease proportionately as follows:

All figures in gallons:

	1988 Consumption	(Approx 6¢/drink) SB 253	10¢/drink	15¢/drink
Beer	12,839,437	12,599,821	12,289,503	11,934,614
Wine	1,432,635	1,355,431	1,283,270	1,198,215
Liquor	1,098,357	1,078,357	899,596	739,836
Tax Revenues	$11,862,342	$17,370,885	$26,441,111	$36,166,296
Increase		5,508,543	14,578,769	24,303,954

Although there are several regional and national studies which have tried to accurately measure the effect that tax increases have on consumption, similar studies have not been conducted with Alaska specifically in mind. We believe the method chosen presents a very conservative estimate of the increase in tax revenues for this proposal. We believe our method presents the minimum tax revenues that would be generated if the tax hike proposal is adopted. Assuming that consumption remained static, tax revenue increases would approximate $5.9 million under the present SB 253, $17.7 million at the 10¢ per drink scenario and $32.3 million at 15¢ per drink.

DEPARTMENT POSITION

The Department does not oppose this legislation at this time.

R/O SFC 5-3-90

6-1068D
Chenoweth
5/3/89

Original sponsor: Finance Committee

IN THE SENATE BY THE FINANCE COMMITTEE

CS FOR SENATE BILL NO. 253 (Finance)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act relating to taxation of alcoholic beverages, and imposing additional reporting requirements on sales and shipments of alcoholic beverages; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 43.60.010(a) is amended to read:

(a) Every brewer, distiller, bottler, jobber, retailer, wholesaler, or manufacturer who sells alcoholic beverages in the state or who consigns shipments of alcoholic beverages into the state, whether or not the alcoholic beverages are brewed, distilled, bottled, or manufactured in the state, shall pay [ON ALL MALT BEVERAGES (ALCOHOLIC CONTENT OF ONE PERCENT OR MORE BY VOLUME), WINES, AND HARD OR DISTILLED ALCOHOLIC BEVERAGES,] the following taxes:

(1) malt beverages at the rate of 65 [35] cents a gallon or fraction of a gallon;

(2) wine or other alcoholic beverages of 21 percent alcohol by volume or less, at the rate of $2.00 [85 CENTS] a gallon or fraction of a gallon; and

(3) other alcoholic beverages having a content of more than 21 percent alcohol by volume at the rate of $6.00 [$5.60] a gallon or fraction of a gallon.

* Sec. 2. AS 43.60.010 is amended by adding a new subsection to read:

(c) The tax imposed by (a) of this section applies to

(1) malt beverages having an alcoholic content of one

percent or more by volume;

(2) wine; and

(3) hard or distilled alcoholic beverages.

* Sec. 3. AS 43.60 is amended by adding a new section to read:

Sec. 43.60.025. ADDITIONAL REPORTING REQUIREMENTS ON SALES OF ALCOHOLIC BEVERAGES. (a) In addition to the report required under AS 43.60.020(a), a primary source of supply may not sell or ship alcoholic beverages into the state unless the sale or shipment includes an invoice from the primary source of supply to a wholesaler licensed under AS 04.11.160. The invoice must include an account of the alcoholic beverages sold or shipped and the names and addresses of the primary source of supply and the wholesaler.

(b) On or before the 10th day of each month, wholesalers and primary sources of supply shall mail to the Department of Revenue, postage prepaid, a copy of the invoices covering sales and shipments during the preceding month.

(c) In this section

(1) "primary source of supply" means the distiller, producer, or owner of the alcoholic beverage at the time it became a marketable product, and the bottler, prime importer, trademark owner, brand owner, or a person who is authorized in writing to act as the exclusive agent of a distiller, producer, owner, or bottler;

(2) "wholesaler" means a person licensed under AS 04.-11.160.

* Sec. 4. This Act takes effect July 1, 1989.

6-1068D
Chenoweth
4/13/89

Original sponsor: Finance Committee

IN THE SENATE BY THE FINANCE COMMITTEE

CS FOR SENATE BILL NO. 253 (Finance)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

A BILL

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(1) malt beverages at the rate of 65 [35] cents a gallon or fraction of a gallon;

(2) wine or other alcoholic beverages of 21 percent alcohol by volume or less, at the rate of $2.00 [85 CENTS] a gallon or fraction of a gallon; and

(3) other alcoholic beverages having a content of more than 21 percent alcohol by volume at the rate of $6.00 [$5.60] a gallon or fraction of a gallon.

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(2) wine; and

(3) hard or distilled alcoholic beverages.

* Sec. 3. This Act takes effect July 1, 1989.

6-1068D ✓
Chenoweth
4/5/89

Original sponsor: Finance Committee

IN THE SENATE BY THE FINANCE COMMITTEE

CS FOR SENATE BILL NO. 253 (Finance)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

A BILL

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(1) malt beverages at the rate of 65 [35] cents a gallon or fraction of a gallon;

(2) wine or other alcoholic beverages of 21 percent alcohol by volume or less, at the rate of $2.00 [85 CENTS] a gallon or fraction of a gallon; and

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(2) wine; and

(3) hard or distilled alcoholic beverages.

* Sec. 3. This Act takes effect July 1, 1989.

6-1068M ✓
Chenoweth
4/5/89
154

Original sponsor: Finance Committee

IN THE SENATE BY THE FINANCE COMMITTEE

CS FOR SENATE BILL NO. 253 (Finance)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

A BILL

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(1) malt beverages at the rate of $1.60 [35 CENTS] a gallon or fraction of a gallon;

(2) wine or other alcoholic beverages of 21 percent alcohol by volume or less, at the rate of $4.80 [85 CENTS] a gallon or fraction of a gallon; and

(3) other alcoholic beverages having a content of more than 21 percent alcohol by volume at the rate of $15.30 [$5.60] a gallon.

* Sec. 2. AS 43.60.010 is amended by adding a new subsection to read:

(c) The tax imposed by (a) of this section applies to

(1) malt beverages having an alcoholic content of one percent or more by volume;

(2) wine; and

(3) hard or distilled alcoholic beverages.

* Sec. 3. This Act takes effect July 1, 1989.

SB 253

Included in 5/3/89
CS (Fin)
DRAFT

WORK DRAFT WORK DRAFT WORK DRAFT

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(c) In this section

(1) "primary source of supply" means the distiller, producer, or owner of the alcoholic beverage at the time it became a marketable product, and the bottler, prime importer, trademark owner, brand owner, or a person who is authorized in writing to act as the exclusive agent of a distiller, producer, owner, or bottler;

(2) "wholesaler" means a person licensed under AS 04.-11.160.

SB 253

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The Taxes of Sin

Do Smokers and Drinkers Pay Their Way?

Willard G. Manning, PhD; Emmett B. Keeler, PhD; Joseph P. Newhouse, PhD; Elizabeth M. Sloss, PhD; Jeffrey Wasserman, PhD

We estimate the lifetime, discounted costs that smokers and drinkers impose on others through collectively financed health insurance, pensions, disability insurance, group life insurance, fires, motor-vehicle accidents, and the criminal justice system. Although nonsmokers subsidize smokers' medical care and group life insurance, smokers subsidize nonsmokers' pensions and nursing home payments. On balance, smokers probably pay their way at the current level of excise taxes on cigarettes; but one may, nonetheless, wish to raise those taxes to reduce the number of adolescent smokers. In contrast, drinkers do not pay their way: current excise taxes on alcohol cover only about half the costs imposed on others.

(*JAMA*. 1989;261:1604-1609)

POOR health habits, such as smoking and heavy drinking, carry costs not only for smokers and heavy drinkers, but for everyone else as well. Concern about these costs has prompted not only health-promotion efforts, but also proposals to increase both federal and state excise taxes on cigarettes and alcohol. For such taxes to be at an economically efficient level, they must at least cover the costs to others that arise from smoking and heavy drinking. We term the costs to others *external* costs, in contrast to those borne by the smoker or heavy drinker, which we term *internal* costs.

