

THE "LOOK BACK" SURCHARGE

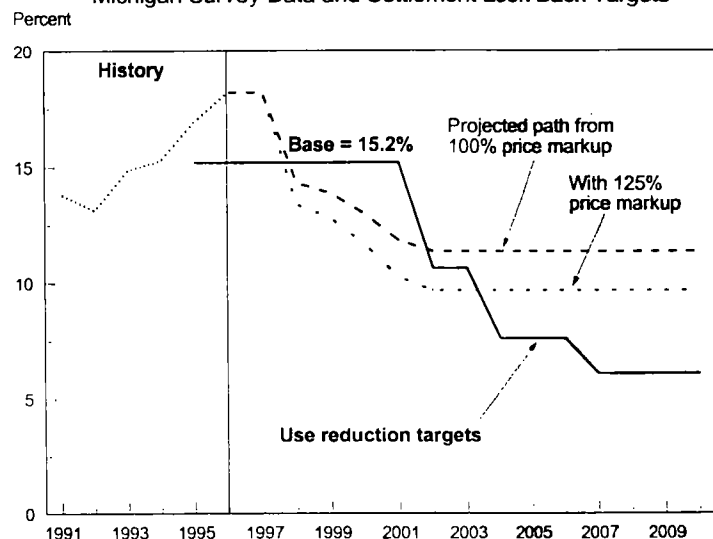
The settlement attempts to provide economic incentives to promote "dramatic and immediate reductions in the number of underage consumers of tobacco products." Manufacturers would face a surcharge if the tobacco-use reduction targets are not met. The surcharge will be imposed on the basis of a "look back" comparing actual underage teen tobacco use percentages to the targeted reduction percentages. Manufacturers could petition the FDA for partial abatement of the surcharge if they have acted in good faith and in full compliance with the Act.

Will the surcharge be effective? Probably not.

Our estimates indicate that the present value of the stream of profits associated with teen tobacco use in excess of the reduction targets will be larger than the cost of the surcharge. The present value of the profits is about 2 times greater than the surcharge so firms would have little economic incentive to reduce teen smoking. In fact, it appears that demand reduction from the price increases (from the "excise tax" effect of the penalty payments) will do most of the work.

- The daily tobacco use percentage for underage teens in 1996 was 18.2 % -- well above the target base of 15.2 % (calculated from data over the past 11 years).
- The surcharge would be imposed beginning in the 5th year after enactment and every year thereafter based on the difference in the actual and targeted percentage reductions in underage use -- at the rate of \$80 million for each percentage point (adjusted for changes in the relevant population and industry per unit profit weighted by sales) -- subject to a \$2 billion cap.

Underage Daily Tobacco Use Percentages and Targets
Michigan Survey Data and Settlement Look Back Targets



- *The \$2 billion cap is likely to be nonbinding -- it would only occur if underage smoking increased sharply to 30 % or higher or if industry profits or sales surged dramatically (by something like 100%), or some combination of the two.*
- Our estimates indicate that higher cigarette prices (from higher excise taxes for the annual payments) will reduce industry sales about 20% - 25% and thereby also reduce the size of the surcharge in subsequent years.

Elasticity of demand estimates indicate that the higher cigarette prices alone will cause daily use by teen smokers to decline from the recent 18 percent level to the 9-1/2% to 11-1/2 % range depending on the size of the price markup -- 100% or 125% (see chart).

- Under a 100% markup for prices from the penalty excise tax, the surcharge in the fifth year (30% reduction target) would be about \$52 million; the present value of the profits from the smokers above the target would be about *2 times higher* at \$114 million.
 - In the seventh year (50% reduction target) the surcharge would be about \$230 million and the present value of profits would be about *2 times higher* at \$512 million.
 - By the tenth year, when the full reduction of 60% is to be achieved, the surcharge would be \$170 million and the additional profit stream \$364 million, again twice as large.
- Similar estimates apply under a 125% markup case although somewhat more favorable to the industry. For example, the surcharge likely would not be binding in the fifth year because teen use would likely decline below the initial reduction target (see chart). And, in the seventh year, the surcharge would be about \$195 million and the present value of profits *over 2 times greater* at \$455 million.

Surcharge abatement procedures

The agreement provides for potential partial abatement of surcharge payments and firms likely would make significant efforts to meet the requirements:

"Tobacco product manufacturers could receive a partial abatement of this surcharge (up to 75%) only if they could thereafter prove to FDA that they had fully complied with the Act, had taken all reasonably available measures to reduce youth tobacco use and had not taken any action to undermine the achievement of the required reductions."

- Tobacco firms would petition the FDA for an abatement of the surcharge (after payment).
- The FDA would conduct hearings with participation of the states' attorneys general. The burden of proof would be on the manufacturers and the FDA would make the final decision (manufacturers or attorneys general could seek judicial review).

Note that the abatement rewards manufacturers for meeting the minimum standards of the Act rather than achieving underage smoking reduction results.

If we assume that firms will qualify for the full abatement, the present value of the future profit stream would end up being about 8 times higher than the abatement-adjusted surcharge -- thereby rendering it ineffective.

Assumptions used:

Discount rate:	10 %
Profit per pack:	\$0.33 base; 100% markup case: \$0.38; 125% markup: \$0.53
Intensity of use:	½ pack as teens, phased up to 1 pack a day as adults (this includes effect for teen smokers who quit as adults)
Survival probability:	taken from FDA rule in Federal Register
Probability of sustained quit:	assumption that 50% of those kept from smoking as teens (who otherwise would) eventually smoke as adult
Teen population:	Census middle series
Price elasticities:	-1.2 for # of teen smokers; -0.47 for purchases by all smokers in SR; -0.63 LR

WALL STREET EVALUATION OF THE TOBACCO INDUSTRY AND AGREEMENT

Summary: While there is some disagreement, the weight of the Wall Street assessment of the agreement among the major tobacco companies and the states' attorneys general is quite positive.

- **Major analysts expect tobacco stocks to perform well as lifting uncertainties about litigation removes the heavy discount for risk. With the agreement, Philip Morris shares are expected to have almost the same price/earnings ratio as the market average; without the agreement, the ratio of the share price to earnings might be one quarter to one third below the average for all S&P 500 companies.**
- **Since the news that negotiations for an agreement were underway, 18 reports by market analysts have either reconfirmed or raised recommendations to investors to BUY for tobacco stocks.**

1996: The stock market has viewed the tobacco industry as high risk for several years and in 1996 it was on a roller coaster due to shifting legal developments (see chart). On balance, over the year as a whole the market value of the major firms did not change much apart from normal movements driven by the overall stock market. However, the ratio of share prices to firms' earnings for the tobacco industry was only 59 % of the stock market average in 1996 and had ranged between 55 % and 67% of the market since 1993.

Over the course of 1996, a number of stock analysts' investment recommendations were raised, perhaps owing to the court ruling against the major Castano class action suit (May 23, 1996) and perhaps because of an assessment that tobacco stocks were oversold during their late year doldrums.

1997 before settlement talks:

In the first couple of months of this year, the stock prices for the industry advanced perhaps reflecting the same factors that analysts had been seeing a few months earlier. But the market plummeted in March on a Mississippi court ruling to allow a class action suit to go ahead and on the separate settlement of Liggett with state attorneys general.

- One stock analyst has noted that firms traded down to a zero value of the domestic tobacco component of the business.
- Another analyst has noted that, based on the company's fundamentals, the U.S. tobacco unit of BAT (owner of Brown Williamson) seemed to carry a negative valuation.
- During this period, analysts' recommendations moved in a muddled fashion:

5 actions confirmed or raised recommendations for particular firms to BUY
4 actions confirmed or raised recommendations but left them in a mediocre range while 3 other actions CUT recommendations into this range, and
1 action confirmed a SELL recommendation.

Differences among firms became particularly noticeable in this period:

Philip Morris is the industry leader, with 48 % of market sales, and a total market valuation of \$102 billion. One third of its profits come from domestic tobacco and one third from foreign tobacco, the rest coming from a variety of mostly consumer goods lines. Its large share of the premium cigarette market is a mixed blessing because profitability is now higher there but market demand may shift to discount brands as prices are raised.

RJR Nabisco is second in size of domestic sales and has a larger share of the discount market. It is very likely in the process of separating the tobacco (Reynolds) part of the business from Nabisco, however, and is heavily debt burdened. Therefore, market valuation is specially complex.

US Tobacco is an actively traded but small firm that had attempted to stake out a position in the smokeless tobacco market (essentially snuff) and had introduced a new discount cigarette brand. These market ventures were not going well earlier this year and disproportionately many of the negative market investment recommendations were focused on UST.

BAT is a large British multinational (traded in this country in ADRs), which is involved in many product lines. Because of its product diversification, heavier role in foreign tobacco sales, and sizable presence in the discount market in the U.S. (35% of sales compared with 17% of total sales), it may be better positioned than others to cope with the agreement.

1997 since announcement of settlement talks:

On April 16, settlement talks were announced and many aspects of the agreement ultimately announced on June 20 came to be fairly accurately forecast. Tobacco industry stock prices jumped sharply (relative to the S&P) on the announcement of the settlement talks and jumped somewhat again on the rumor one day before agreement.

- On balance, since April 15, the market value of tobacco stocks has risen fairly modestly, by 12.4% or less than the 20.2 % increase in the S&P 500. Adjusted for the change in the S&P, the tobacco stocks have actually declined by 4.9%.
- Most stock analysts, however, see the agreement as likely to be implemented and good for the market valuation of the firms. Since April 16, 18

announcements have been to confirm or raise recommendations to BUY, while one confirmed a fairly low rating and 3 recommendations were CUT.

- The preponderance of favorable analysts' reactions seems at variance with the net change in market valuation.
- This discrepancy seems to be rooted in the following factors: (1) the agreement has not been enacted yet; (2) the agreement, particularly the regulatory parts, could be changed as it goes through the political process; (3) states and localities may raise their excise taxes, too; (4) foreign countries may take actions that will water down the benefits in the agreement from limiting liability for bankruptcy to the domestic part of the firm. Most major analysts seem ready to take a positive position despite these uncertainties, but investors seem more cautious as yet.

In assessing the agreement, key analysts expect earnings per share in 1998, to be lowered by \$0.25 to \$0.37 for Philip Morris and by \$0.55 to \$0.70 for RJR.

- About one third, to as much as half, of these reductions come from the costs (interest) of the initial payment.
- Other reductions in earnings come from drops in sales not fully offset by the price increases and from shifts in sales to discount (hence, lower profit) brands.

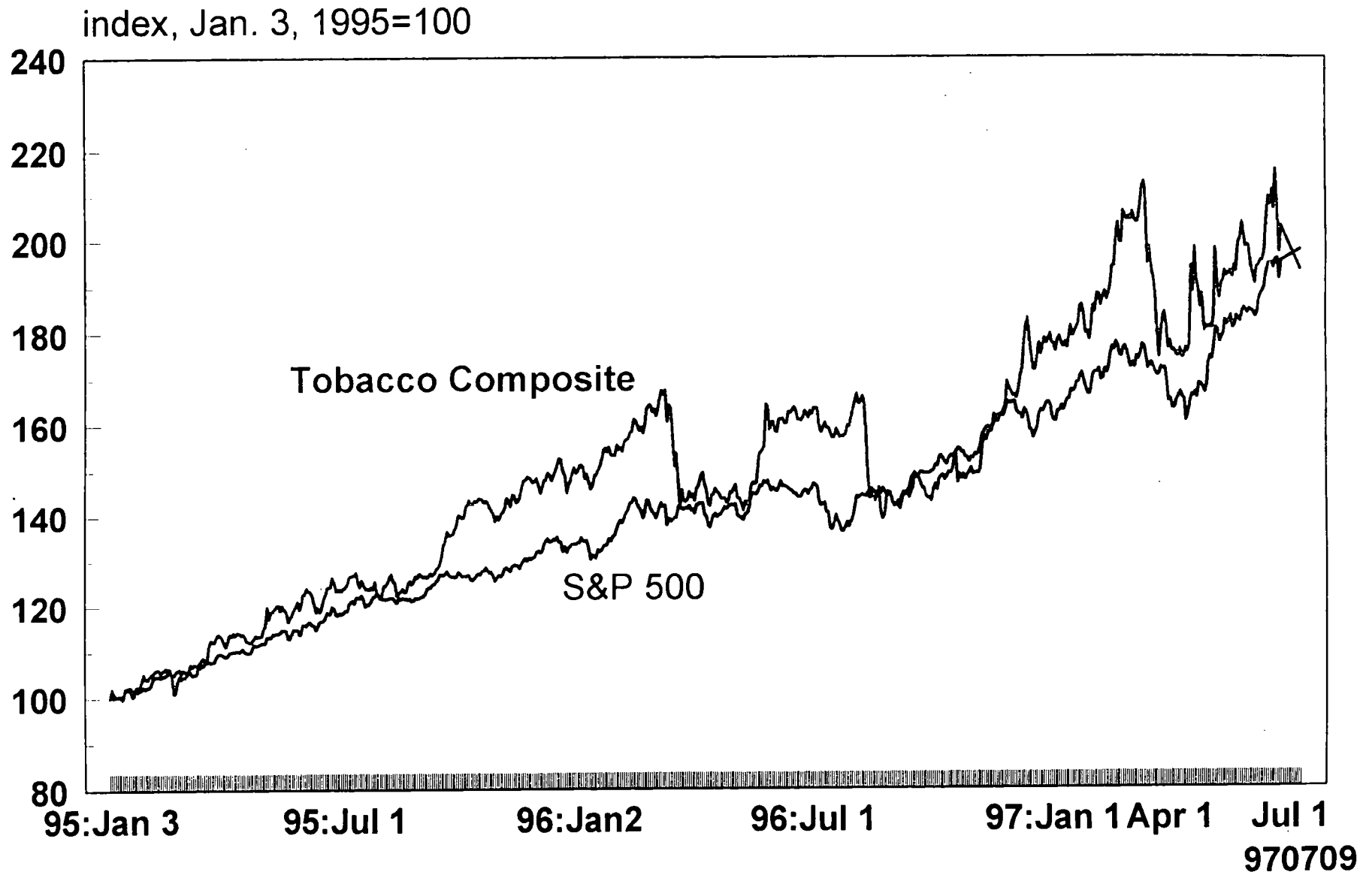
Most analysts see a decline in domestic cigarette sales of 15% to 20% by the fifth year, assuming a conventional responsiveness of sales to price and initial price increases of \$0.40 to \$0.60, rising to \$0.80 or \$0.90.

- The analysts see a significant offset to the costs of the agreement coming from lowered advertising and marketing expenses.
- One particularly pessimistic analyst (John Maxwell at Wheat First) sees the cut in sales coming rapidly and its effects being compounded by more regulation.

Analysts see future growth in earnings, presumably from foreign sales growth which has been very strong for the major firms such as Philip Morris and BAT.

Key analysts also see the agreement, if and when enacted in its present form, substantially reducing the risk of bankruptcy from future litigation. Primarily for this reason, analysts expect that the ratio of share price to earnings, for the bellwether Philip Morris, will become equal to the average for the equity market (Gary Black at Sanford Bernstein and Roy Burry at Oppenheimer) or show a very small discount (.95 according to Martin Feldman at Smith Barney and .9 from Mark Cohen at Goldman Sachs). This is a marked contrast to discounts of one-quarter to one third without the agreement.

Tobacco Company Stock Prices and the S&P 500 Stock Index



July 10, 1997

To: Jon Gruber

From: John Hambor

Subject: Tobacco Related Entitlement Estimates

Summary

The tobacco agreement would increase long-term social security costs appreciably due to increased longevity. The ultimate effect is about a 2 percent increase in annual costs in 2070, which would be about \$12 billion in today's dollars. However, the cost increases are very slow to build, and there is no measurable effect during the next ten years. Preliminary estimates indicate the net impact on Medicare is small. The important point about Medicare is that the smoking agreement appears to raise costs, on balance, because of increased life expectancies.

The estimated effects on Medicaid and SSI are more problematic. Medicaid costs will be lower, though increased expenditures on the elderly, including nursing home care, due to longer life expectancies, appear to offset much of the saving resulting from a healthier recipient population. SSI costs would be higher because of the rise in the number of eligible aged due to longer life expectancies. The effect on other entitlement programs would be small and was not estimated for this analysis.

Social Security

The Social Security Actuary has made rough long-range estimates consistent with the analysis included in the annual Trustees' Report. They estimate the effect of the agreement on teenagers will produce about a 2 percent increase in annual social security costs when they are fully retired. The actuarial deficit over the next 75 years will be increased relatively less, even if some older smokers are induced to quit as well, because the effect of reduced smoking by today's and future cohorts of adolescents will not have a substantial impact until the latter part of the projection period.

These estimates are based on the assumption that every year 250,000 of the 1 million adolescents who would start smoking will be prevented from ever smoking. This represents the estimated effect contained in the 1996 FDA analysis and is essentially the same ultimate target included in the agreement. (The lower specific target numbers in the agreement for the first seven years can be incorporated later, but are not expected to affect the results noticeably.) It is further assumed that the program will affect an additional 250,000 adolescents who would begin smoking each year after reaching 18 by the same percentage, i.e., an additional 62,500 are prevented from

starting to smoke between ages 18 and 25.¹ Some older smokers are assumed to stop smoking in response to a price increase for cigarettes of about 34 percent. An average participation elasticity of about 0.4 was used to determine the number of quitters.²

- The net effect on the 75-year actuarial deficit is an increase of 0.1 percent of payroll. The actuarial deficit, currently 2.23 percent of payroll, is the combined employer and employee payroll tax rate increase necessary to balance the program over the next 75 years. Roughly 75 to 80 percent of the estimated increase in the actuarial deficit is attributable to reduced smoking by older smokers.
- By the end of the period, in 2070, the annual deficit, the difference between annual trust fund revenue as a percent of payroll and annual benefit outlays as a percent of payroll, would be higher by roughly 0.4 percent of payroll, about \$12 billion based on today's taxable payroll. This is probably a good guess of the effect on the actuarial balance into perpetuity, i.e., a steady state effect consistent with roughly a fourth of potential new young smokers being deterred from smoking throughout their lifetimes. The cost increases are very slow to build, and there is no measurable effect during the next ten years. (See attached chart.)
- Caveats (Also apply to estimates below.)
 - The estimates make no special allowance for the effect of disability incidence on program costs. Because smokers are more likely to become disabled, reduced smoking lowers disability costs. However, this cost reduction could be offset somewhat because longer life expectancies also increase the probability of incurring a disability prior to age 65. On balance allowing for disability probably saves money, but because individuals who become disabled due to smoking are likely to be close to retirement age anyway, the effect is probably small.
 - Evidence suggests that smoking incidence is higher for those with lower income and less education. These effects are not included in the analysis.
 - A trend was not incorporated in projected smoking rates which have been

¹The Social Security and HCFA actuaries based their estimates on these assumptions and others supplied to them by Treasury.

²The elasticity varied by age group and was applied to age-specific current smoking rates. Survivor probabilities for older smokers who quit were assumed to be 75 percent of same-age older smokers who had never smoked.

generally declining for all smokers since the 1970s, but have been up recently for teen-age smokers.

Medicare (These estimates do not include the effects of older smokers quitting or the additional 62,500 teenagers who would not start smoking after age 18. We expect them on Monday or Tuesday.)

Rough estimates for the impact of the agreement on Medicare were prepared by the HCFA Actuary and are based on the same assumptions as the Social Security estimates. The HCFA estimates indicate a negligible effect on the long-run balance of the HI (Medicare Part A) program and the long-run cost rate for the SMI (Medicare Part B) program.

- The 75-year HI cost rate is decreased by .015 percent of payroll because of lower lifetime costs for non-smokers and is increased by .023 percent of payroll for the additional persons who reach age 65 because they didn't smoke. The income rate is increased by .006 from additional payroll taxes paid over the longer life expectancies of the latter group. The net effect is an increase in the 75-year actuarial deficit of only .002 percent of payroll.
- The 75-year estimates for SMI were also quite small, raising the average annual cost rate over the 75-year period from 2.860 to 2.863 percent of GDP.
- The "steady state" (i.e., 75th year) estimates indicate the effect on HI is an annual cost of about .05 percent of payroll (about \$1.5 billion currently). This is a net effect.
 - Costs are reduced by 0.116 percent of payroll per year because of lower health care costs for nonsmokers (\$3.6 billion currently).
 - Costs are increased by 0.174 percent of payroll per year due to smokers who would have died surviving to age 65 and later. In addition, this group pays 0.009 in additional payroll taxes, so their net effect is to raise costs by 0.165 percent of payroll (\$5.1 billion currently).
- On balance, SMI costs would be increased in "steady state" by 0.017 percent of GDP (currently about \$1.3 billion).
- A separate internal HCFA analysis of a sample of Medicare beneficiaries in 1992-93 indicates that, on average, smokers who reach age 65 have lifetime Medicare costs that are about 8-9 percent higher than nonsmokers who survive to age 65. They estimated that smokers raise lifetime program costs by about 4 percent.

- However, the same analysis also indicates that program saving because of smokers who do not reach age 65 (estimated to be about 3 million in 1993) more than offsets the added health care costs of surviving smokers.

Medicaid

The effects on the Medicaid program are considerably more problematic. The HCFA Actuary has not made estimates. A very rough approach is to treat the amounts estimated in a forthcoming study³ which estimates the effect of smoking on Medicaid spending by state, as "steady-state" saving, apply these results to current Federal spending on Medicaid, and then adjust for the expected effects of the agreement on smoking rates. A final crude adjustment is made to account for increased spending on the aged due to longer life expectancies. These additional costs could be particularly important since Medicaid covers long-term care for many of the elderly and disabled. In total, the aged population currently accounts for more than 30 percent of Medicaid costs and the disabled population accounts for almost 40 percent.

- The estimates indicate that in FY1993, about 3.9 percent of non-child federal Medicaid spending was attributable to smoking. To be consistent with the social security and Medicare estimates, the steady state should be reduced to reflect the fact that the agreement will not eliminate all smoking. We have assumed that roughly 25 percent of smokers in each teen-age cohort are deterred from ever smoking. A "steady state" estimate of Medicaid cost saving would be about a fourth of the full 1996 amount -- about \$730 million.
- The net effect, after accounting for longer life expectancies, is significantly lower. The population age 65 and over is projected (by SSA) to be about 2.5 percent higher in 2070 because of the agreement. Increasing 1996 Medicaid costs for the elderly by 2.5 percent and subtracting the result from the \$730 million annual saving reduces "steady state" saving to about \$120 million. This offset estimate should be viewed as extremely tentative.

SSI

If the 2.5 percent increase in the population 65 and older is translated into a steady state SSI cost estimate, costs would increase by \$164 million per year at 1996 program levels. The estimate accounts for both disabled recipients over age 65, who receive higher benefits, and retired recipients. This estimate is more of a conjecture than a systematic estimate by the SSA Actuary.

³Preliminary data from the forthcoming study, Leonard S. Miller, et. al., "State Estimates of Medicaid Expenditures Attributable to Cigarette Smoking, Fiscal Year 1993", was provided informally by a study co-author.

PBGC

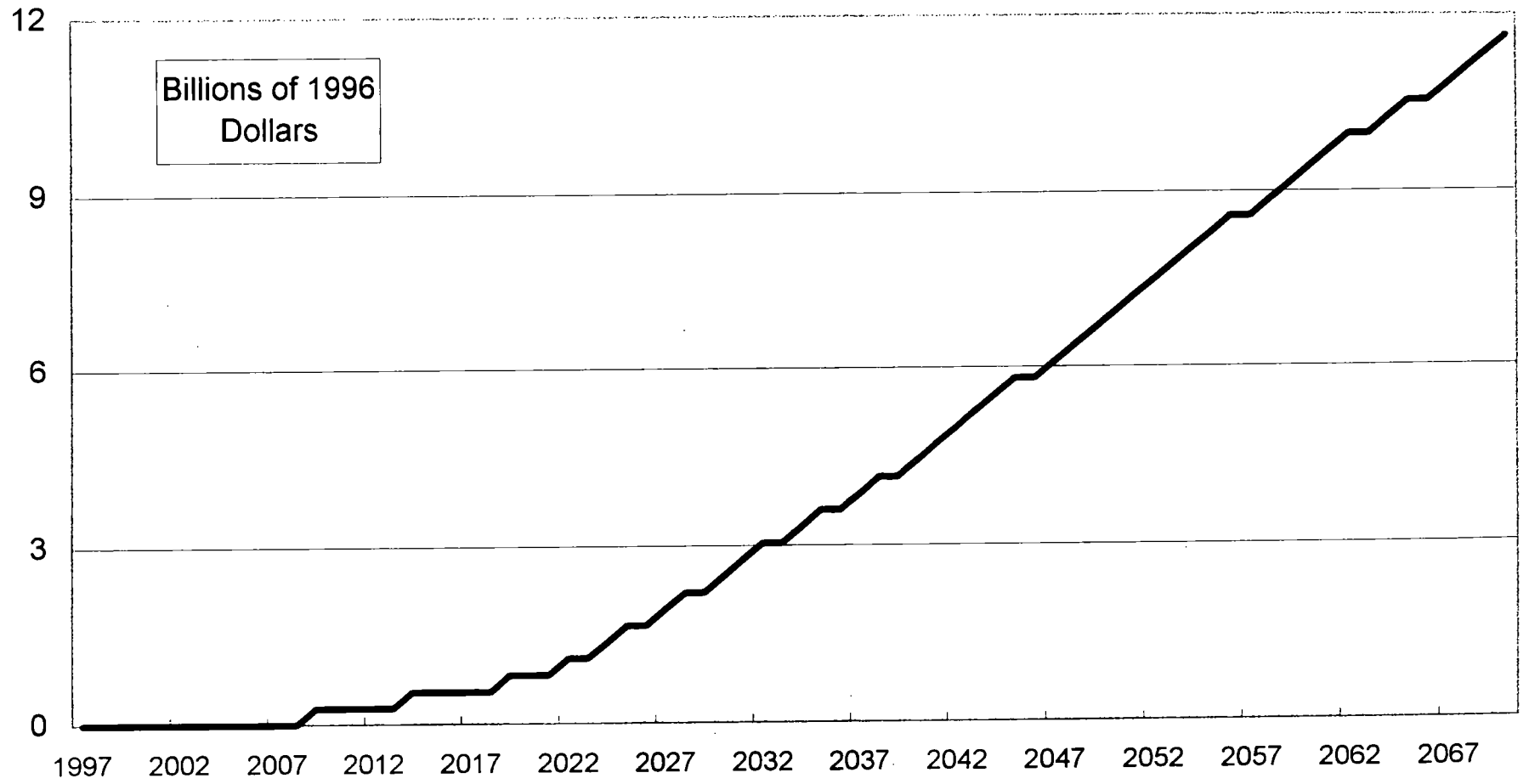
Questions have arisen about the agreement's impact on the financial viability of two of the smaller producers and the potential effect of their bankruptcy on the PBGC pension guarantee. PBGC analysts indicate that neither a Liggett nor a Lorillard bankruptcy would have a significant effect PBGC's future liabilities.