Some external costs are obvious, for example, the damage caused by drunk driving and passive smoking; others are more subtle, for example, the higher medical costs of smokers that are financed by health insurance premiums and payroll taxes. Such premiums and payroll taxes are the same for smokers and nonsmokers (unlike individual life insurance premiums). As a result, nonsmokers may subsidize smoking.

Our purpose in this article is to quantify external costs. Earlier estimates of the costs of smoking and drinking[1,2] (Office of Technology Assessment, unpublished data, 1985) are not suitable for analysis of taxes because they do not always distinguish between internal and external costs, nor do they calculate the lifetime costs of poor health habits.

METHODS

External Costs and Their Estimation

We illustrate our conceptual framework in terms of smoking, but the same principles apply to our analyses of drinking.

Table 1 illustrates the division between the internal and external costs of smoking. In the case of alcohol abuse, we also consider the costs of motor-vehicle accidents and criminal justice.

One goal of an economically efficient tax on smoking or tobacco is to have the smoker bear the costs that he imposes on others when deciding whether or how much to smoke. Costs imposed on other family members, however, are difficult to classify as internal or external because it is not clear whether those costs would, in any event, be taken into account by the smoker. If they would be, then they are internal costs. Although our base-case estimates classify such costs as internal, we show the effect of treating certain costs borne by other family members as external.

A simple example that considers only medical costs may clarify the division between internal and external cost. Suppose a worker has a group health insurance policy that pays 75% of his medical bills, and suppose that smoking a pack of cigarettes per day raises medical bills by $6000. The amount the worker pays, $1500 ($0.25 \times 6000 = 1500$), is a component of internal costs. Because the smoker does not pay higher premiums that reflect his or her higher costs, the remainder of the cost, $4500, is a component of external costs.

To estimate external costs, we should not contrast the medical and other expenses of smokers to nonsmokers, because nonsmokers differ from smokers in other ways that affect the various components of cost such as medical expenses. For example, according to the 1983 National Health Interview Survey (NHIS), those who never smoke are 1.5 times more likely than current smokers to have more than a high school education. Rather, we contrast smokers to a hypothetical group of "nonsmoking smokers," people who are like smokers in age, sex, education, drinking habits, and several other ways described herein, except that they have never smoked.[3] To test how sensitive our estimates are to differences between smoking and not smoking, however, we also contrast medical and other costs of smokers to those of actual nonsmokers.

Our methods estimate lifetime costs by tracking expenditures for two hypothetical cohorts of men and women from age 20 years to death. One cohort smokes; the other does not. We develop life tables for each cohort showing the probability of surviving to each age from age 20 years. These tables come from applying estimates of the relative risk of smoking to the 1980 life tables of the US population.[4] Relative risk was estimated by applying the 1984 Centers for Disease Control health risk appraisal program[5] to the ever smokers in our sample twice—once with their actual smoking status and once with their smoking status changed to "never smoked."

In judging any policy that has long-term effects, it is important to discount future costs, thereby making costs that occur at different times commensurate. A dollar received today is worth more than a dollar received 15 years from now (even without inflation). A current dollar can be invested and earn interest so that at the end of 15 years it will be worth more than $2 (at 5%). Because the proper rate of discount is controversial, we have computed results for rates that span the range between 0% and 10%.

The expected net external costs per pack are the sum of the immediate costs

From The University of Michigan, Ann Arbor (Dr Manning); The RAND Corporation, Santa Monica, Calif (Drs Manning, Keeler, Newhouse, Sloss, and Wasserman); the Division of Health Policy Research and Education, Harvard University, Cambridge, Mass (Dr Newhouse); and SysteMetrics/McGraw-Hill, Santa Barbara, Calif (Dr Wasserman)

The opinions and conclusions expressed herein are solely those of the authors and should not be construed as representing the policies or opinions of The RAND Corporation or any agency of the US Government or any of the individuals named herein.

Reprint requests to the Department of Health Services Management and Policy, The University of Michigan, 1420 Washington Heights, Ann Arbor, MI 48109 (Dr Manning)

...er pack and the cumulating lif(.e ...osts per pack. We assume that the ...osts of fires, motor-vehicle accidents, and criminal justice are immediate; ie, each cigarette or ounce of ethanol has a certain probability of causing such costs in the immediate period after purchase, but once the cigarette is smoked or the alcohol consumed, the probability drops quickly to zero. For such costs, we divide estimated national annual costs by the annual packs (or excess ounces). The cumulative net lifetime external costs are given by the following:

$$\sum_{t=20}^{95} \delta^{t-20} \times P(A|H)_t \times C(H)_t$$

$$-\sum_{t=20}^{95} \delta^{t-20} \times P(A|NH)_t \times C(NH)_t,$$

where δ indicates the annual discount factor ($1/[1+r]$) if r is the discount rate; $P(A|H)$, the probability of surviving from age 20 years to at least age t years, conditional on smoking; $C(H)$, the annual costs minus taxes and premiums for smokers of age t; $P(A|NH)$, the probability of surviving from age 20 years to at least age t years, conditional on not smoking; and $C(NH)$, the annual costs minus taxes and premiums for smokers of age t years if they had never smoked.

The external costs come from collectively financed programs, including health insurance, pensions, sick leave, disability insurance, and group life insurance. These programs are financed by taxes and premiums that do not differentiate between smokers and nonsmokers. Because smokers have shorter life expectancies, they will pay less of the taxes and premiums that finance these programs. To simplify the calculation of how much smokers and nonsmokers pay annually to finance these programs, we assume that each pays the same proportion of earnings, where the proportion is just enough to finance these programs.[6] The discounted, expected lifetime costs per pack are calculated by dividing the lifetime costs by the expected number of packs smoked in a lifetime.

In estimating the external costs of smoking and drinking, we relied on self-reported consumption. Because people underreport their consumption, we have corrected for the difference between actual and reported use. The reported number of packs per day was multiplied by 1.5, and reported alcohol consumption was multiplied by 2.5.[7,8] Our figures for pension income have been corrected for a 21% rate of underreporting.[9]

Our estimates are based on data from a number of sources. The primary source for those under age 60 years is The RAND Corporation's Health Insurance Experiment (HIE), because of its detailed information regarding habits and the medical reasons for the utilization of medical care.[10,11] Because persons aged 62 years or older at the time of enrollment were excluded from the HIE sample of 5809 persons, we used data regarding persons greater than age 59 years from a 1983 supplement to the NHIS. It included information regarding health habits, health care use, and work loss in a sample of 22 418 persons. In addition, we compared the 1983 NHIS results for nonelderly persons with those from the HIE. We have inflated all cost data to 1986 dollars using the consumer price index.

We estimated differences in spending for medical care services between those with and without each habit. Such differences, of course, may or may not be caused by the habit. We addressed this ambiguity in two ways. First, we controlled for the confounding characteristics described in the next section. Second, although our base-case estimates include all medical services except maternity services and well care, we examined their sensitivity to considering only costs that arise from diagnoses thought to be directly related to smoking and excessive drinking, such as cancer of the lung and cirrhosis of the liver.

In addition to medical expense, we estimated the difference in days lost from work between persons with and without each habit, controlling for the confounding variables described herein. The collectively financed cost of days lost from work was computed by multiplying the daily wage by 0.38, the employers' average share of the cost of work loss through covered sick leave.[12]

When estimating the cost of drinking, we controlled for smoking status, and conversely. Had we not done so, we would have attributed some of the costs of smoking to drinking if smokers tend to drink heavily. We classified persons as former cigarette smokers, current cigarette smokers, current pipe or cigar smokers, and never smokers based on their responses to a smoking history questionnaire filled out at the time of enrollment in the study. We classified persons as abstainers, former drinkers, and current drinkers based on responses to the same questionnaire. We collapsed information regarding the current drinkers' consumption of beer,

Table 1.—Costs of Smoking

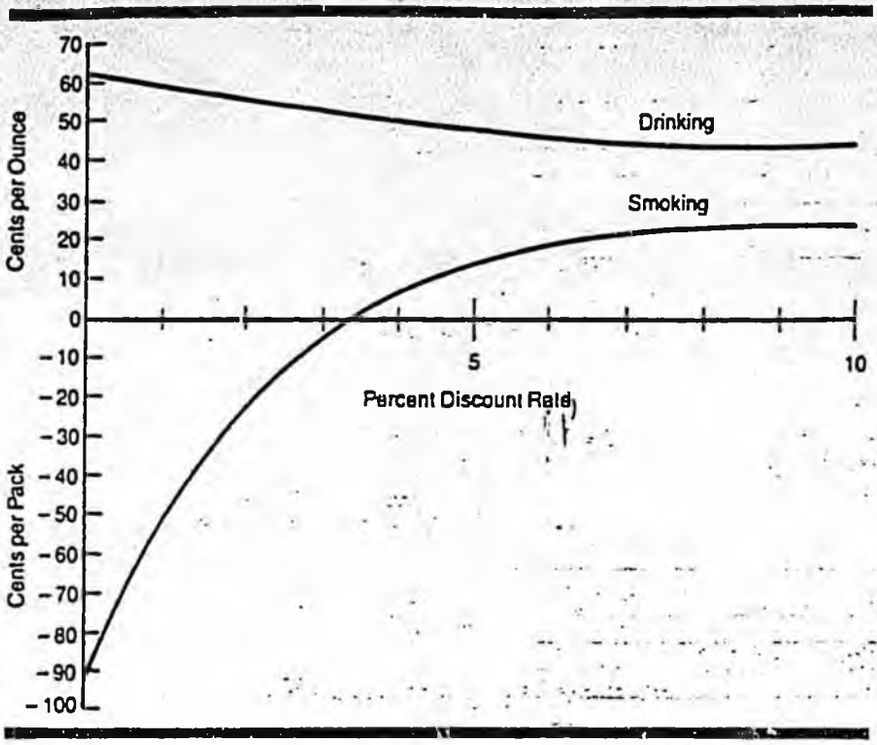
Type	Internal	External
Premature death	Smoker and family*	Coworkers and others*
Pain and suffering	Smoker and family*	Coworkers and others*
Medical costs	Copayments	Insurance reimbursements
Sick leave	Uncovered sick loss†	Covered sick loss†
Disability	Foregone income not replaced by disability insurance	Disability insurance
Group life insurance	Negligible	Death benefit
Pension	Defined-contribution plans	Social Security and defined-benefit plans
Wages	Foregone disposable income	Taxes on earnings
Other costs	Property loss due to fires paid by person	Insured property loss due to fires
Tobacco products	Cigarette purchases	...‡

*Premature mortality and suffering among family members and coworkers is caused by passive smoking. We classify costs borne by other family members as internal costs.
†By covered, we mean subject to some kind of insurance or income-replacement plan.
‡Excise taxes on cigarettes could be considered negative external costs. If they are so defined, the object of our exercise would be to determine if external costs were zero, rather than equal to the current excise tax.

Table 2.—External Costs per Pack of Cigarettes*

External Costs	Discount Rate 0%	5%	10%
Costs per pack, $			
Medical care†	0.38	0.26	0.18
Sick leave	0.01	0.01	0.01
Group life insurance	0.11	0.05	0.02
Nursing home	−0.26	−0.03	0.00
Retirement pension‡	−1.82	−0.24	−0.02
Fires	0.02	0.02	0.02
Taxes on earnings to finance above programs, $	−0.65	−0.09	−0.02
Total net costs per pack, $§	−0.91	0.15	0.24
Life expectancy at age 20 y per pack, min	−137	−28	−6

*The number of packs of cigarettes are corrected for underreporting. Costs (in 1986 dollars) per pack are calculated by dividing by the discounted number of packs smoked.
†Includes all but maternity, well, and dental care.
‡Includes disability insurance.
§The sum of costs minus taxes on earnings, eg, costs at 5% equals 0.15 = 0.26 + 0.01 + 0.05 − 0.03 − 0.24 + 0.02 − (−0.09).



External costs of poor health habits at alternative discount rates.

Table 3.—Sensitivity of External Costs (in 1986 Dollars) per Pack to Assumptions at 5% Discount Rate

External Costs	Base Case*	All Data From National Health Interview Survey	Comparison With Never Smoker	Lower Bound†	Total Costs‡
Costs per pack, $					
Medical care	0.26	0.26	0.30	0.15	0.36
Sick leave	0.01	0.05	0.04	0.01	0.03
Group life insurance	0.05	0.05	0.06	0.05	0.05
Nursing home	−0.03	−0.03	−0.02	−0.03	−0.03
Retirement pension§	−0.24	−0.24	−0.20	−0.38	−0.24
Fires	0.02	0.02	0.02	0.02	0.02
Taxes on earnings per pack, $	−0.09	−0.09	−0.09‖	−0.05	−0.93¶
Total net costs per pack, $#	0.15	0.20	0.28‖	−0.15	?**

*Effect of changing current and former smokers to never smokers, with other characteristics held constant.
†Narrow definition of medical effects, with no effects of smoking on early retirement.
‡Includes internal costs.
§Includes disability insurance.
‖Value shown is nonsmoking smokers' differential; never smokers actually pay $0.51 cents more earnings tax than smokers per pack because of higher earning rates, but it is implausible that their higher earning rates are causally related to smoking, and we have assumed they are not.
¶Earnings, not taxes on earnings.
#Sum of costs minus taxes on earnings.
**Loss of life and pain and suffering by smoker and family not included; see text.

wine, and spirits into a single variable—monthly consumption of ethanol in ounces. Within the category of current drinkers, *heavy drinkers* include those who report an average of two or more drinks daily (five or more actual drinks daily, with allowance for underreporting). Because light drinking may not be harmful, we calculate the cost per ounce in excess of two reported drinks per day.[13,14] Thus, the drinking analogue of nonsmoking smokers are "controlled" heavy drinkers; ie, we estimate the effect of hypothetically reducing the consumption of those with more than two reported drinks per day to two reported drinks per day.

Our base-case analysis also controlled for health insurance coverage, age, sex, race, education, the use of seat belts, family income, exercise, self-assessed measures of physical, mental, and general health, and family size. We included education and seat belt use to measure attitudes that may differ between those with varying health habits—attitudes that may affect work loss and use of medical services independently of smoking and drinking.

Pensions and Other Costs

In addition to the costs of medical care and work loss, we calculated the other components of cost shown in Table 1. Data regarding pension and disability payments by age, sex, and education status come from the *Current Population Survey*. That survey is also the source of earnings data, which we use to calculate taxes to finance the programs. Our estimate of annual property loss from fires that are associated with cigarette smoking is $340 million (in 1986 dollars).[8] Because of fire insurance, we have assumed these costs are entirely external, but our estimates are not sensitive to this assumption.

Our estimates of certain annual external costs of alcohol abuse are as follows: property damage from motor-vehicle accidents, $3.6 billion, and from fires, $507 million; criminal justice, $3.1 billion; and social programs, $54 million.[15]

It is extremely difficult, and to some distasteful, to place a dollar value on the innocent lives lost due to fires, passive smoking, or drunk driving. Nevertheless, it is often necessary, implicitly or explicitly, to place a value on lives lost when judging the merits of alternative policies, for example, policies leading to air pollution control or increased automobile safety. For this analysis, we include an explicit value for the lost lives to avoid the systematic undercounting of the costs to society that would occur if we included only the differences in use of medical care, sick leave, etc.

To define a value for innocent lives lost because of fires, passive smoking, and drunk driving, we used a method based on the willingness to pay for a small change in the probability of surviving.[17] This yields a value of $1.66 million per life (around $10 per hour, using years of life expectancy discounted at 5%), considerably more than the value of lost earnings. We believe earnings are an inappropriate measure of the value of life, in part, because they attribute a relatively low value to those who are out of the labor force.[18]

RESULTS

Smoking

External Costs per Pack of Cigarettes.—If costs are not discounted, each pack of cigarettes increases medical costs by $0.38, but saves $1.82 in public and private pensions due to a 137-minute reduction in life expectancy. Overall, there is a net savings of $0.91 per pack in undiscounted costs (Table 2).