- In the case of Lorillard, their unfunded pension liability is estimated to be \$3.5 million, which is a little more than 1 percent of the unfunded pension liability of their parent company, Lowes Corp.
- In the case of Liggett, which is part of the Brook Group, PBGC is aware that Brook is having financial difficulties. Brook is primarily Liggett, i.e., it is not a diversified holding company, and its unfunded pension liability is \$35 million. Brook is on a list of companies monitored by PBGC as "reasonably possible" candidates to add to PBGC liabilities. These companies have under funded pension liabilities and generally are rated at junk bond status.

Other Programs

- The effect on Veteran's programs and the Federal Civil Service Retirement system was considered to be too small for inclusion.

Projected Increase in Annual Cost of OASDI Program due to Tobacco Agreement



July 8, 1997

MEMORANDUM TO CHAD STONE, SARAH REBER
FROM: CRISTIAN SANTESTEBAN
SUBJECT: Extension of Harris' model

In an extension of the analysis done by Jeff Harris, I have calculated the present discounted value of the stream of payments by the tobacco industry. I examine four key scenarios in which the pass-through rates of the effective excise tax are 75, 100, 125, and 200 percent.

Demand elasticity is assumed to be -0.4, and there's a background real decline of smoking of about 0.6 percentage points. I also assume, as does Harris, that advertising expenditures will only fall by \$500 million per year, not affecting operating profits very much. In addition, I assume that the demand curve will not shift inward as a result of the slightly lower advertising expenditures.

Assuming the following pass-through rates, the present discounted value of payments will be:

75%	\$205.7 billion
100%	\$200.2 billion
125%	\$194.9 billion
200%	\$179.8 billion

Assumptions:

Base Price of Pack of Cigarettes

1.85	
CPI Growth	1.03
Discount Rate	1.07
Pass Through	0.75
1996 Sales	24.400
Surcharge per year	0.0
1996 Profits	8.4
Elasticity of demand	-0.4
Real Natural Decline	-0.6

Year	Base	Effective Real Tax	Real Price	Consumption (Harris Model)	Real Volume Adjusted Payments	PDV
0	10.0	0.41	2.16	23.7	10.0	10
1	8.5	0.35	2.11	23.7	8.3	8.0
2	9.5	0.39	2.14	23.5	9.1	8.5
3	11.5	0.47	2.20	23.0	10.9	9.7
4	14.0	0.57	2.28	22.6	12.9	11.1
5	15.0	0.61	2.31	22.3	13.7	11.3
6	15.0	0.61	2.31	22.2	13.6	10.8
7	15.0	0.61	2.31	22.0	13.5	10.4
8	15.0	0.61	2.31	21.9	13.5	9.9
9	15.0	0.61	2.31	21.8	13.4	9.5
10	15.0	0.61	2.31	21.6	13.3	9.1
11	15.0	0.61	2.31	21.5	13.2	8.7
12	15.0	0.61	2.31	21.4	13.1	8.3
13	15.0	0.61	2.31	21.2	13.1	8.0
14	15.0	0.61	2.31	21.1	13.0	7.6
15	15.0	0.61	2.31	21.0	12.9	7.3
16	15.0	0.61	2.31	20.9	12.8	7.0
17	15.0	0.61	2.31	20.7	12.7	6.7
18	15.0	0.61	2.31	20.6	12.7	6.4
19	15.0	0.61	2.31	20.5	12.6	6.1
20	15.0	0.61	2.31	20.4	12.5	5.8
21	15.0	0.61	2.31	20.2	12.4	5.6
22	15.0	0.61	2.31	20.1	12.4	5.4
23	15.0	0.61	2.31	20.0	12.3	5.1
24	15.0	0.61	2.31	19.9	12.2	4.9
25	15.0	0.61	2.31	19.8	12.2	4.7
Total	368.5				322.3	205.7

Assumptions:

Base Price of Pack of Cigarettes

1.85

CPI Growth	1.03
Discount Rate	1.07
Pass Through	1.00
1996 Sales	24.400
Surcharge per year	0.0
1996 Profits	8.4
Elasticity of demand	-0.4
Real Natural Decline	-0.6

Year	Base	Effective Real Tax	Real Price	Consumption (Harris Model)	Real Volume Adjusted Payments	PDV
0	10.0	0.41	2.26	23.2	10.0	10
1	8.5	0.35	2.20	23.3	8.1	7.8
2	9.5	0.39	2.24	23.0	9.0	8.3
3	11.5	0.47	2.32	22.5	10.6	9.5
4	14.0	0.57	2.42	21.9	12.6	10.8
5	15.0	0.61	2.46	21.6	13.3	11.0
6	15.0	0.61	2.46	21.5	13.2	10.5
7	15.0	0.61	2.46	21.4	13.1	10.1
8	15.0	0.61	2.46	21.2	13.1	9.6
9	15.0	0.61	2.46	21.1	13.0	9.2
10	15.0	0.61	2.46	21.0	12.9	8.8
11	15.0	0.61	2.46	20.9	12.8	8.4
12	15.0	0.61	2.46	20.7	12.7	8.1
13	15.0	0.61	2.46	20.6	12.7	7.7
14	15.0	0.61	2.46	20.5	12.6	7.4
15	15.0	0.61	2.46	20.4	12.5	7.1
16	15.0	0.61	2.46	20.2	12.4	6.8
17	15.0	0.61	2.46	20.1	12.4	6.5
18	15.0	0.61	2.46	20.0	12.3	6.2
19	15.0	0.61	2.46	19.9	12.2	5.9
20	15.0	0.61	2.46	19.8	12.2	5.7
21	15.0	0.61	2.46	19.6	12.1	5.4
22	15.0	0.61	2.46	19.5	12.0	5.2
23	15.0	0.61	2.46	19.4	11.9	5.0
24	15.0	0.61	2.46	19.3	11.9	4.8
25	15.0	0.61	2.46	19.2	11.8	4.5
Total	368.5				313.4	200.2

Assumptions:

Base Price of Pack of Cigarettes

1.85

CPI Growth 1.03

Discount Rate 1.07

Pass Through 1.25

1996 Sales 24.400

Surcharge per year 0.0

1996 Profits 8.4

Elasticity of demand -0.4

Real Natural Decline -0.6

Year	Base	Effective Real Tax	Real Price	Consumption (Harris Model)	Real Volume Adjusted Payments	PDV
0	10.0	0.41	2.36	22.7	10.0	10
1	8.5	0.35	2.29	22.9	8.0	7.7
2	9.5	0.39	2.34	22.6	8.8	8.1
3	11.5	0.47	2.44	22.0	10.4	9.2
4	14.0	0.57	2.57	21.3	12.2	10.5
5	15.0	0.61	2.62	21.0	12.9	10.7
6	15.0	0.61	2.62	20.9	12.8	10.2
7	15.0	0.61	2.62	20.7	12.7	9.8
8	15.0	0.61	2.62	20.6	12.7	9.3
9	15.0	0.61	2.62	20.5	12.6	8.9
10	15.0	0.61	2.62	20.4	12.5	8.6
11	15.0	0.61	2.62	20.2	12.4	8.2
12	15.0	0.61	2.62	20.1	12.4	7.8
13	15.0	0.61	2.62	20.0	12.3	7.5
14	15.0	0.61	2.62	19.9	12.2	7.2
15	15.0	0.61	2.62	19.8	12.2	6.9
16	15.0	0.61	2.62	19.6	12.1	6.6
17	15.0	0.61	2.62	19.5	12.0	6.3
18	15.0	0.61	2.62	19.4	11.9	6.0
19	15.0	0.61	2.62	19.3	11.9	5.8
20	15.0	0.61	2.62	19.2	11.8	5.5
21	15.0	0.61	2.62	19.1	11.7	5.3
22	15.0	0.61	2.62	19.0	11.7	5.0
23	15.0	0.61	2.62	18.8	11.6	4.8
24	15.0	0.61	2.62	18.7	11.5	4.6
25	15.0	0.61	2.62	18.6	11.4	4.4
Total	368.5				304.8	194.9

Assumptions:

Base Price of Pack of Cigarettes

1.85	
CPI Growth	1.03
Discount Rate	1.07
Pass Through	2.00
1996 Sales	24.400
Surcharge per year	0.0
1996 Profits	8.4
Elasticity of demand	-0.4
Real Natural Decline	-0.6

Year	Base	Effective Real Tax	Real Price	Consumption (Harris Model)	Real Volume Adjusted Payments	PDV
0	10.0	0.41	2.67	21.4	10.0	10
1	8.5	0.35	2.55	21.8	7.6	7.3
2	9.5	0.39	2.63	21.3	8.3	7.7
3	11.5	0.47	2.79	20.5	9.7	8.6
4	14.0	0.57	3.00	19.6	11.3	9.7
5	15.0	0.61	3.08	19.2	11.8	9.7
6	15.0	0.61	3.08	19.1	11.7	9.3
7	15.0	0.61	3.08	19.0	11.7	8.9
8	15.0	0.61	3.08	18.8	11.6	8.5
9	15.0	0.61	3.08	18.7	11.5	8.2
10	15.0	0.61	3.08	18.6	11.4	7.8
11	15.0	0.61	3.08	18.5	11.4	7.5
12	15.0	0.61	3.08	18.4	11.3	7.2
13	15.0	0.61	3.08	18.3	11.2	6.9
14	15.0	0.61	3.08	18.2	11.2	6.6
15	15.0	0.61	3.08	18.1	11.1	6.3
16	15.0	0.61	3.08	18.0	11.0	6.0
17	15.0	0.61	3.08	17.9	11.0	5.7
18	15.0	0.61	3.08	17.7	10.9	5.5
19	15.0	0.61	3.08	17.6	10.8	5.3
20	15.0	0.61	3.08	17.5	10.8	5.0
21	15.0	0.61	3.08	17.4	10.7	4.8
22	15.0	0.61	3.08	17.3	10.6	4.6
23	15.0	0.61	3.08	17.2	10.6	4.4
24	15.0	0.61	3.08	17.1	10.5	4.2
25	15.0	0.61	3.08	17.0	10.5	4.0
Total	368.5				280.2	179.8

Preliminary Observations on Proposed Tobacco Settlement¹
July 10, 1997

I. Incidence of payments

highlight significance of the effect of the settlement on industry competition for distribution of benefits between governmental revenues and industry profits

A. Some assumptions

1. industry demand relatively inelastic
 - estimated elasticity for adults = -0.4 in short run, -0.7 in long run
 - international evidence does not suggest industry demand elasticity will change markedly with large price increases
2. more than 100% pass through of industry-wide cost increases in higher prices
 - settlement encourages at least 100% pass-through
 - empirical estimates of pass-through are in the 100% to 125% range, holding constant the oligopoly solution concept
 - no reason to modify this figure based on curvature of demand given evidence favoring constant elasticity over large range
 - a settlement that leads to less competitive behavior as well as imposing a cost increase will likely exhibit greater pass through of the cost increase than historical estimates suggest
 - small reductions in the degree of industry competition can lead to large price increases with inelastic demand
 - the settlement incorporates provisions that may facilitate cooperative price fixing, discourage entry, discourage producer substitution to lower priced products, and raise the costs of output expansion

¹Prepared as an aid to discussion by the staff of the Bureau of Economics, Federal Trade Commission. These comments are not necessarily those of the Federal Trade Commission or any individual Commissioner.