Results change markedly if costs are discounted at 5%, largely because pension costs change from −$1.82 (at 0%) to −$0.24 (at 5%) per pack. Pensions are received late in life, so discounting dramatically decreases the differential between smokers and nonsmoking smokers. Using a 5% discount rate the

total external costs per pack are $0.15, and they rise to $0.24 per pack at a 10% discount rate. The main reason these results are so much lower than, for example, the estimate from the Office of Technology Assessment of $2.17 per pack (unpublished data, 1985) is our exclusion of changes in lifetime earnings from smoking, which are internal costs.

Sensitivity of Costs to Assumptions.—Clearly, the magnitude of any subsidy from nonsmokers to smokers is sensitive to the discount rate, especially below 5% (Figure). Table 3 shows the effect of varying other assumptions. For comparison, the first column repeats the results from Table 2 for a 5% discount rate. To test how sensitive the results are to the data source selected, we used NHIS data for young as well as old persons (Table 3, column 2). Medical costs per pack do not change, but covered sick leave costs rise to $0.05 per pack, and the total net costs rise from $0.15 to $0.20 per pack.

To test how sensitive the results are to different assumptions about how smoking affects health, we contrast smokers with actual never smokers, rather than nonsmoking smokers (Table 3, column 3). The results are relatively insensitive to this modification also; external costs rise to $0.28 per pack. This figure probably overstates the true costs because it treats all the differences between smokers and never smokers, except wages, as causally related to smoking, whereas smokers may have different patterns of medical use and retirement for reasons unrelated to smoking. As another test, we restricted medical costs to those arising from diagnoses thought to be related to poor health habits; medical costs fell $0.11 (Table 3, column 4). The estimates described herein assumed that a cohort of nonsmoking smokers would retire in a manner similar to people who never smoked. However, we also computed effects on taxes and pensions, assuming that the pattern of retirement among nonsmoking smokers would be the same as among smokers; ie, quitting would not affect age of retirement (Table 3, column 4). Combining these assumptions leads to a lower boundary of −$0.15 (at a 5% discount rate) on costs per pack.

Finally, the last column in Table 3 gives total costs; that is, it includes the portion of costs that are financed by the person. It does not, however, include the costs of premature mortality and suffering, which is why a question mark appears in the lower right corner of the table.

Other Costs of Smoking.—Our estimates of the costs of smoking in Table 2 do not include the adverse effects of passive smoking on those outside the smoker's family. Passive smoking causes an estimated 2400 lung cancer deaths per year, and it has also been linked to reduced lung function among children of smokers, a higher incidence of respiratory problems for children and others, as well as the displeasure of consuming unwanted cigarette smoke.[19] Most of these costs are within the family and are internal or external costs depending on the extent to which the smoker considers the welfare of others in his family when he smokes. The figures in Table 2 assume that such costs are internal. If, however, we treat the costs of the 2400 deaths as entirely external and use an estimate of willingness to pay for lower mortality of $1.66 million per life,[17] external costs per pack would rise $0.14.

Because deaths in smoking-related fires are also almost entirely within the family, we have treated the costs as internal and did not include them in our estimates. However, if we were to treat the costs of such deaths as external, some 1600 people in 1984 (J. Hall, oral communication, Aug 13, 1987), we would increase the external costs of cigarettes by $0.09 per pack of cigarettes.

The smoker loses 28 discounted minutes of life expectancy (at a 5% discount rate) for each pack smoked (Table 2), which accounts for $0.93 of discounted wages (many of the lost minutes occur when not working). Using our estimated willingness to pay for lower mortality of $10 per hour, the 28 minutes is worth approximately $5. Although we consider the $5 an internal cost, it may nonetheless be relevant to an economically efficient tax, a point we will come to later.

Table 4.—External Costs of Heavy Drinkers per Excess Ounce*

External Costs	Discount Rate 0%	5%	10%
Medical and pension costs per excess ounce, $			
Medical care†	0.26	0.10	0.05
Sick leave	0.06	0.05	0.04
Group life insurance	0.02	0.02	0.02
Nursing home	−0.01	‡	‡
Retirement pension§	−0.04	0.03	0.02
Taxes on earnings, $	−0.35	−0.06	−0.02
Net medical and pension costs per excess ounce, $	0.63	0.26	0.15
Motor-vehicle accidents and criminal justice costs per excess ounce, $			
Lives of nondrinkers	0.58	0.58	0.58
All other costs‖	0.35	0.35	0.35
Total net costs per excess ounce, $¶	1.56	1.19	1.08
Life expectancy at age 20 y per excess ounce, min	−20	−8	−4

*Costs (in 1986 dollars) per excess ounce are calculated by dividing by the discounted number of excess ounces.
†Excludes maternity, well, and dental care, and medical care costs to others caused by drunk driving.
‡Indicates figure is less than 0.005.
§Includes disability insurance.
‖The $0.35-cent figure includes certain internal costs, such as the property damage in motor-vehicle accidents paid by the alcoholic driver in deductibles or other copayments and higher premiums but excludes the external costs associated with the effects of alcoholism on spouses and children (eg, their use of insured mental health services) and those associated with the increased risk of alcoholism for these dependents.
¶Sum of costs minus taxes on earnings.

Heavy Drinking

External Medical and Pension Costs per Excess Ounce of Alcohol.—Using undiscounted values, each excess ounce of alcohol, ie, those consumed in excess of two reported drinks per day, has external medical and pension costs of $0.63 and causes a loss of 20 minutes of life expectancy (Table 4, column 1). At a 5% discount rate, external medical and pension costs per excess ounce fall to $0.26. In contrast to smoking, heavy drinking increases all categories of costs (at a 5% discount rate), even pensions, because the large effects of early retirement, which triggers pension and disability payments, outweigh the shorter life of drinkers. At a 10% rate of discount, medical and pension costs fall to $0.15 per excess ounce.

Before discussing the other costs of drinking shown in Table 4, we describe the sensitivity of our estimates of medical and pension costs to different assumptions (Table 5). For convenience, the first column of Table 5 repeats the results from Table 4 for a 5% discount rate. Medical and pension costs are not sensitive to the source of data (Table 5, column 2), nor do they change much if we compare heavy drinkers with actual abstainers and light drinkers rather than hypothetical controlled drinkers (cutting back to two reported drinks per day among those consuming more than that amount) (Table 5, column 3), nor do they change when drinking is not treated as a cause of disability retirement (Table 5, column 4).

Restricting medical costs to those arising from diagnoses thought to be related to poor health habits makes virtually no difference to our estimates (Table 5, column 4), implying that the

Table 5.—Sensitivity of Medical and Pension Costs (in 1986 Dollars) per Excess Ounce of Ethanol to Assumptions, 5% Discount Rate

Costs	Base Case*	All Data From National Health Interview Survey	Abstainers and Light Drinkers	Lower Bound†	Total Costs‡
Medical and pension costs, $					
Medical care per excess ounce§	0.10	0.11	0.07	0.11	0.16
Sick leave	0.05	‖	0.10	0.05	0.13
Group life insurance	0.02	0.01	0.04	0.02	0.02
Nursing home	‖	‖	−0.01	‖	‖
Retirement pension¶	0.03	0.05	−0.15	−0.05	0.03
Taxes on earnings, $	−0.06	−0.06	−0.14#	−0.03	−0.64**
Net medical and pension costs per excess ounce, $††	0.26	0.23	0.20	0.15	?
Life expectancy at age 20 y per excess ounce, min	−8	−7	−19	−8	−8

*Effect of changing heavy drinker to controlled drinker, with other characteristics held constant.
†Narrow definition of medical effects, with no effect on early retirement.
‡Includes internal costs.
§Excludes maternity, well, and dental care.
‖Indicates figure is less than 0.005.
¶Includes disability insurance.
#We have used the earnings of abstainers and light drinkers to compute taxes. These earnings are considerably higher than for drinkers, even after controlling for education. To the extent that these earnings differences are not caused by drinking, we should use drinkers' earnings; in that case, the −0.14 figure would be −0.03.
**Earnings, not taxes on earnings.
††Sum of costs minus taxes on earnings.

medical costs shown in the first column are largely due to differences in medical use that are related to habits. In contrast, the external costs of smoking are sensitive to the definition of relevant medical costs, suggesting that the broader definition of smoking effects may overstate medical costs and total external costs.

Other External Costs.—Although our estimates include the additional probability that a drinker will be killed in a traffic accident, they do not account for the deaths of innocent bystanders and nondrinking passengers in such accidents. The Department of Transportation estimates that about 7400 of the 22 400 people who died in alcohol-related traffic accidents in 1985 were not drinking.[1] Based on a willingness to pay for a human life of $1.66 million and the estimated volume of drinking from the 1983 NHIS, the value of the 7400 lost lives is $0.58 per excess ounce of ethanol (Table 4, bottom). This figure is low because it does not include medical, disability, and suffering costs of surviving nondrinking victims of alcohol-related accidents. On the other hand, the figure is high to the extent that not all drinking-related accidents are caused by alcohol.

In addition, there are annually $7.2 billion of other costs described previously herein, principally costs of the criminal justice system and property damage in alcohol-related motor-vehicle accidents. These costs add another $0.35 per excess ounce.

Sensitivity of Results

Although $0.15 per pack of cigarettes and $1.19 per excess ounce of alcohol are our best estimates of the external economic costs of smoking and heavy drinking, the values are sensitive to four factors: discount rate, value assigned to lives lost in drunk driving–related accidents, amount of underreporting, and treatment of persons who die of causes related to passive smoking and fires.

Discount Rate.—The sensitivity to the discount rate is more pronounced with smoking, where the estimated external costs would be almost $0.20 lower per pack if we used a 3% rather than a 5% discount. The sensitivity of drinking costs to discounting is much less. For smoking, consumption starts early, but deaths come much later than in the case of drinking. The shorter the time between consumption and death, the less sensitive the estimates are to discounting.

Dollar Value of Life.—Because the assumed value of life is on the low end of estimated values, our estimates of drinking costs are conservative.

Underreporting.—Assuming that the reported level of consumption were closer to the actual level of consumption would raise our estimates of the external cost, because we would inflate the level of reported packs and ounces by a smaller factor when computing costs per pack and ounce. For example, had we assumed respondents reported 60% of their actual alcohol consumption, we would only have multiplied reported ounces by 1.67 (100/60) rather than 2.5 (100/40) to estimate actual ounces, and the estimated cost per excess ounce would be 50% (2.5/1.67 = 1.5) higher. In the case of alcohol, our cost estimate is conservative because the 40% figure we used is at the low end of the estimates found in the literature.[9]

Within-Family Costs.—We ignored costs of $0.23 per pack associated with deaths caused by passive smoking and fires because we assumed they were in the family and taken into account by the smoker. Defining these costs as external would more than double our estimated external cost of smoking.

Our estimates are relatively insensitive to other assumptions. Because the external costs of drinking are dominated by costs associated with drunk driving, such costs are relatively insensitive to discounting (Figure). The choice of data used to estimate effects (HIE vs NHIS) has little effect on the results.

Our estimates of the external costs of alcohol were made per excess ounce, but excise taxes apply per ounce, not per excess ounce. Forty percent of total consumption represents ounces in excess of two reported drinks per day (five actual drinks per day, given our estimate of underreporting). To convert our figures per excess ounce to figures per ounce, one should multiply them by 0.4, reducing the estimated cost of $1.19 per excess ounce to $0.48 per ounce.

Our estimate of the external cost of smoking, $0.15 per pack, is well below the current average (state plus federal) excise and sales taxes of $0.37 per pack ($0.32 of the $0.37 are excise taxes).[20] However, the $0.37 tax rate approximately equals the estimated external cost of $0.38 if we were to treat all lives lost to passive smoking and fires as external costs. By contrast, our estimate of the external cost of alcohol, $0.48 per ounce, is well above the current average (state plus federal) excise and sales taxes of $0.23 per ounce.[21] (The average excise tax is taken across distilled spirits, wine, and beer, where the excise taxes are $0.25, $0.03, and $0.09 per ounce of ethanol, respectively.) Thus, smokers probably pay enough taxes to cover the net costs they impose on others, but heavy drinkers do not.

We noted in the introduction that economically efficient excise taxes should at least cover external costs. By this criterion, taxes on alcohol are too low; whether cigarette taxes are high enough depends on one's appraisal of three other arguments for taxation of cigarettes and alcohol. (Each of these arguments would further strengthen the case for increasing alcohol taxes.)

The first argument takes cognizance of the regret expressed by most smokers and their attempts to quit. Smoking tends to start in adolescence or early adulthood, at a time when individuals are not well informed and may not appreciate the consequences of their actions.[22] Cigarettes (and alcohol) are addictive, so it is more difficult to quit than to avoid starting the habit. Because over 85% of smokers begin smoking before age 20 years[23] and some evidence

uggests that the proportion of those under 20 years of age who smoke is sensitive to taxes,[24] higher taxes may decrease the number of individuals who become addicted.

Some may see this argument as paternalistic, but it is not, if judged by the tastes of the individual attempting to quit; those tastes arguably determine the economically efficient tax. If the loss in life expectancy of 28 minutes per pack is relevant to economic efficiency because of later regret, an economically efficient tax would be on the order of $5 per pack, the estimated value of the 28 minutes.

A second and related reason to tax cigarettes is that many adults do not appreciate the risks. Despite the warning labels on cigarettes, 20% to 25% of adult smokers say they do not know the risks of smoking.[25] A higher tax would deter initiation of smoking, thus compensating for any undervalued risk.

A third reason to tax addictive commodities is that such taxes are likely to lead to a relatively small change in behavior among those already addicted. Suppose, for example, there were no external costs, no ignorance, and no regret associated with smoking. From the point of view of raising revenue, it may still be wise to tax cigarettes because it is preferable to tax items for which behavior does not change; there is less induced inefficiency.[3] This argument could also justify higher cigarette taxes than at present.

Despite the uncertainties surrounding our estimates, in the case of alcohol, the difference between the actual tax and external costs is so large that, in our view, a strong case can be made for an increase in federal alcohol taxes. The tax increase should occur at the federal level, not the state level, to prevent bootlegging across state lines. The case is especially strong for raising taxes on beer and wine, which, as noted previously herein, are much lower (per ounce of ethanol) than taxes on distilled spirits. Strategies such as banning advertising or promoting negative advertising may be complementary.[26]

To the degree that external costs of alcohol abuse stem from people who drink in bars and restaurants and then drive home while intoxicated, there is a case for an additional tax on alcohol sold by the drink. We have not tried to ascertain what proportion of external costs stem from alcohol consumed in bars and restaurants relative to that consumed in homes.

Ideally, society would tax drunk drivers to force them to pay the external costs of drunk driving rather than tax alcohol. To some extent, society does so with fines, suspension of driving licenses, jail sentences, and civil liability. However, the present legal system does not make, nor could it reasonably make, drunk drivers bear fully the external costs of their actions, especially in those cases where there is a loss of innocent lives.[27] For example, liability insurance partially shields drunk drivers.

We close by considering two arguments against higher excise taxes. First, tobacco and alcohol taxes constitute a larger proportion of the income of the poor than of the well-to-do.[27,28] However, alcohol and tobacco taxes each supply only 1% of federal revenues. As a result, rather small changes in the individual income tax structure could readily compensate for the effect of increased excise taxes on the distribution of income, if that were deemed desirable. Drinkers and smokers would still pay more, but low-income individuals, as a group, need not pay more.

Second, light drinkers may argue that they impose few or no external costs, but would unfairly pay a higher tax burden. There are two responses. First, suppose that a given amount of revenue to finance government expenditure must be raised from various taxes, including excise taxes on alcohol. As a group, persons whose consumption of alcohol is below the population average of 1.7 reported drinks (over four actual drinks) per day will benefit from shifting more of the tax burden to alcohol taxes and away from other taxes (eg, payroll taxes). In fact, of adults who drink three fourths drink less than this amount. Second, to the degree that higher taxes deter alcohol abuse, the resulting decrease in external costs will offset increases in the tax burden of light drinkers.