3. industry supply function relatively elastic

B. Implications [see table]

- 1 smoking will likely decline substantially
 - the price increase is the primary mechanism
 - caveat: out of sample predictions have large uncertainty; international evidence suggests quantity declines may be overstated
 - health benefits will go to those who quit or choose never to start; if those who continue to smoke reduce consumption, the health benefits will depend on the extent to which they compensate by smoking more intensively
2. tobacco industry profits will likely rise, even before accounting for the benefit of reduced exposure to legal liability
 - if the pass-through rate is high, reflecting reductions in competition, industry profits will likely rise substantially
3. incidence depends on intensity of post-settlement industry competition (built into 125% vs. 200% pass-through assumption)

II. Some other incentive effects of settlement proposal

- A. youth smoking will likely decline substantially
- youth responsiveness to price is higher than adults (estimated youth demand elasticity = -1.3)
 - access restrictions may also discourage youth smoking substantially (notwithstanding some potential for evasion)
 - recall earlier caveat; quantity declines may be overstated
- B. R&D to develop safer cigarettes may be reduced or even eliminated

- mandated cross-licensing of innovations and FDA authority to mandate introduction of less hazardous products that are technologically feasible undermine private appropriability (notwithstanding guarantee of reasonable rate)
- FDA's technology-forcing mandate is limited, as FDA may not require modifications that will create demand for contraband
- developers of safer cigarettes may find it difficult or impossible to advertise such products, limiting the potential private return to R&D
- some R&D incentives may remain if can market safer products abroad

Annual Incidence of Settlement: Illustrative Example

	Year 1		Year 5	
New payment	35¢/pack	35¢/pack	62¢/pack	62¢/pack
Elasticity	-0.4	-0.4	-0.7	-0.7
Pass through	125%	200%	125%	200%
Price [1] (\$1.85/pack today)	+24% \$2.29	+38% \$2.55	+42% \$2.63	+67% \$3.09
Quantity [2] (24.2 bill. pack/yr)	-9% 21.5	-15% 20.2	-29% 15.7	-47% 11.8
Total revenue (\$44.7 bill/yr today)	\$49.2	\$51.4	\$41.3	\$36.5
Industry profits [3] (\$7.8 bill/yr today)	\$10.1	\$14.8	\$8.8	\$12.4
Old tax revenue [4] (\$14 bill/yr today)	\$12.5	\$11.7	\$9.1	\$6.9
New govt. rev. [5] (\$ billions)	\$7.5	\$7.1	\$9.8	\$7.3
Incremental govt. revenue (\$ bill)[6]	\$6.2	\$5.0	\$6.0	\$1.3
Incremental industry profits [7]	\$2.4	\$7.1	\$1.5	\$5.1
Incrm. profits as % of incrm. surplus [8]	27%	59%	20%	80%

Notes

- [1] All figures in 1997 dollars. Product mix (fraction low priced products sold) held constant.
- [2] Adjusted for declining trend in sales (-1.6%/yr). Does not adjust trend to reflect new disclosures, public education, and advertising restrictions in settlement that might increase exogenous rate of sales decline.
- [3] Components of change in profits:
- a. fixed costs savings equivalent to 5¢/pack at 1997 quantities on current advertising + legal expenses (approx 50% or \$1.2 bill.)
 - b. lost contribution of 33¢/pack on reduced quantity
 - c. increased contribution from price increase on remaining quantity
- Does not include expected value of reduced risk of large legal liability.
- [4] Direct federal, state and local taxes combined; does not include corporate profits tax.
- [5] Reflects new payments. Does not include possible excess profits adjustment or possible surcharge in settlement.
- [6] Old tax revenue + new govt. revenue less old tax revenue in the but-for world of no settlement. (The but-for world assumes constant real prices, quantity declining at current trend rate.)
- [7] Profits less profits in the but-for world of no settlement.
- [8] Incremental surplus = incremental govt. revenue + incremental profits.

Annual Incidence of Settlement: Illustrative Example
with 10% pass through

	Year 1	Year 5
New payment	35¢/pack	62¢/pack
Elasticity	-0.4	-0.7
Pass through	100%	100%
Price [1] (\$1.85/pack today)	+19% \$2.20	+34% \$2.47
Quantity [2] (24.2 bill. pack/yr)	-8% 22.0	-23% 17.0
Total revenue (\$44.7 bill/yr today)	\$48.3	\$42.0
Industry profits [3] (\$7.8 bill/yr today)	\$8.3	\$6.7
Old tax revenue [4] (\$14 bill/yr today)	\$12.7	\$9.9
New govt. rev. [5] (\$ billions)	\$7.7	\$10.6
Incremental govt. revenue (\$ bill)[6]	\$6.6	\$7.5
Incremental industry profits [7]	\$0.6	-\$0.5
Incrm. profits as % of incrm. surplus [8]	8%	-7%

Annual Incidence of Settlement: Illustrative Example
Year 5 with -0.4 long run demand elasticity

	Year 5		
New payment	62¢/pack	62¢/pack	62¢/pack
Elasticity	-0.4	-0.4	-0.4
Pass through	100%	125%	200%
Price [1]	+34%	+42%	+67%
(\$1.85/pack today)	\$2.47	\$2.63	\$3.09
Quantity [2]	-13%	-17%	-27%
(24.2 bill. pack/yr)	\$19.3	18.5	16.3
Total revenue	\$47.6	\$48.7	\$50.4
(\$44.7 bill/yr today)			
Industry profits [3]	\$7.5	\$10.1	\$16.6
(\$7.8 bill/yr today)			
Old tax revenue [4]	\$11.2	\$10.8	\$9.5
(\$14 bill/yr today)			
New govt. rev. [5]	\$12.0	\$11.5	\$10.1
(\$ billions)			
Incremental govt. revenue (\$ bill)[6]	\$10.2	\$9.3	\$6.6
Incremental industry profits [7]	\$0.2	\$2.9	\$9.4
Incrm. profits as % of incrm. surplus [8]	2%	23%	59%

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OFFICE OF MANAGEMENT AND BUDGET**

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July 29, 1997

BUDGETARY IMPACTS OF TOBACCO SETTLEMENT

Overview

The following tables provide four alternative scenarios of the budget effects of the tobacco settlement. There are some underlying assumptions that are common to all four scenarios, and other assumptions that distinguish the scenarios from each other. Some of the influences on the actual deficit would not be recognized for purposes of enforcement of the Budget Act. There are some additional considerations that could drive all of these results in one direction or the other.

Common assumptions. The tobacco settlement specifies that industry payments should be devoted to numerous activities, some undertaken by the Federal Government and some not. However, the settlement does not specify or create an agent to collect and distribute these funds. Accordingly, the tables that follow assume that the Federal Government fulfills that role. All of the tobacco industry funds are therefore assumed to be Federal receipts in the first instance. Funds are disbursed for the various activities specified in the settlement; the residual funds are assumed to be the compensation for past Medicaid costs that motivated the States to undertake their negotiations with the industry. It is assumed that those residual funds are divided between the Federal Government, on the one hand, and the States, on the other, according to the historical average matching rate for Medicaid expenditures (approximately 57 percent Federal). The Federal Government is assumed to spend all of its share of the residual funds. (Therefore, the deficit effects would not be different if it were assumed that all of the residual funds were distributed among the States, with no share for the Federal Government).

Other assumptions are identical across the four scenarios. For example, tobacco purchases are estimated to decline by 22 percent, which reduces Federal (and State) tobacco excise tax receipts. Civil suits are assumed to claim damages at the maximum amount specified in the settlement.

Assumptions that differ across scenarios. The four scenarios differ according to the budgetary treatment of the Federal Government's receipts, and the assumed outcome for the youth smoking reduction targets. Each of these issues has two possible outcomes; the two issues with two outcomes each yield the four scenarios.

First, if the Federal Government were to raise the same amount of funds from an excise tax increase as it would from the tobacco settlement, those revenues would be "scored" for budget purposes at only 75 percent of the gross receipts. (This is the result of a highly technical adjustment for the national income and product accounts' treatment of indirect business taxes. While abstruse, this adjustment is widely accepted and of long standing.) One might argue that the Federal Government's receipts from the tobacco settlement would be in practice indistinguishable from an excise tax. The receipts would be paid to the Federal Government; they would arise from an exercise of the Federal Government's sovereign powers (through the implementing legislation); they would rise and fall according to tobacco sales; and they would be expected to be passed through to the consumer in the price of the product.

On the other hand, one might argue that these receipts would not be the practical equivalent of an excise tax. They are not Federal revenues as generally construed, because the settlement was entered into in some sense voluntarily, or through a judicial process, by the tobacco industry ("fines" would not be scored with the same 25 percent reduction as "excise taxes," for example); for several uses of funds specified in the settlement, the Federal Government serves only as a conduit to other governmental and nongovernmental entities; and unlike most other Federal excise tax receipts, for many of their prospective uses they presumably would not be subject to appropriations, but would be spent automatically. Thus, the receipts from the settlement might or might not be scored as indirect business taxes, with a substantial (i.e., 25 percent of the gross) difference in the effect on available Federal resources.

The second issue on which these scenarios differ is whether the industry does or does not meet its target for youth smoking reduction. If the industry does not meet the target, payments are higher. There is of course no way at this time to know the outcome of the settlement for youth smoking.

Implications of the Budget Act. The numbers in the tables that follow provide a complete (though uncertain) picture of the effects of the tobacco settlement on the budget deficit. However, the scoring rules in the Budget Act would not recognize some of the likely effects. For example, the settlement would raise the price of tobacco products, which would increase the consumer price index, which would in turn increase future Federal benefit payments and decrease income tax revenues through its effect on indexation. Further, the increase in the price of tobacco products would decrease consumption, which would decrease Federal (and State, incidentally) excise tax receipts. However, under budget scoring conventions,

these consequences would be considered as "indirect" effects, and would not be scored. Finally, the debt service implications of the settlement would not score. Because all of these unscored, indirect effects would tend to increase the deficit, the scored effects on the deficit for purposes of the legislative process would be more favorable (or less unfavorable) than those that would actually obtain, all else equal.

Additional considerations and uncertainties. As noted above, these tables presume that the Federal Government spends every dollar of receipts from the tobacco settlement. However, because of the 25 percent offset for indirect business taxes (if the settlement were so treated), and the effects on excise tax receipts and on indexation, spending the proceeds of the settlement dollar-for-dollar would **increase** the deficit, not leave it unchanged. Therefore, to hold the deficit constant, it would be necessary for the Federal Government to retain some of the proceeds of the settlement to make up for these incidental effects.

Furthermore, because the excise tax, indexation and debt service implications of the agreement would not score, and so the deficit effect for the purposes of the Budget Act would differ from the actual deficit impact, the amount of the settlement which the Federal Government would have to refrain from spending to hold the actual deficit harmless would differ from the amount that would hold the deficit harmless for Budget Act purposes. In effect, the Congress and the President would have to choose whether to retain a smaller amount of the proceeds to achieve deficit neutrality for purposes of the Budget Act, or to retain a larger sum to hold the actual deficit unchanged.

Finally, the behavior of the States might have significant implications for the impact on the Federal budget. The States would likely receive anywhere from 43 percent to 100 percent of the residual of the industry payments over the specified uses in the settlement -- in their view, implicit in their negotiations, to compensate them for Medicaid costs caused by the use of tobacco. (This amount could be as high as \$44.4 billion over 1998-2008, including the \$10 billion "up-front payment.") In theory, the States could use these funds for any purpose. If they chose to spend a significant share of those proceeds on Medicaid -- over and above what they otherwise would have spent -- then the Federal Government would be required to match that spending, in the amount of 57 percent, on average, of total spending (i.e., more than a dollar-for-dollar match). (There may be other State uses of the funds that would have Federal budgetary consequences.) Therefore, depending on State behavior, the Federal Government might find itself confronted with additional and unpredictable mandatory outlays for Medicaid that would detract from its resources from the settlement.

**Potential Budgetary Impacts of Tobacco Agreement -- Assuming Industry Payments Are Classified As
Indirect Business Taxes and Youth Targets Are Met**
(In billions of dollars)

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	1998	1999	2000	2001	2002	2003	04-08	98-03	98-08
Federal revenues:									
Industry payments:									
Up-front payment.....	10.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0
Public health trust funds in bill.....	0.0	2.5	2.5	3.5	4.0	5.0	7.5	17.5	25.0
Base amounts in bill.....	0.0	6.0	7.0	8.0	10.0	10.0	67.5	41.0	108.6
Adult sales volume adjustments.....	0.0	-1.1	-1.7	-2.6	-3.4	-3.7	-19.6	-12.6	-32.2
Credits for civil suits at cap.....	0.0	-1.4	-1.5	-1.6	-2.0	-2.0	-13.1	-8.5	-21.7
Inflation adjustments on above.....	0.0	0.0	0.2	0.4	0.8	1.2	9.7	2.6	12.3
Look-back surcharge.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
User fees for nonparticipants.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net penalties.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal, industry payments.....	10.0	6.0	6.5	7.7	9.4	10.4	51.9	60.0	101.9
Tax offset at 25% (IBT).....	-2.6	-1.6	-1.6	-1.9	-2.3	-2.6	-13.0	-12.5	-25.5
Reduction in tobacco excise taxes (non-PAYGO).....	-0.4	-0.5	-0.7	-0.9	-0.9	-1.0	-5.0	-4.4	-9.3
Tax Indexation Impact of higher CPI (non-PAYGO).....	0.0	-0.1	-0.4	-0.7	-0.9	-1.1	-5.9	-3.3	-9.1
Total, Federal revenues.....	7.1	3.9	3.8	4.2	5.2	5.8	28.1	29.9	58.0
Federal outlays:									
Public health trust funds in bill.....	0.0	2.5	2.6	3.7	4.4	5.6	9.0	18.8	27.7
HHS direct programs and grants to States.....	0.0	0.1	0.1	0.1	0.2	0.3	1.4	0.9	2.3
FDA direct enforcement and grants to States.....	0.0	0.3	0.3	0.3	0.3	0.3	1.8	1.6	3.4
Grants to States for ASSIST-type programs.....	0.0	0.1	0.1	0.1	0.1	0.1	0.8	0.6	1.3
Direct Federal R&D to discourage tobacco use.....	0.0	0.1	0.1	0.1	0.1	0.1	0.6	0.5	1.1
Payments to tobacco-sponsored events/teams.....	0.0	0.0	0.1	0.1	0.1	0.1	0.5	0.3	0.8
Public educ. campaign run by non-profit board.....	0.0	0.5	0.5	0.6	0.6	0.6	3.1	2.7	6.7
HHS payments for tobacco use cessation programs.....	0.0	1.0	1.0	1.1	1.1	1.7	9.2	5.9	16.1
Spending of look-back surcharge (90% grants).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal, specified spending in bill.....	0.0	4.6	4.8	6.0	6.9	8.8	26.3	31.2	57.5
Unspecified residual to reach total payments.....	10.0	1.4	1.7	1.7	2.6	1.6	26.6	18.9	44.4
COLA Impact of higher CPI (non-PAYGO).....	0.0	0.5	1.1	1.6	2.5	2.8	16.5	8.7	25.1
Total, Federal outlays, excl. debt service.....	10.0	6.6	7.6	8.6	11.9	13.3	68.4	58.7	127.1
Federal deficit:									
Revenues (deficit effect).....	-7.1	-3.9	-3.8	-4.2	-5.2	-5.8	-28.1	-29.9	-58.0
Programmatic outlays.....	10.0	6.6	7.6	8.6	11.9	13.3	68.4	58.7	127.1
Debt service.....	0.1	0.2	0.4	0.6	0.9	1.3	13.5	3.6	17.0
Federal deficit.....	3.0	2.8	4.2	5.9	7.6	8.8	53.8	32.3	88.1
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect).....	-7.6	-4.6	-4.9	-5.8	-7.0	-7.8	-38.9	-37.5	-76.5
Outlays.....	10.0	6.0	6.5	7.7	9.4	10.4	51.9	50.0	101.9
Total PAYGO deficit effect.....	2.5	1.5	1.6	1.9	2.3	2.6	13.0	12.6	25.6
ADDENDUM: Potential additional Federal deficit effects (non-PAYGO):									
Potential increase in Federal matching grants.....	0.9	0.8	1.0	0.9	1.4	0.9	14.6	6.9	20.6
Post-2008 long-run medical care expenditures (-).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Post-2008 long-run retirement programs (+).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1. Reduction in adult and youth tobacco consumption is assumed to result from price increases due to passthrough of industry payments. Youth consumption, but not adult, is also assumed to be reduced to target by access restrictions, public education, and cessation programs, etc.
2. Civil liability settlements are assumed to be at cap (33% of industry basic payments). Cap is assumed to be a single 33% cap for suits based on past and future conduct.
3. Surcharge double count adjustment is estimated as 80/60/40/20% of surcharge payments made 1/2/3/4 years prior.
4. No manufacturers are assumed to qualify for 75% good faith surcharge abatement.
5. All manufacturers are assumed to participate in the settlement.
6. All manufacturers are assumed to meet compliance plan and corporate culture requirements.
7. Amounts are assumed to increase for inflation as follows: (a) industry payments increase for inflation beginning in 2000; (b) outlays increase for inflation beginning in 2000; (c) surcharge amount and cap increase for inflation beginning in 1997.
8. All industry payments are assumed to score as Federal Indirect Business Taxes (excise tax receipts).
As Indirect Business Taxes, industry payments are subject to a 25% income offset (BEA convention).
9. All payments are assumed to be spent as Federal outlays.
10. States are assumed to increase total medical spending by the amount of the residual state payments, generating a 57% Federal match.