Because excise taxes must be proportional to consumption and because the external costs of smoking and drinking are not proportional to consumption, there will not be, in practice, a tax that does not leave someone subsidizing someone else. The task of determining how such subsidies will flow falls to our political institutions. We hope our estimates contribute to more informed decisions.

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References

1. US Dept of Transportation: *Drunk Driving Facts.* National Highway Traffic Safety Administration, 1986.
2. Luce BR, Schweitzer SO: Smoking and alcohol abuse: A comparison of their economic consequences. *N Engl J Med* 1978;298:569-571.
3. Leu RE: Anti-smoking publicity, taxation, and the demand for cigarettes. *J Health Econ* 1984; 3:101-116.
4. *Vital Statistics of the United States, 1980.* Hyattsville, Md, National Center for Health Statistics, 1984.
5. *CDC Health Risk Appraisal User Manual.* Atlanta, Centers for Disease Control, 1984.
6. Pechman JA: *Federal Tax Policy,* ed 3. Washington, DC, Brookings Institution, 1977.
7. Warner KE: Possible increases in the underreporting of cigarette consumption. *J Am Stat Assoc* 1978;73:314-318.
8. *Fifth Special Report to the US Congress on Alcohol and Health From the Secretary of Health and Human Services.* US Dept of Health and Human Services, 1983.
9. Money income of households, families, and persons in the United States: 1984, in *Current Population Reports, Consumer Income, Series P-60.* US Dept of Commerce, Bureau of the Census, 1986, vol 151, pp 165-170.
10. Newhouse JP: A design for a health insurance experiment. *Inquiry* 1974;11:5-27.
11. Brook RH, Ware JE, Davies-Avery A, et al: Overview of adult health status measures fielded in RAND's Health Insurance Study. *Med Care* 1979;17(suppl):1-131.
12. Price DN: Cash benefits for short-term sickness: Thirty-five years of data, 1948-1983. *Soc Secur Bull* 1986;49:5-38.
13. Marmot MG, Rose G, Shipley MJ, et al: Alcohol and mortality: A u-shaped curve. *Lancet* 1981; 1:580-583.
14. Dyer AR, Stamler J, Paul O, et al: Alcohol consumption and 17-year mortality in the Chicago Western Electric Company study. *Prev Med* 1980;9:78-90.
15. Klatsky AL, Friedman GD, Siegelaub AB: Alcohol and mortality: A ten-year Kaiser-Permanente experience. *Ann Intern Med* 1981;95:139-145.
16. Harwood HJ, Napolitano DM, Kristiansen PL, et al: *Economic Costs to Society of Alcohol and Drug Abuse and Mental Illness.* Research Triangle Park, NC, Research Triangle Institute, 1984.
17. Shepard DS, Zeckhauser RJ: Survival versus consumption. *Management Sci* 1984;30:423-439.
18. Howard RA: Life and death decision analysis, in *Proceedings: Second Lawrence Symposium on Systems and Decision Analysis.* Berkeley, University of California Press, 1978.
19. *The Health Consequences of Involuntary Smoking: A Report to the Surgeon General.* US Dept of Health and Human Services, 1986.
20. *The Tax Burden on Tobacco.* Washington, DC, Tobacco Institute, 1985.
21. *Public Revenues From Alcohol Beverages.* Washington, DC, Distilled Spirits Council of the United States, 1985.
22. Warner KE: *Selling Smoke: Cigarette Advertising and Public Health.* Washington, DC, American Public Health Association, 1986.
23. Lewit EM, Coate D, Grossman M: The effects of government regulation on teenage smoking. *J Law Econ* 1981;24:545-570.
24. Wasserman J: *Excise Taxes, Regulation, and the Demand for Cigarettes,* publication P-7498-RG. Santa Monica, Calif, The RAND Corporation, 1988.
25. Ramsey F: A contribution to the theory of taxation. *Econ J* 1927;37:47-61.
26. Maull KI, Kinning LS, Hickman JK: Culpability and accountability of hospitalized injured alcohol impaired drivers: A prospective study. *JAMA* 1984;252:1880-1883.
27. Toder EJ: Issues in the taxation of cigarettes, in *The Cigarette Excise Tax.* Cambridge, Mass, Harvard University Press, 1985, pp 65-87.
28. Rock SM: Measurement of tax progressivity: Application. *Public Finance Q* 1983;11:109-120.
29. Harris JE: Increasing the federal excise tax on cigarettes. *J Health Econ* 1982;1:117-120.

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Tobacco, alcohol and the price paid

A new RAND Corp. study provides a novel examination of the consequences for society of tobacco and alcohol. The study found that smokers, in a macabre sort of way, pay for the social costs of their habit. Drinkers, on the other hand, cost society much more than they pay in alcohol taxes.

From the study's conclusions, one could construe that smokers are doing the rest of society a favor — dying, as they do, prematurely and thus not collecting pensions and Social Security. This scenario has quicker-dying smokers subsidizing the pensions and nursing-home care of longer-living nonsmokers.

But don't rush out and hug the next smoker you see. For the study gives little weight to other, less obvious costs of smoking. The costs to society — the health woes of "passive smokers" and lost productivity from smokers who, studies show, stay home sick more often than nonsmokers — are substantial. In addition, the simple nuisance of cigarette smoke to others probably has no measureable economic value — but takes a toll psychologically.

Regarding alcohol, the case is clear: Drinking extracts a huge price from drinkers and others. The costs of higher health and disability insurance premiums and damage to innocent victims of drunken drivers dwarf the amount drinkers pay in alcohol taxes. In fact, the RAND study says, alcohol taxes would need to be at least doubled before they would cover those costs.

The study will likely lend support to efforts to raise alcohol taxes — but a more attractive consequence would be if it provides a boost to the struggle against alcohol abuse. The personal and family toll taken by alcohol abuse have long been recognized. And a demonstration of just how financially costly the problem is to the rest of society adds more compelling reasons why the struggle is not in vain.

Revenue Projections

	last increase 1983	SB 253	elasticity calculation	.10 per drink	elasticity calculation	.15 per drink	elasticity calculation
beer	.25 to .35	.35 to .65		.35 to 1.07		.35 to 1.60	
wine	.60 to .85	.85 to 2.00		.85 to 3.20		.85 to 4.80	
liquor	4.00 to 5.60	5.60 to 6.00		5.60 to 10.21		5.60 to 15.30	
Add'l Revenue		**5,689,981.05**		**17,674,512.00**		**32,113,544.30**	
based on 1988							
consumption							
tax per drink:							
beer	0.033	0.061				0.151	
wine	0.027	0.063				0.150	
liquor	0.055	0.059				0.150	
beer		12,839,437.00	12,599,821.00	12,839,437.00	12,289,503.00	12,839,437.00	11,934,614.00
		0.65	0.65	1.07	1.07	1.60	1.60
		8,345,634.05	8,189,883.65	13,738,197.59	13,149,768.21	20,543,099.20	19,095,382.40
wine		1,432,635.00	1,355,431.00	1,432,635.00	1,283,270.00	1,432,635 00	1,198,215.00
		2.00	2.00	3.20	3.20	4.80	4.80
		2,865,270.00	2,710,662.00	4,584,432.00	4,106,464.00	6,876,648.00	5,751,432.00
liquor		1,098,357.00	1,078,357.00	1,098,357.00	899,596.00	1,098,357.00	739,836.00
		6.00	6.00	10.21	10.21	15.30	15.30
		6,590,142.00	6,470,142.00	11,214,224.97	9,184,875.16	16,804,862.10	11,319,490.80
Total		17,801,046.05	17,370,887.65	29,536,854.56	26,441,107.37	44,224,609.30	36,166,305.20
Less 88 actual		11,862,342.00	11,862,342.00	11,862,342.00	11,862,342.00	11,862,342.00	11,862,342.00
Add'l revenue		**5,938,704.05**	**5,508,545.65**	**17,674,512.56**	**14,578,765.37**	**32,362,267.30**	**24,303,963.20**

HISTORY OF EXCISE TAX ON INTOXICATING LIQUOR

IN THE TERRITORY AND STATE OF ALASKA

The liquor excise tax is levied on every brewer, distiller, bottler, jobber, retailer, wholesaler or manufacturer who sells or consigns for shipment into Alaska intoxicating liquor. All except the retailer, who has secondary liability, are considered primarily responsible for the tax payment. The rate of the tax is 25¢ per wine gallon of wine or other liquor having no more than 21 per cent alcohol by volume , and $~~4.00~~ 5.60 per wine gallon of liquor having greater than 21 per cent alcohol by volume.

Those liable for the Alaska tax are required to make monthly statements and payments to the Commissioner of Revenue, who is responsible for the administration of the liquor tax. There are no exemptions, as such, in the tax law, but a tax credit is allowed for any liquor sold to authorized beverage dispensers, such as a post exchange, on military or governmental reservations. National Guard units not on active duty and civilian clubs located on federal reservations are required to pay the tax (1960 Opinions of the Attorney General No. 16).

HISTORICAL AND LEGAL BACKGROUND

The first liquor excise tax was enacted by the Territory of Alaska in 1933. This was a 5¢ per gallon levy on 3.2 beer and wine. In 1937 the tax was broadened and the rates raised.

The 1937 rates were 5¢ per gallons of beer, 15¢ per gallon of wine, and 50¢ per gallon of liquor.

The 1945 tax raised the tax on liquor to $1.60 per gallon.

The 1947 rates were: 10¢ per wine gallons of malt beverages with at least one per cent alcoholic content, 25¢ per wine gallon wine or other liquor having no more than 21 per cent alcohol by volume and $3.00 per wine gallon of liquor having greater than 21 per cent alcohol by volume.

The 1957 amendment increased the 1945 tax rates to 25¢ for malt beverages, 50¢ for wine or other liquor having an alcoholic content of 21 per cent or less by volume, and $3.50 for liquor with more than 21 per cent alcohol.

HISTORY OF TAXES

HISTORY OF EXCISE TAX ON INTOXICATING LIQUOR

IN THE TERRITORY AND STATE OF ALASKA
(continued)

The 1961 amendment increased the 1957 tax rates to 60¢ for wine or other liquor having an alcoholic content of 21 per cent of less by volume, and $4.00 for liquor with more than 21 per cent alcohol.

The 1983 amendment increased the tax rates to 35¢ a gallon on malt beverages, 85¢ a gallon on wine or liquor having an alcoholic content of 21 per cent or less by volume, and $5.60 for liquor with more than 21 per cent alcohol.

	Wine	Beer	Liquor
1957	50¢	25¢	3.50
1961	60¢	25¢	4.00
1983	85¢	35¢	5.60

Prepared by:

Department of Revenue
Income & Excise Audit
April 10, 1989

ALCOHOL TAX - Change in tax rates effective August 1, 1983. Liquor $4.00 to $5.60. Wine $.60 to $.85. Beer $.25 to $.35.

	1981-82	1982-83	1983-84*	1984-85	1985-86
Liquor					
Tax	$5,258,552	$5,426,200	$7,436,207	$7,546,817	$6,960,890
Volume (Wine Gallons)	1,314,638	1,356,550	1,404,777	1,347,646	1,243,016
Wine					
Tax	$ 806,257	$ 837,069	$1,253,169	$1,396,303	$1,348,944
Volume	1,343,762	1,395,116	1,518,110	1,642,709	1,586,993
Beer					
Tax	$2,980,287	$3,302,614	$4,706,163	$4,865,069	4,851,902
Volume	11,921,147	13,210,454	13,958,000	13,900,198	13,862,576

*Year the tax changed. Because two tax rates are included in this yar, the dollar amount cannot be found by multiplying gallons by the rate.

Consumption 1861 - 1986

SUMMARY
OF ESTIMATED ALCOHOL/DRUG RELATED COSTS TO ALASKANS

STATE COSTS:	AMOUNT:
ASSISTANCE PAYMENTS:	$ 14,731,829
SOCIAL SERVICES:	30,107,726
CRIMINAL JUSTICE SYSTEM:	130,441,069
DEPARTMENT OF PUBLIC SAFETY:	20,578,163
STATE HEALTH/MEDICAL CARE:	3,842,490
TOTAL STATE COSTS:	$ 199,701,277
NET REVENUE TO STATE: Licensure Fees and Taxation	$ 14,871,860
TOTAL COSTS LESS REVENUES:	$184,829,417

The State Spends $13.42 in Services/Costs for Each $1.00 of Revenue Collected for Alcoholic Beverages.

COST TO RESIDENTS:	
Lost Alaskan Income	$ 40,804,800
Property Loss	36,752,917
Excess Medical Costs	16,567,798
TOTAL COSTS:	$ 94,125,515
TOTAL COSTS TO THE STATE AND RESIDENTS:	$278,954,932

SOADA SUMMARY - COSTS TO ALASKANS

THE BEST OF CARE

The Challenge of Providing Health Care to Alaskans

A Report of the
Governor's Interim Commission on Health Care

September 1988

For further information contact:
Department of Health and Social Services
P.O. Box H
Juneau, Alaska 99811
(907) 465-3030

- Recommendation.
GOV'S Interim Commission on Health Care.

issue immediately and submit proposed legislation to the Legislature.

25.
Mandatory Insurance for Substance Abuse and Mental Health

Findings

- Individuals should bear the cost of their mental health and substance abuse treatment when able to do so.
- Employment-related insurance provides a means by which people can assume more responsibility for their own care.

Recommendation

The Commission supports the concept of mandatory provision of inpatient and outpatient substance abuse and mental health treatment in employer-offered health insurance packages.

1988 Legislative Update: The Legislature passed two pieces of legislation that go a great distance toward implementing this recommendation. Senate bill 363 (Chapter 150 SLA 1988) requires that group health insurance policies include coverage of substance abuse treatment. Senate Bill 67 required group health insurance policies to include coverage of mental health treatment. Governor Cowper vetoed this legislation, citing the additional expense to employers and the potential that some employers would drop health coverage altogether.

Like other health care, substance abuse care and mental health treatment are the responsibility of the individual and family first, and the responsibility of the community, including employers, second. For this reason, the state should require individual and employer participation in financing mental health and substance abuse treatment by mandating its coverage in all employer-offered health insurance packages. The package of benefits and the level of coverage should reflect the need for care across the continuum of services, the types of providers available within the community, and the price of services. The package should be developed by the Legislature and the administration working closely with the business sector to ensure that the health insurance package, including treatment for substance abuse and mental health, is affordable.

Cost: Including these treatments in insurance packages that currently do not cover them will increase the price of insurance. The amount of increase will depend on the level of coverage mandated. Coverage requirements should provide for a meaningful level of treatment without seriously jeopardizing the affordability of health insurance coverage. The state will face additional costs to the extent that it must improve its own group health insurance package.

Implementation: Legislation is required to mandate the inclusion of substance abuse and mental health treatment in group health insurance. The Legislature should pass such legislation at the earliest opportunity.

"By and large, a lot of medical conditions which we treat in expensive acute-care hospitals . . . are related to a person's alcohol consumption."

George Mundell,
State Office of
Alcohol and Drug Abuse

26.
Alcohol and Tobacco Taxation

Findings

- Alcohol and/or tobacco use can lead to numerous health problems that increase the overall cost of health care in Alaska.
- Consumption of alcohol and tobacco is price-sensitive, especially among adolescents.
- Taxation of alcohol and tobacco discourages the use of these products while increasing revenues to government.
- Inequities exist in current state alcohol and tobacco taxes. Wine and beer are not taxed at the same rate as spirits; tobacco products other than cigarettes are not taxed at all.

Recommendation

Taxes should be used to increase revenue and decrease consumption of substances with negative health consequences. The Commission recommends the following actions:

The state should raise the tax on beer and wine to equal the tax on spirits;

the state should institute a tax on tobacco products other than cigarettes; and

local governments that have not already done so should be encouraged to tax tobacco and alcohol and dedicate the revenues to specific health services.

1988 Legislative Update: Senate Bill 339 Chapter 125 SLA 1988) contains a provision instituting an excise tax of 25 percent of the wholesale price on tobacco products other than cigarettes.