**Potential Budgetary Impacts of Tobacco Agreement -- Assuming Industry Payments Are Classified As
Indirect Business Taxes and Youth Targets are Not Met**
(In billions of dollars)

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	1998	1999	2000	2001	2002	2003	04-08	98-03	98-08
Federal revenues:									
Industry payments:									
Up-front payment.....	10.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0
Public health trust funds in bill.....	0.0	2.5	2.5	3.5	4.0	5.0	7.5	17.5	25.0
Base amounts in bill.....	0.0	6.0	7.0	8.0	10.0	10.0	67.5	41.0	108.5
Adult sales volume adjustments.....	0.0	-1.1	-1.7	-2.6	-3.4	-3.7	-19.8	-12.5	-32.2
Credits for civil suits at cap.....	0.0	-1.4	-1.5	-1.8	-2.0	-2.0	-13.1	-8.5	-21.7
Inflation adjustments on above.....	0.0	0.0	0.2	0.4	0.6	1.2	9.7	2.6	12.3
Look-back surcharge.....	0.0	0.0	0.0	0.0	0.0	2.4	9.5	2.4	12.0
User fees for nonparticipants.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net penalties.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal, industry payments.....	10.0	6.0	6.5	7.7	9.4	12.9	61.4	52.5	113.9
Tax offset at 25% (IBT).....	-2.5	-1.5	-1.6	-1.9	-2.3	-3.2	-15.4	-13.1	-28.5
Reduction in tobacco excise taxes (non-PAYGO).....	-0.4	-0.5	-0.7	-0.9	-0.9	-0.9	-4.5	-4.3	-8.8
Tax indexation impact of higher CPI (non-PAYGO).....	0.0	-0.1	-0.4	-0.7	-0.8	-1.1	-5.9	-3.3	-9.1
Total, Federal revenues.....	7.1	3.9	3.8	4.2	5.2	7.7	35.7	31.8	67.5
Federal outlays:									
Public health trust funds in bill.....	0.0	2.5	2.6	3.7	4.4	5.6	9.0	18.8	27.7
HHS direct programs and grants to States.....	0.0	0.1	0.1	0.1	0.2	0.3	1.4	0.9	2.3
FDA direct enforcement and grants to States.....	0.0	0.3	0.3	0.3	0.3	0.3	1.8	1.8	3.4
Grants to States for ASSIST-type programs.....	0.0	0.1	0.1	0.1	0.1	0.1	0.8	0.6	1.3
Direct Federal R&D to discourage tobacco use.....	0.0	0.1	0.1	0.1	0.1	0.1	0.6	0.5	1.1
Payments to tobacco-sponsored events/teams.....	0.0	0.0	0.1	0.1	0.1	0.1	0.5	0.3	0.8
Public educ. campaign run by non-profit board.....	0.0	0.5	0.5	0.5	0.5	0.6	3.1	2.7	5.7
HHS payments for tobacco use cessation programs.....	0.0	1.0	1.0	1.1	1.1	1.7	9.2	5.9	15.1
Spending of look-back surcharge (90% grants).....	0.0	0.0	0.0	0.0	0.0	2.4	9.5	2.4	12.0
Subtotal, specified spending in bill.....	0.0	4.6	4.6	6.0	6.9	11.3	35.9	33.8	69.5
Unspecified residual to reach total payments.....	10.0	1.4	1.7	1.7	2.5	1.6	25.6	18.9	44.4
COLA impact of higher CPI (non-PAYGO).....	0.0	0.5	1.1	1.8	2.5	2.8	18.5	8.7	25.1
Total, Federal outlays, excl. debt service.....	10.0	6.5	7.6	9.5	11.9	15.7	77.9	61.2	139.0
Federal deficit:									
Revenues (deficit effect).....	-7.1	-3.9	-3.8	-4.2	-5.2	-7.7	-35.7	-31.8	-67.5
Programmatic outlays.....	10.0	6.5	7.6	9.5	11.9	15.7	77.9	61.2	139.0
Debt service.....	0.1	0.2	0.4	0.6	0.8	1.3	13.8	3.6	17.4
Federal deficit.....	3.0	2.6	4.2	5.9	7.6	9.4	56.0	32.9	88.9
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect).....	-7.5	-4.5	-4.9	-5.8	-7.0	-9.7	-45.1	-39.4	-85.4
Outlays.....	10.0	6.0	6.5	7.7	9.4	12.9	61.4	52.5	113.9
Total PAYGO deficit effect.....	2.5	1.6	1.6	1.9	2.3	3.2	16.4	13.1	28.5
ADDENDUM: Potential additional Federal deficit effects (non-PAYGO):									
Potential increase in Federal matching grants.....	0.9	0.8	1.0	0.9	1.4	0.9	14.6	5.9	20.5
Post-2008 long-run medical care expenditures (-).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Post-2008 long-run retirement programs (+).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

- Reduction in tobacco volume is assumed to result solely from price increases due to passthrough of industry payments. Access restrictions, public education, and cessation programs are assumed to have no additional effect.
- Civil liability settlements are assumed to be at cap (33% of industry basic payments). Cap is assumed to be a single 33% cap for suits based on past and future conduct.
- Surcharge double count adjustment is estimated as 80/60/40/20% of surcharge payments made 1/2/3/4 years prior.
- No manufacturers are assumed to qualify for 75% good faith surcharge abatement.
- All manufacturers are assumed to participate in the settlement.
- All manufacturers are assumed to meet compliance plan and corporate culture requirements.
- Amounts are assumed to increase for inflation as follows: (a) industry payments increase for inflation beginning in 2000; (b) outlays increase for inflation beginning in 2000; (c) surcharge amount and cap increase for inflation beginning in 1997.
- All industry payments are assumed to score as Federal Indirect Business Taxes (excise tax receipts). As Indirect Business Taxes, industry payments are subject to a 25% income offset (BEA convention).
- All payments are assumed to be spent as Federal outlays.
- States are assumed to increase total medical spending by the amount of the residual state payments, generating a 57% Federal match.

**Potential Budgetary Impacts of Tobacco Agreement -- Assuming Industry Payments Are Classified As
Voluntary (Offsetting) Payments and Youth Targets Are Met**
(In billions of dollars)

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	1998	1999	2000	2001	2002	2003	04-08	98-03	98-08
Federal revenues:									
Industry payments:									
Up-front payment.....	10.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0
Public health trust funds in bill.....	0.0	2.5	2.5	3.6	4.0	5.0	7.5	17.5	25.0
Base amounts in bill.....	0.0	8.0	7.0	8.0	10.0	10.0	67.5	41.0	108.5
Adult sales volume adjustments.....	0.0	-1.1	-1.7	-2.6	-3.4	-3.7	-19.6	-12.5	-32.2
Credits for civil suits at cap.....	0.0	-1.4	-1.5	-1.6	-2.0	-2.0	-13.1	-8.5	-21.7
Inflation adjustments on above.....	0.0	0.0	0.2	0.4	0.8	1.2	9.7	2.6	12.3
Look-back surcharge.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
User fees for nonparticipants.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net penalties.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal, industry payments.....	10.0	8.0	6.5	7.7	9.4	10.4	51.9	60.0	101.9
Reduction in tobacco excise taxes (non-PAYGO).....	-0.4	-0.5	-0.7	-0.9	-0.9	-1.0	-5.0	-4.4	-9.3
Tax Indexation Impact of higher CPI (non-PAYGO).....	0.0	-0.1	-0.4	-0.7	-0.9	-1.1	-5.9	-3.3	-9.1
Total, Federal revenues.....	9.6	6.4	5.4	6.1	7.5	8.4	41.1	42.4	83.5
Federal outlays:									
Public health trust funds in bill.....	0.0	2.5	2.6	3.7	4.4	5.6	9.0	18.8	27.7
HHS direct programs and grants to States.....	0.0	0.1	0.1	0.1	0.2	0.3	1.4	0.9	2.3
FDA direct enforcement and grants to States.....	0.0	0.3	0.3	0.3	0.3	0.3	1.8	1.6	3.4
Grants to States for ASSIST-type programs.....	0.0	0.1	0.1	0.1	0.1	0.1	0.8	0.5	1.3
Direct Federal R&D to discourage tobacco use.....	0.0	0.1	0.1	0.1	0.1	0.1	0.8	0.5	1.1
Payments to tobacco-sponsored events/teams.....	0.0	0.0	0.1	0.1	0.1	0.1	0.5	0.3	0.8
Public educ. campaign run by non-profit board.....	0.0	0.5	0.5	0.6	0.6	0.6	3.1	2.7	5.7
HHS payments for tobacco use cessation programs.....	0.0	1.0	1.0	1.1	1.1	1.7	9.2	5.9	16.1
Spending of look-back surcharge (90% grants).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal, specified spending in bill.....	0.0	4.6	4.8	6.0	6.9	8.8	26.3	31.2	57.5
Unspecified residual to reach total payments.....	10.0	1.4	1.7	1.7	2.5	1.6	25.6	18.9	44.4
COLA impact of higher CPI (non-PAYGO).....	0.0	0.5	1.1	1.8	2.5	2.8	18.5	8.7	25.1
Total, Federal outlays, excl. debt Service.....	10.0	6.6	7.6	9.5	11.9	13.3	68.4	58.7	127.1
Federal deficit:									
Revenues (deficit effect).....	-9.6	-5.4	-5.4	-6.1	-7.6	-8.4	-41.1	-42.4	-83.5
Programmatic outlays.....	10.0	6.5	7.6	9.5	11.9	13.3	68.4	58.7	127.1
Debt service.....	0.0	0.1	0.1	0.3	0.6	0.7	8.1	1.6	9.7
Federal deficit.....	0.4	1.1	2.3	3.7	4.8	5.6	35.4	17.9	83.3
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect).....	-10.0	-6.0	-6.5	-7.7	-9.4	-10.4	-51.9	-50.0	-101.9
Outlays.....	10.0	6.0	6.5	7.7	9.4	10.4	51.9	50.0	101.9
Total PAYGO deficit effect.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADDENDUM: Potential additional Federal deficit effects (non-PAYGO):									
Potential increase in Federal matching grants.....	0.9	0.8	1.0	0.9	1.4	0.9	14.6	5.9	20.5
Post-2008 long-run medical care expenditures (-)....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Post-2008 long-run retirement programs (+).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1. Reduction in adult and youth tobacco consumption is assumed to result from price increases due to passthrough of industry payments. Youth consumption, but not adult, is also assumed to be reduced to target by access restrictions, public education, and cessation programs, etc.
2. Civil liability settlements are assumed to be at cap (33% of industry basic payments). Cap is assumed to be a single 33% cap for suits based on past and future conduct.
3. Surcharge double count adjustment is estimated as 80/60/40/20% of surcharge payments made 1/2/3/4 years prior.
4. No manufacturers are assumed to qualify for 75% good faith surcharge abatement.
5. All manufacturers are assumed to participate in the settlement.
6. All manufacturers are assumed to meet compliance plan and corporate culture requirements.
7. Amounts are assumed to increase for inflation as follows: (a) industry payments increase for inflation beginning in 2000; (b) outlays increase for inflation beginning in 2000; (c) surcharge amount and cap increase for inflation beginning in 1997.
8. All industry payments are assumed to score as Voluntary Payments (scored in Federal budget as offsetting receipts).
As Voluntary Payments (offsetting receipts), industry payments are not subject to a 25% income offset as would Indirect Business Taxes.
9. All payments are assumed to be spent as Federal outlays.
10. States are assumed to increase total medicaid spending by the amount of the residual state payments, generating a 57% Federal match.

**Potential Budgetary Impacts of Tobacco Agreement -- Assuming Industry Payments Are Classified As
Voluntary (Offsetting) Payments and Youth Targets are Not Met**
(In billions of dollars)

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	1998	1999	2000	2001	2002	2003	04-08	98-03	98-08
Federal revenues:									
Industry payments:									
Up-front payment.....	10.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0
Public health trust funds in bill.....	0.0	2.5	2.5	3.5	4.0	5.0	7.5	17.5	25.0
Base amounts in bill.....	0.0	6.0	7.0	8.0	10.0	10.0	67.6	41.0	108.5
Adult sales volume adjustments.....	0.0	-1.1	-1.7	-2.6	-3.4	-3.7	-19.8	-12.5	-32.2
Credits for civil suits at cap.....	0.0	-1.4	-1.5	-1.8	-2.0	-2.0	-13.1	-8.5	-21.7
Inflation adjustments on above.....	0.0	0.0	0.2	0.4	0.8	1.2	9.7	2.6	12.3
Look-back surcharge.....	0.0	0.0	0.0	0.0	0.0	2.4	9.5	2.4	12.0
User fees for nonparticipants.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net penalties.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal, industry payments.....	10.0	6.0	6.5	7.7	9.4	12.9	61.4	52.5	113.9
Reduction in tobacco excise taxes (non-PAYGO).....	-0.4	-0.5	-0.7	-0.9	-0.9	-0.9	-4.5	-4.3	-8.8
Tax Indexation Impact of higher CPI (non-PAYGO).....	0.0	-0.1	-0.4	-0.7	-0.9	-1.1	-6.9	-3.3	-9.1
Total, Federal revenues.....	9.6	5.4	5.4	6.1	7.6	10.9	51.0	45.0	96.0
Federal outlays:									
Public health trust funds in bill.....	0.0	2.5	2.6	3.7	4.4	5.8	9.0	18.8	27.7
HHS direct programs and grants to States.....	0.0	0.1	0.1	0.1	0.2	0.3	1.4	0.9	2.3
FDA direct enforcement and grants to States.....	0.0	0.3	0.3	0.3	0.3	0.3	1.8	1.6	3.4
Grants to States for ASSIST-type programs.....	0.0	0.1	0.1	0.1	0.1	0.1	0.8	0.6	1.3
Direct Federal R&D to discourage tobacco use.....	0.0	0.1	0.1	0.1	0.1	0.1	0.6	0.6	1.1
Payments to tobacco-sponsored events/teams.....	0.0	0.0	0.1	0.1	0.1	0.1	0.5	0.3	0.8
Public educ. campaign run by non-profit board.....	0.0	0.5	0.5	0.5	0.5	0.6	3.1	2.7	5.7
HHS payments for tobacco use cessation programs.....	0.0	1.0	1.0	1.1	1.1	1.7	9.2	5.9	15.1
Spending of look-back surcharge (90% grants).....	0.0	0.0	0.0	0.0	0.0	2.4	9.5	2.4	12.0
Subtotal, specified spending in bill.....	0.0	4.8	4.8	6.0	6.9	11.3	35.9	33.6	69.5
Unspecified residual to reach total payments.....	10.0	1.4	1.7	1.7	2.5	1.6	25.8	18.9	44.4
COLA impact of higher CPI (non-PAYGO).....	0.0	0.6	1.1	1.8	2.5	2.8	16.6	8.7	25.1
Total, Federal outlays, excl. debt Service.....	10.0	6.5	7.6	9.5	11.9	15.7	77.9	61.2	139.0
Federal deficit:									
Revenues (deficit effect).....	-9.6	-5.4	-5.4	-6.1	-7.6	-10.9	-51.0	-45.0	-96.0
Programmatic outlays.....	10.0	6.5	7.6	9.5	11.9	15.7	77.9	61.2	139.0
Debt service.....	0.0	0.1	0.1	0.3	0.5	0.7	8.0	1.6	9.7
Federal deficit.....	0.4	1.1	2.3	3.6	4.8	6.6	34.9	17.8	52.7
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect).....	-10.0	-6.0	-6.5	-7.7	-9.4	-12.9	-61.4	-52.5	-113.9
Outlays.....	10.0	6.0	6.5	7.7	9.4	12.9	61.4	52.5	113.9
Total PAYGO deficit effect.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADDENDUM: Potential additional Federal deficit effects (non-PAYGO):									
Potential increase in Federal matching grants.....	0.9	0.8	1.0	0.9	1.4	0.9	14.6	6.9	20.5
Post-2008 long-run medical care expenditures (-)....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Post-2008 long-run retirement programs (+).....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1. Reduction in tobacco volume is assumed to result solely from price increases due to passthrough of industry payments. Access restrictions, public education, and cessation programs are assumed to have no additional effect.
2. Civil liability settlements are assumed to be at cap (33% of industry basic payments). Cap is assumed to be a single 33% cap for suits based on past and future conduct.
3. Surcharge double count adjustment is estimated as 80/60/40/20% of surcharge payments made 1/2/3/4 years prior.
4. No manufacturers are assumed to qualify for 75% good faith surcharge abatement.
5. All manufacturers are assumed to participate in the settlement.
6. All manufacturers are assumed to meet compliance plan and corporate culture requirements.
7. Amounts are assumed to increase for inflation as follows: (a) industry payments increase for inflation beginning in 2000; (b) outlays increase for inflation beginning in 2000; (c) surcharge amount and cap increase for inflation beginning in 1997.
8. All industry payments are assumed to score as Voluntary Payments (scored in Federal budget as offsetting receipts). As Voluntary Payments (offsetting receipts), industry payments are not subject to a 25% income offset as would Indirect Business Taxes.
9. All payments are assumed to be spent as Federal outlays.
10. States are assumed to increase total medicaid spending by the amount of the residual state payments, generating a 57% Federal match.

SUMMARY OF DISPOSITION OF SETTLEMENT FUNDS 1998-2008, nominal dollars)

	Indirect Business Tax		Voluntary Payment	
	Target Met	Target Not Met	Target Met	Target Not Met
Gross Industry Payment	101.9	113.9	101.9	113.9
Potential Offsets:				
Federal Indirect Business Tax Offset	25.5	28.5	N.A.	N.A.
Increased Federal Indexation Costs	34.2	34.2	34.2	34.2
Decreased Federal Excise Taxes	9.3	8.8	9.3	8.8
Decreased State Excise Taxes	12.6	11.9	12.6	11.9
Subtotal	81.6	83.4	56.1	54.9
Net Industry Payment	20.3	30.5	45.8	59.0
Specified Uses of Funds				
Explicitly Federal	43.9	43.9	43.9	43.9
Federal Share of Grantable Uses	2.9	2.9	2.9	2.9
Explicitly State	1.3	1.3	1.3	1.3
State Share of Grantable Uses	2.9	2.9	2.9	2.9
Private	6.5	6.5	6.5	6.5
Subtotal	57.4	57.4	57.4	57.4
Remaining Net Funds	(37.1)	(26.9)	(11.6)	1.6
Percent of Gross Industry Payment	-36.4%	-23.6%	-11.4%	1.4%
Memorandum:				
Gross Payment Less Specified Uses	44.5	56.5	44.5	56.5

Office of Economic Policy

Department of the Treasury • Washington, D. C. 20220

FAXDate: July 28, 1997Number of pages including cover sheet: 7

	Name	FAX Number	Phone Number
To:	<u>Joe Menarik</u>	<u>395-1198</u>	<u></u>
	<u>Paul Weinstein</u>	<u>456-7028</u>	<u></u>
	<u></u>	<u></u>	<u></u>
	<u></u>	<u></u>	<u></u>
	<u></u>	<u></u>	<u></u>
	<u></u>	<u></u>	<u></u>
	<u></u>	<u></u>	<u></u>
From:	<u>Jon Gruber</u>	<u>202-622-2633</u>	<u></u>

REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

DRAFT -- 7/28/97

REVISING THE LOOK-BACK

The proposed settlement contains a "look-back" provision with the stated purpose of providing economic incentives to tobacco firms to achieve "dramatic and immediate reductions in the number of underage consumers of tobacco products." Manufacturers would face a surcharge if tobacco-use reduction targets for underage users are not met. The surcharge would be imposed on the basis of a "look-back" comparing actual underage teen tobacco use to the targeted reduction percentages. Manufacturers could petition the FDA for partial abatement of the surcharge if they act in good faith and in full compliance with the Act.

The chart illustrates the targeted reductions in teen smoking, and the paths of teen smoking projected to occur under alternative assumptions about the passthrough into prices of the industry payments under the proposed settlement. Clearly, the price increases induced by the other aspects of the plan will not be sufficient to cause the targets to be met.

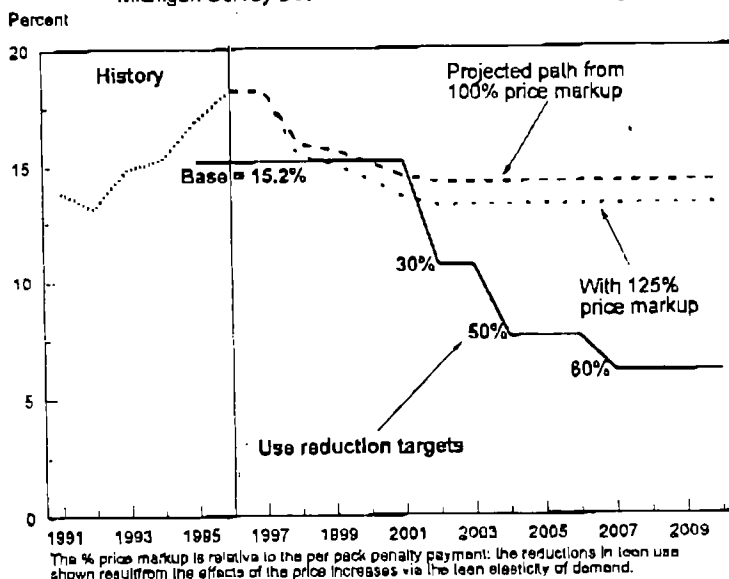
PROBLEMS AND PRINCIPLES

The settlement's look-back provision is based on the principle that the penalty should reflect the present discounted value of the profits earned by attracting youth smokers over and above the targeted number. But such a penalty merely makes the industry indifferent about whether it meets the target or not. A larger penalty is required to achieve meaningful deterrence. To correct this and other problems, the structure of the look-back should be altered in some rather fundamental ways.

1. Penalty as a multiple of profits: No \$2 billion cap. To assure that firms are given an adequate incentive to reduce underage youth smoking, *the surcharge penalty should be a multiple of the present value of profits and the \$2 billion cap should be eliminated.*

- The base amount for the surcharge in the agreement -- \$80 million per percentage point of underage use in excess of the reduction target percentage -- was determined as part of the negotiations between the Attorneys General and the industry. Our estimates indicate the "break-even" surcharge level under the current structure would be about \$53 million per percentage point. Our estimates differ from those used in the settlement primarily because we assume a discount

Underage Daily Cigarette Smoking Percentages and Targets
Michigan Survey Data and Settlement Look Back Targets



rate more in line with the corporate cost of capital -- a 10% real rate -- compared to the 4 % real rate used by the Attorneys General.

- A penalty which is set exactly equal to the foregone profit stream offers no incentive to reduce youth smoking. Instead, the penalty should be a multiple of foregone profits, to provide an incentive to firms to find ways to reduce youth smoking. Setting the penalty as a multiple -- say 3 times -- of profits would point to a base surcharge level of about \$160 million under the current structure of the settlement.
 - The current structure includes a \$2 billion cap for annual industry payments under the look-back surcharge. But this cap would have the perverse feature of removing the incentive to reduce youth smoking if youth smoking were to remain high. Moreover, it is more likely that the cap would be hit under the principle of having the surcharge penalty be a multiple of profits. Thus, *this cap should be removed.*
2. No tax deductibility: *The surcharge payments should be treated as a fine or penalty for tax purposes.*
- Typically, payments required to be payable to government entities as fines or penalties are *not* tax deductible. The agreement states, however, that payments "shall be deemed ordinary and necessary business expenses . . . and no part thereof is a . . . fine or penalty . . .". *We should reiterate that these payments are fines and are not tax deductible.* (If, contrary to our recommendations, deductibility is retained, the fine estimates shown below should be increased by about 50%).
3. No Volume Adjustment: *The base surcharge should not be reduced by a decline in the volume of industry sales.* The agreement calls for the surcharge amount to be adjusted for the change in the sales-weighted level of per unit profits. The sales adjustment would be relative to a base 1996 level.
- With the volume adjustment, firms would be able to pass the penalty through to customers through price increases and not bear the penalty themselves. However, if the volume adjustment is eliminated, to the extent that the costs are absorbed by the firms and their stockholders, the effect on prices and teen use would be reduced.
4. Company by Company Fines: *Fines should be levied on a firm-by-firm basis to avoid free-rider problems.* A significant problem with the current structure of the look-back surcharge is what economists call a "free rider" problem. Because the targets are specified based on industry-wide underage usage, individual firms have the incentive to

keep selling to youths because they reap the full reward while bearing only part of the penalty. As each firm has these same incentives, in practice it is less likely that the reduction targets would be met. However, there are daunting data problems with a company-by-company approach that must be addressed:

- Company-by-company fines would require that the Michigan Survey be expanded to ask the underage tobacco users about their brand preferences and use. We estimate that the sample would have to be increased at least 5 times in size in order for the results to be accurate to within plus or minus 1 percentage point at the individual firm level. Additional funding -- albeit small relative to the size of the agreement -- would be required to make changes to the survey and increase the sample size.
 - It is not yet known what the base market share is for each company; if the Michigan Survey were expanded for that purpose, firms would have an incentive to boost their sales to teens in the near term so as to establish an inflated baseline from which to attain reductions.
 - A mechanism must be developed to deal with reported use of more than one brand. One approach would be to use existing market shares among youths to apportion multiple-brand smokers.
 - Implementation on a company-by-company basis would require that the fines be specified on a *per youth smoker* basis in order to make proper calculations.
5. Improved Partial Abatement Mechanism: *The partial abatement* -- under which firms could receive up to 75% abatement of the surcharge -- *should be adjusted to create the proper incentives.*
- There is substantial concern that the abatement in its present form would erode the incentive provided by the surcharge and likely would cause it to do little actual "work" in its stated purpose of having firms comply with the agreement. Many believe that it would be too easy for firms to qualify for the abatement.
 - In general, there is a tradeoff between motivating firms to follow the rules and motivating them to promote lower smoking. A substantial abatement would offer strong incentives to follow the rules, but would limit incentives to consider innovative means of lowering youth smoking. Eliminating the abatement would provide an incentive to firms to figure out how to lower youth smoking, but offer no penalty for not following the rules.
 - In addition, there is some concern that teen smoking, and in particular choice of brand, is to a large extent beyond the control of the individual companies.