Taxing alcohol and tobacco products helps to raise revenues while discouraging the consumption of products that have a serious negative impact on health. Both alcohol and tobacco are associated with health problems that account for substantial government health costs.

In recent years, consumers have shifted their consumption of alcohol away from spirits (hard liquor) and toward beer and wine. Yet spirits currently are taxed at a higher level (based on alcohol content). By equalizing the tax, the state would discourage consumption of all alcohol products to the same extent. Furthermore, evidence suggests that use of alcohol among teenagers is extremely sensitive to price; therefore, raising the tax on wine and beer could reduce alcohol abuse among teenagers.

Currently, the state taxes cigarettes alone among tobacco products. Yet the use of other tobacco products, especially chewing tobacco, has increased, and these other products also have negative health consequences. The state should discourage all tobacco use by taxing all tobacco products.

Local taxation of tobacco and alcohol offers municipalities a method of enhancing their funding of health services. Unlike the state, local governments are not necessarily prohibited from dedicating these revenues to health care; therefore, the communities can forge a direct link between the sale of products with harmful health consequences and the level of health funding.

Cost: These proposals would produce increased government revenues. Increasing the tax on beer and wine would raise an estimated $3.5 million annually, and the tax on tobacco products would raise between $600,000 and $1 million.

Implementation: The Legislature should raise the tax on beer and wine and institute a tax on tobacco products as soon as possible. Local governments not already doing so should give immediate consideration to taxing tobacco and alcohol.

27. Medicaid Coverage for Prescription Drugs

Findings

- Alaska is the only state that does not cover prescription drugs under Medicaid.
- General Relief Medical, funded entirely by the state, pays for prescription drugs for Medicaid recipients in Alaska.
- Adoption of the Medicaid prescription drug option would save the state about $2 million per year because of the federal matching funds it would receive under the Medicaid program. This change would not affect clients.

Recommendation

The state should adopt the Medicaid option for coverage of prescription drugs.

1988 Legislative Update: A provision of Senate Bill 255 (Chapter 120 SLA 1988) adopted the Medicaid prescription drug option for one year.

Cost: Adopting the prescription drug option should save the state approximately $10 million over the next five years.

Implementation: The Legislature should adopt the prescription drug option as soon as possible.

COMMISSION MEMBERS AND STAFF

Members:

Rep. Mark Boyer, Fairbanks
Judy Bush, Fairbanks
Mim Dixon, Fairbanks
Rep. Johnny Ellis, Anchorage
Sister Barbara Haase, Ketchikan
Sen. Willie Hensley, Kotzebue
Sharon Jean, Soldotna, Chairperson
Sen. Lloyd Jones, Ketchikan
Norma Lundy, Anchorage
Commissioner Myra Munson, DHSS
Tom Senter M.D., Anchorage, Vice-Chairperson

Staff:

Jay Livey, Special Assistant, Department of Health and Social Services (DHSS)
Lynn Hutton, Research Analyst, Division of Mental Health, DHSS
Dave Williams, Planning Section Chief, Division of Budget and Finance, DHSS

Writer:

Jonathan Sherwood

The Commission formed into two committees to consider specific issues and recommendations. In addition to Commission members, each committee included a representative of the Medical Care Advisory Committee (MCAC). These committees were as follows:

Committee on Long Term Care

Rep. Mark Boyer
Mim Dixon
Sen. Willie Hensley
Norma Lundy, Chairperson
Commissioner Myra Munson
Vance Sanders, MCAC

Committee on the Indigent and Medically Underserved

Judy Bush, Chairperson
Rep. Johnny Ellis
Sister Barbara Haase
Shawn Hadley M.D., MCAC
Sen. Lloyd Jones
Tom Senter M.D.

STATE OF ALASKA

THE LEGISLATURE

BUDGET AND AUDIT COMMITTEE

FINANCE DIVISION
P.O. BOX WF
JUNEAU, ALASKA 99811
PHONE: (907) 465-3795

M E M O R A N D U M

DATE: April 11, 1989

TO: Senator Johne Binkley, Co-Chairman
Senate Finance Committee

FROM: Cameron Kashani, Fiscal Analyst CK
Legislative Finance Division

SUBJ: Alcohol Tax

The general features of a sumptuary tax include efficiency, equity, elasticity, administrative, compliance, and political considerations. Excise taxes are not very elastic, especially with respect to alcoholic beverages. Estimates of the price elasticities of demand for alcoholic beverages are highly variable, with beer typically having the lowest elasticity and wine having the highest. Since demand is price responsive, excise taxes would reduce consumption, but at a marginal rate.

Although sumptuary taxes are regressive, the primary goal of this kind of taxation is to reduce use of alcohol and tobacco -- consequently, promoting equity by reducing the external costs that users impose on others. Efficiency is also promoted through additional revenues for external costs that otherwise would be ignored by individuals who decide to use alcohol.

Alcoholic beverage taxes are being reduced to insignificance by inflation. This trend will continue unless tax rates are either indexed or adjusted for inflation through periodic legislative action. In Alaska, the real tax burden on alcoholic beverages has fallen since 1961. The tax revisions made in 1983 did not compensate for inflation erosion of the real value of the excise tax on alcoholic beverages. since 1961, Anchorage CPI-U has increased by more than 200 percent.

Leg. Finance Discussion of Taxes 4-11-89

Further inflation-induced erosion of these taxes can be limited by indexing the existing or proposed tax rates on Anchorage CPI-U or employing ad valorem tax rate(a tax on the dollar value of retail or wholesales of alcoholic beverages) instead of per unit taxes.

Note that indexation would not increase the prices of taxed products relative to the average of other prices and money income.

DRAFT

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: SB 253
PUBLISH DATE: 3/31/89

FISCAL NOTE

REQUEST:

Revision Date:
Title: State and municipal taxation of alcoholic beverages & tobacco products
Sponsor: Finance
Requestor: Finance Committee

Agency Affected: Revenue
BRU: Income & Excise Audit

Components: Operating

EXPENDITURES/REVENUES: (Thousands of Dollars)

	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
OPERATING						
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	5.0	0	0	0	0	0
SUPPLIES	0	0	0	0	0	0
EQUIPMENT	0	0	0	0	0	0
LANDS & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	15067.3	15067.3	15067.3	15067.3	15067.3	15067.3

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: See attached.

Prepared By: Steven E. Kettel
Division: Income and Excise Audit

Phone: (907) 465-2320
Date: April 5, 1989

Approved by Commissioner: Hugh Malone
Agency: Department of Revenue

Date: April 5, 1989

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

This fiscal note did not accompany the original bill, nor did it appear in committee files.

DOR 4-5-89 tobacco al.

Prepared by:
Steven E. Kettel
Income and Excise Audit Division
April 5, 1989

ANALYSIS

Section 1 and 2 provide that sales tax rate limitations imposed upon boroughs do not apply to taxes imposed on the sale of cigarettes and tobacco products.

Section 3 increases the states additional cigarette tax levy from 5 1/2 mills (.0055) per cigarette to 15 mills (.015) per cigarette. This amounts to a tax increase of 19¢ per standard pack of cigarettes. When coupled with the dedicated 2 1/2 mill cigarette tax at AS 43.50.090 the total tax on cigarettes with this increase will be 17 1/2 mills (.0175) or 35¢ per pack. Annual increase in tax estimated at $9,128.7.

Section 4 increased the alcohol beverage taxes at AS 43.60 as scheduled below:

LIQUOR TYPE	OLD RATE	NEW RATE	PRESENT TAX COLLECTIONS	SB 253	TOTAL
Malt Beverage	35¢/gal	65¢/gal	4,493.8	3,851.8	8,345.6
Wine	85¢/gal	$2.00/gal	1,217.8	1,647.5	2,865.3
Hard liquor	$5.60/gal	$6.00/gal	6,150.8	439.3	6,590.1
Totals			11,862.4	$5,938.6	$17,801.0

Section Cigarette tax	9,128.7
Fiscal Note Total Revenue	15,067.3

Contractural Costs $5.0

Passage of this legislation will require the Department to republish all cigarette and alcohol excise tax returns, license applications, statute and regulation booklets. Postage is necessary to inform all taxpayers of the changes.