These considerations suggest that the proper penalty structure should have two parts:

- a *non-abatable penalty* which is substantially higher than forgone profits, to provide the incentive to firms to find ways to reduce teen smoking of their brand. This must be higher than foregone profits to provide private incentives.
- an *abatable penalty* which is removed if firms are found (through a clear and unambiguous regulatory process, not a judicial process) to have "followed the rules". The government should have the flexibility to update these regulations to capture innovations in youth smoking reduction.

OPTIONS

The following options serve as alternatives to the look-back structure as it presently exists in the negotiated settlement:

- I. Eliminate the undesirable parts of the current structure. The first alternative is made up of the principles presented above: penalties as a multiple of profits; no penalty cap; no tax deductibility for the fines; no volume adjustment; company-specific penalties; and an improved abatement mechanism.
 - We would set the non-abatable portion of the penalty at twice foregone profits, and the abatable portion at once foregone profits
 - Our calculations show that the *break-even* value for the fine would be about \$1170 *per youth smoker*. Over time, the \$1170 base value would have to be adjusted by the change in industry per unit profits (\$ per unit) relative to the base year of the agreement -- otherwise it could be eroded by inflation and wouldn't capture true profit effects.
 - The principle of having the penalties be a multiple of profits would therefore point to a total base surcharge level of \$3510 per youth smoker, of which \$1170 per smoker would be abatable.
 - The use-reduction targets on a firm-by-firm basis would be specified as the number of teen smokers consistent with the targeted percentage reduction (e.g. 60%) from the base number of teens who smoked that firm's product. This number would be adjusted to account for the percentage change in the overall population of teens from the base year to the surcharge year.

II. **Nonlinear penalties by amount of youth smoking.** The *non-abatable* part of the surcharge could be structured to cost more per percentage point of youth use at higher levels than at lower levels.

- A suggested schedule, once fully phased in, might be:
 - teen use declines by between 50-60%: fine is 2 times profits
 - teen use declines by between 40-50%: fine is 2.5 times profits
 - teen use declines by between 30-40%: fine is 3 times profits
 - teen use declines by between 20-30%: fine is 3.5 times profits
 - teen use declines by between 10-20%: fine is 4 times profits
 - teen use declines by less than 10%: fine is 5 times profits
- Another way of implementing this nonlinear penalty approach would be to have the abatement percentage increase as the level of teen smoking got closer to the reduction target.
 - If we are certain that there are some private actions that companies can take to reduce smoking, but we aren't sure how far they can go, this would have the virtue of providing the incentive for them to do what they can without over-penalizing them.
 - For example, the overall fine could be 5 times profits, with no abatement for a reduction of less than 10%, and a 10% increase in abatement for each 10% reduction in smoking (so that the abatement hits 60% at a 60% reduction in smoking), provided the firm follows the rules.

III. **Nonlinear Penalties by Age.** Under the principle that the earlier a youth is kept from smoking, the easier it likely will be to keep the youth from ever smoking, this option would establish penalties that are more severe for younger youth smokers and less severe for older youth smokers.

- Based on the survey data by age of youth smoker, the nonabatable part of the penalty could be specified to be a higher multiple of profits for eighth grade users -- say 5 times profits -- then decline to 3 times profits for 10th graders and 1 times profits for high school seniors.
- An alternative way to introduce this option would be to *eliminate the double-counting adjustment*. In practice, with the elimination of the double counting adjustment, firms would face the prospect of paying for a 13-year old smoker five times over a 5-year period. That would produce a significant incentive for firms to keep young teens from taking up smoking.

- An additional justification for eliminating the double-counting provision is that it would be extremely difficult in practice for the FDA to calculate the proper adjustment for double-counting. The targets are specified in terms of the percentage reduction of all underage users and not the number of users by age category. This problem would be further complicated if fines were to be specified on a company-by-company basis.

IV. Penalize firms for smokers under the age of 21, not just 13- to 17- year olds. Data show that 90% of adult smokers begin smoking as teenagers. If the reduction targets are specified in terms of 13-17 year-olds, the industry may just simply target older teens. This concern argues for expanding the use-reduction targets to include 18-20 year-olds.

- The teen use survey would have to be expanded even further in the effort to identify the percentage of smokers 18-20 years old.
- Approximate calculations indicate that the base surcharge per smoker would be higher under this option, at about \$4000 per youth smoker. Industry lost profits are higher (at \$1340) because of the more intensive smoking that occurs at the higher ages and because of the fact that individuals kept from smoking by age 21 will be less likely to take up smoking as adults (relative to not smoking by age 18).
- From a philosophical as well as practical standpoint, it may be undesirable to penalize a private firm for making a legal sale of a legal product to a legal adult. It may be preferable to *raise the legal age to 21* if the intent is to reduce under-21 smoking. Raising the legal age would have the additional benefit of making it more difficult for high schoolers to have friends who have access to cigarettes. Raising the legal age could be done even if the look-back surcharge is put in place.
 - If the legal age were to be raised, it presumably would have to be phased in to "grandfather" those who currently are under 21 and are legally permitted to purchase cigarettes.

An Economic Analysis of the Tobacco Settlement

I. Overview

The tobacco settlement marks an implicit acknowledgment by the major tobacco manufacturing companies that the tide of history has turned against them. Nevertheless, they appear to have struck a quite favorable deal. They have been relieved of substantial financial uncertainty and potential financial ruin from an endless stream of individual and class action lawsuits—they no longer have to fear being “Johns-Manvilled”. Although they are required to make substantial annual payments, they are expected to collect those payments from smokers in the form of higher prices—the payments do not come out of their bottom line. Indeed, they are encouraged to work together to achieve this goal. This and other collusion-facilitating aspects of the deal will probably lead to a consolidation of market power and will most likely make the major tobacco manufacturers far better off financially than they would be in the absence of a settlement.

The settlement tries to achieve multiple, sometimes conflicting objectives, including discouraging smoking, punishing the tobacco industry for past behavior, and encouraging better behavior by the industry. To discourage smoking, for example, the settlement requires an increase in the price of cigarettes, but this lets the companies off the hook for paying any of the penalty. The initial payment, by contrast, punishes shareholders but does not discourage smoking. A key question for consideration is whether the right balance has been struck among these objectives. The current deal offers very valuable insurance to the tobacco industry at what appears to be relatively little cost, allowing them to collect their penalty payments through higher prices, and facilitating collusion in the industry through mechanisms such as an advertising ban. A restructuring of the settlement that shifted more of the financial burden onto the companies could also increase the public monies available to pursue desirable public health objectives. That is, if there are substantial rents to the tobacco industry from this settlement, they should be willing to agree to even steeper public health benefits than are currently envisioned in the parameters of the settlement.

This memo does not consider the structure of the youth smoking “lookback” penalties. This issue is the subject of a separate memo prepared by Treasury.

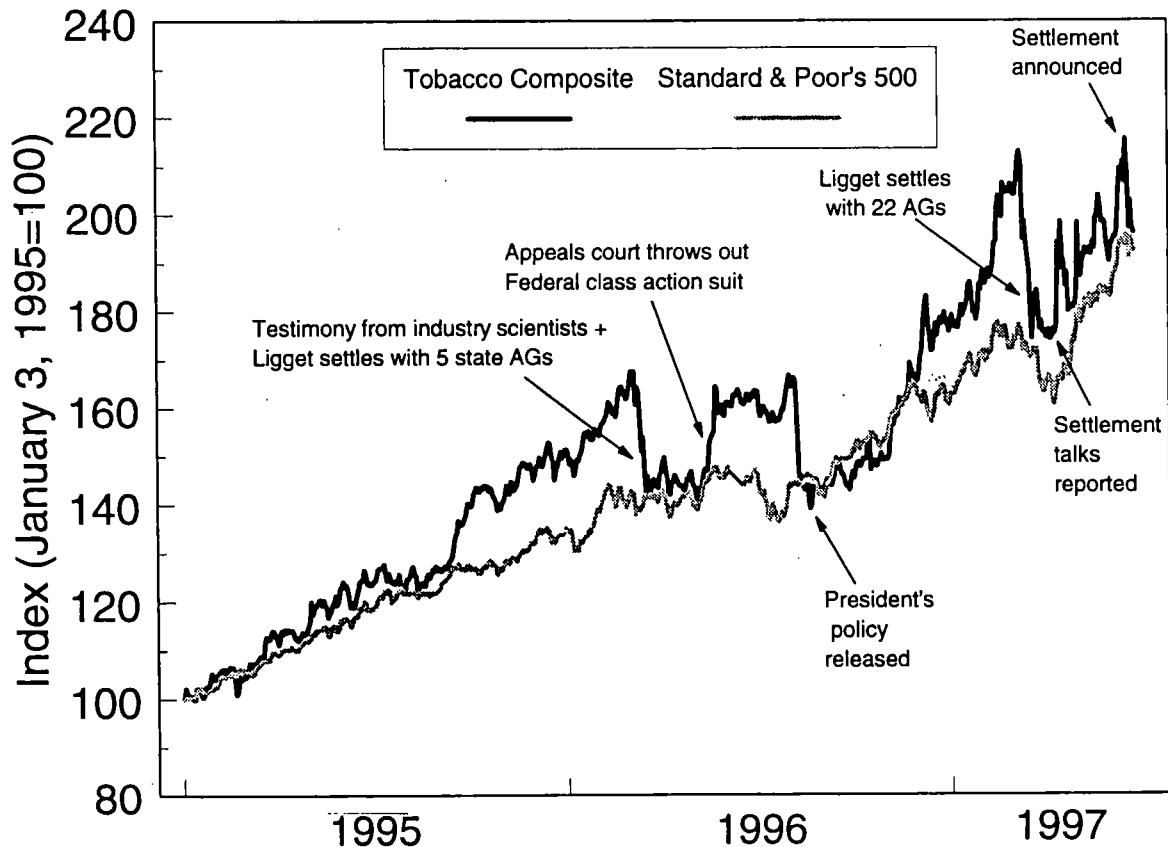
II. Wall Street reaction

Wall Street financial analysts generally view the settlement as quite favorable to the industry. Major analysts expect tobacco stocks to perform well, primarily because the substantial reduction in uncertainty about litigation removes the heavy discount for risk.

Over the past few years tobacco stocks have fluctuated in response to changes in the litigation outlook (see chart on next page). When settlement talks were announced April 16, tobacco stocks jumped sharply. Since that time, 18 analysts have made announcements to confirm or raise recommendations to buy, one confirmed a fairly low rating, and 3 recommended cut. The strong buy signal from analysts has not yet been translated into a substantial jump in actual share prices (which, apart from fluctuations, have risen roughly in line with the broader market). The major reasons

appear to be uncertainty about whether the deal will survive the political process without further regulatory or financial hits to the industry and whether state and local governments or foreign governments will also try to take a bite out of this apple.

The key to Wall Street analysts positive reception appears to be the reduced risk of bankruptcy offered by the deal in its present form. For this reason they expect that the ratio of share price to earnings to rise from a discount of one-quarter to one-third off the average for the equity market to parity or near parity. Earnings per share are, however, expected to fall modestly as the initial payment is absorbed and the industry adjusts to rising prices. To illustrate what might happen, consider the dominant firm Phillip Morris. It is currently trading at about 16 times earnings and has a market valuation of about \$100 billion. If earnings fell 10 percent but the price-earnings ratio rose to 20 (a little below the current stock market average), the value of Phillip Morris stock would rise to \$112.5 billion ($P_{new} = (20/16) * (9/10) * P_{old}$). Thus, the value of Phillip Morris' stock would rise by \$12.5 billion, more than the entire \$10 billion initial payment due from the industry.



III. How the industry payment works

The industry payment is structured to function like an excise tax on tobacco products. Apart

from an initial payment of \$10 billion, the actual industry payment will depend on industry sales. The settlement lays out a schedule of base payments (which begin at \$8.5 billion in the first year, but quickly ramp up to \$15 billion a year in perpetuity). The base payment is to be adjusted for inflation (by the greater of 3 percent or the annual increase in the CPI). What makes the payment like an excise tax is that it is adjusted to reflect changes in the quantity sold. The quantity adjustment is equal to the ratio of sales in the payment year to sales in the base year (the actual formula uses sales to adults in the case of declining quantity and total sales in the less likely case of increasing quantity). This quantity adjustment is equivalent to a per-unit payment equal to the inflation-adjusted base payment divided by the base quantity. Applied to all tobacco products, the excise tax equivalent of a \$15 billion payment is about 58 cents; applied just to cigarettes it is about 62 cents. The settlement calls for the payment to be reflected in the price of tobacco products but it does not prescribe a precise formula for how this should be done.

In addition to the quantity adjustment, the settlement calls for what amounts to an excess profits tax of 25 percent. In particular, the agreement specifies that any reduction in the industry payment associated with the quantity adjustment is to be reduced by 25 percent of incremental profits, if industry operating profits are higher than they were in the base year.

IV. Price and quantity effects: incidence and industrial organization considerations

Statistical evidence suggests that consumers would reduce purchases of cigarettes by about 4 percent in response to a 10 percent increase in price. Over time, however, consumers would probably demonstrate a greater responsiveness to price (6 or 7 percent reduction in quantity) as fewer people take up smoking and more people quit. Teenagers, which represent about 7 percent of smokers (but consume fewer packs than adults), appear to be more responsive to price than adults. Treasury estimates that the excise-tax-equivalent of the industry payment is 58 cents per pack for cigarettes. If this were passed on to consumers on a 1-for-1 basis, the average price of cigarettes would rise from \$1.85 to \$2.43 per pack, and overall cigarette consumption would decline by about 22 percent within 5 years compared with what consumption would be under current law (smoking has been declining at about a half percent per year in recent years independent of price changes).

Antitrust experts have raised concerns that the settlement will strengthen the market power of the signers and may lead to the price rising by more than the excise-tax equivalent of the industry payment. Although the tobacco industry is highly concentrated and enjoys relatively high profit margins, a mix of rivalry and antitrust prohibition of outright collusion have kept the market price well below the monopoly profit-maximizing level (but above what it would be in a strongly competitive market). Faced with "inelastic" demand, the industry could increase profits by raising the price: The gain in profits on the cigarettes it continued to sell would more than offset the loss in profits resulting from selling fewer cigarettes. One economist has estimated that the profit-maximizing price is at least \$4.00 per pack, but it could be considerably higher. To the extent that the settlement facilitates cooperative price fixing (it has language calling for an antitrust exemption), discourages entry, reduces advertising which largely leads to brand substitution and not new smoking, and raises the costs of output expansion, it could lead to price increases greater than the excise-tax equivalent of the industry payment. A greater-than-1-for-1 pass through of the industry payment will lead to increased industry profits even as the volume of cigarette consumption goes down.

Individual companies, especially non-signers, worry a lot about how the payments will be allocated among companies. In the cigarette industry, Liggett argues that they may be driven out of business by the settlement. But Liggett's survival prospects were suspect before the settlement. In the smokeless tobacco market, a number of smaller companies that were not parties to the settlement worry that the settlement will be much more financially burdensome to them than it will be to the dominant firm (UST, with two-thirds of the market) and that it may provide UST with the ability to raise their costs and drive them out of business. These issues are not central to an evaluation of the economic effects of the settlement, but are indicative of how the settlement strengthens the market position of the companies that are party to the settlement.

V. Other incentive considerations

Besides the industry payment and the youth "lookback" provisions, three other aspects of the settlement may merit attention:

A. Incentives to develop "less hazardous" tobacco products

In the past, the tobacco industry has not developed many innovative, safer products—in large measure because to develop and promote safer products would have been to acknowledge the harm done by existing products. But some innovations, like filters and reduced-tar cigarettes, do appear to have followed the release of adverse health news about smoking. In the current environment, in which are companies admitting that their products are harmful and consumer awareness of smoking's risks is heightened, individual companies may be more likely to view the development of safer products as a profitable endeavor. The settlement hopes to encourage the development of less hazardous products by requiring full disclosure of such products and requiring manufacturers to license them to others at "commercially reasonable" fees.

A system of forced disclosure and mandatory licensing reduces the incentive to innovate compared with a patent system. To the extent that all the information needed to develop less hazardous products has already been developed, disclosure and licensing have the beneficial effect of encouraging rapid dissemination of that knowledge. But they can have a chilling effect on the development of new knowledge. If companies think they will have to disclose R&D results prematurely or will have to share most of the benefits of their R&D efforts with other companies, they will invest less than if they expected to be able to appropriate more of the benefits for themselves. This subject is discussed in more detail in a separate memo.

B. Incentives with respect to lawsuits

The Settlement limits industry's incentive to fight lawsuits and could encourage the government to limit lawsuits even more than the Settlement. The Agreement would eliminate class-action suits and punitive damages for past harm. Individuals could still sue for damages (just not punitive damages), and 80 percent of any awards in these suits would be paid from the Settlement Fund (subject to an annual limit, excess claims are carried over to the next year). This means that the industry has little incentive to fight these cases and that the States and the Federal government—who are the residual claimants to the Settlement Fund—would be in the peculiar position of not necessarily wanting to see the funds exhausted by private suits.

C. Incentives for lawyers

What lawyers would get from the settlement is not specified in the Agreement. We do not know specifically what agreements attorneys have with States for payment, but many may have contingency agreements which could give them up to a third of the settlement. (How this would work in practice is not clear.) Similarly, under Medicaid statute, the States are allowed to deduct reasonable costs of litigation up to 50 percent of the settlement before splitting it with the Federal government.

VI. Macroeconomic and sectoral impacts

Employment in the tobacco manufacturing industry accounts for less than 50,000 jobs (over the past year, the economy has generated far more than 100,000 jobs per month). What happens to tobacco manufacturing does, however, affect both upstream (tobacco growers) and downstream (wholesalers and retailers) industries. About 125,000 farms grow tobacco, but many engage in the production of other products as well. Lost sales due to a 60 cent increase in the price of cigarettes would amount to about \$885 per farm, on a tobacco crop worth an average of \$18,000 per farm.

Any employment effects of changes in the tobacco industry would be concentrated in the Southeast tobacco region of the country. One study estimates that this industry was responsible, directly or indirectly, for about 300,000 jobs in 1993. This deal will, at most, reduce the firms' domestic market by less than one-quarter, and leave unaffected their growing international market. Moreover, there will be job growth elsewhere in response, for example in the development of alternative nicotine delivery systems. So the effects here will be very small.

VII. Policy options

It seems likely that the settlement will achieve its goal of raising the prices of cigarettes and other tobacco products, but at the same time the industry may profit unduly from the settlement, relative to their alternative future of legal uncertainty. The following options address ways of capturing more of the industry "surplus" generated by the settlement, providing more funds that can be used to finance our public health objectives:

A. Increase the size of the industry payment

The current settlement calls for an initial payment of \$10 billion, annual payments that quickly escalate to \$15 billion, and an excess profits tax of 25 percent. Each of these could be increased.

1. Increase the initial payment

The settlement greatly reduces the risk of bankruptcy from litigation and is expected to confer a large stock market gain on shareholders. Increasing the initial payment from \$10 billion to \$20 or \$30 billion would increase the "price" to shareholders of reducing litigation risk. This is one way of increasing the present discounted value of the industry payments. To the extent that the payment is a one-time charge, it will not necessarily be translated into an increase in the price of cigarettes

and it will hit shareholders directly rather than smokers.

2. Increase the annual payment

The annual payment is determined by applying the quantity adjustment to a base payment (\$15 billion). The quantity adjustment is what makes this a per-pack payment.

Raising the amount of the annual payment but retaining the quantity adjustment would increase the excise-tax equivalent impact of the payment on the price of cigarettes. The price of cigarettes would go up and smoking would be reduced accordingly, but the burden on continuing smokers would increase. With a large enough increase, the monopoly profit-maximizing price would be achieved. The domestic cigarette industry will have been turned into the equivalent of a state-owned monopoly with the companies serving as the producers and tax collectors and earning a normal profit for their efforts.

Removing the quantity adjustment entirely would turn the industry payments into a fixed cost and eliminate the excise-tax equivalence feature. The impact on pricing decisions would depend on the way the costs were allocated. If the allocation were based on future sales or market shares, firms' decisions would be affected at the margin; this would act just like a volume adjustment. If firms' payments were fixed in advance, perhaps proportionally to historical market share, marginal decisions (other than whether or not to stay in business) would be unaffected. More thought needs to go into whether this is more like a recurring fixed cost or an increase in the per-pack excise-tax equivalent.

Another possibility is to make part of the annual payment fixed and part variable. For example, companies could have a fixed obligation determined by base-period market share and a per pack payment based on current sales.

3. Increase the "excess profits tax"

Under the agreement, the industry payment is increased if profits go up. The rate of this "excess profits tax" could be increased to 50 percent or 75 percent. However, the major firms are large multinational enterprises with some discretion about how and where they report accounting profits. Thus, it might be difficult to detect and collect any excess profits tax.

B. Set targets for product sales and auction quantity licenses

This option would set quantity targets for tobacco products and require that sellers have a permit for each unit sold. Auctioning off the permits would give government the surplus over normal operating profits and the quantity of product would be fixed. Price would rise to the market clearing level. Relative to raising the annual payment in a volume adjusted fashion, this approach would also greatly reduce smoking but let the government capture the surplus.

C. Establish payments that penalize deviations from desired quantity targets

This option would set annual (company-specific?) product quantity targets. There would be

a base payment that would be increased (perhaps on an increasing basis) according to how far from the target actual sales turn out to be. This option might be difficult to design and administer but it could provide substantial incentives to companies to reduce their sales to meet the targets. (This parallels an option in the youth-smoking discussion paper.)

D. Replace the industry payments with a Federal excise tax

Rough estimates indicate that a \$1 per pack increase in the excise tax on cigarettes would generate about \$15 billion in additional revenue each year, while at the same time generating a 38 percent decline in overall cigarette sales and a 38 percent decline in the number of teen smokers. The current structure, by contrast, leads to a loss of Federal excise tax revenue because it reduces the quantity of cigarettes sold.

The Tobacco Settlement and Incentives to Develop Reduced-Risk Tobacco Products
July 29, 1997

I. Background

In the past, the tobacco industry has not developed many innovative, reduced risk products -- in large measure because to develop and promote safer products would have been to acknowledge the harm done by existing products. But some innovations, like filters and reduced-tar cigarettes, do appear to have followed the release of adverse health news about smoking. In the current environment, in which companies are admitting that their products are harmful and consumer awareness of smoking's risks is heightened, individual companies may be more likely to view the development of reduced risk products as a profitable endeavor.

The Settlement includes provisions intended to speed the introduction of reduced risk products. According to the Settlement, the goal of these provisions "is to guarantee that a mechanism exists to ensure that products which appear to hold out the hope of reducing risk are actually tested and made available in the marketplace and not held back." The types of innovations expected to be introduced include the removal of toxic constituents from cigarettes, a reduction in the nicotine content in cigarettes, and alternative delivery devices for nicotine that remain attractive to consumers.

II. Provisions of the Settlement

Provisions relating to reduced risk products are in Title I, Section E, Part 4 of the Settlement. Manufacturers will be required to:

- Notify FDA of any technology that they develop or acquire and that reduces the risk from tobacco products, and
- For a "commercially reasonable" fee, cross license all such technology to those companies also covered by the same obligations. Procedural protections will be built in to resolve license fee disputes.

Other provisions include:

- If the technology is in early development stages, manufacturers will be provided confidentiality during the development process.
- The FDA will have the authority to mandate the introduction of less hazardous products that are technologically feasible by requiring the manufacturer who owns the technology to introduce the product or to license the technology to another producer. If no

manufacturer or licensee brings such products to market in a reasonable time frame set by FDA, the U.S. Public Health Service may produce the product, either itself or through a licensing arrangement.

III. The economic tradeoff between dissemination and incentives for R&D

One concern with these provisions is that they effectively eliminate the patent system for tobacco products. Economists have long struggled with the optimal design of a patent system. If new innovation occurred spontaneously -- without the need to invest in R&D -- society's interest would be best served by requiring immediate, full disclosure and licensing of new products and technologies without fee. But innovation generally does require investment -- and full disclosure coupled with free adoption by other firms provides little or no incentive for such investment to be undertaken. The patent system therefore grants a property right to the inventor "to exclude others from making, using or selling the invention."¹ The fundamental tradeoff in the patent system -- inherent in designing the length and comprehensiveness of the patent protection -- is to balance the need to encourage R&D with the desire to disseminate new discoveries as quickly as possible.

IV. The Settlement and incentives

The Settlement's provisions, especially the cross-licensing requirement, are near one extreme of possible patent systems. They ensure rapid dissemination of new discoveries, but provide little incentive for firms to invest further in the processes that could lead to such discoveries. A crucial question to answer is how much of the total possible R&D has been undertaken, and how much remains to be done. In the area of removing toxins from cigarettes, much -- though not all -- is apparently already technologically feasible. Some analysts believe that current knowledge would also allow a reduction of the nicotine content in commercially viable cigarettes within a relatively short period (e.g., 6 months); others believe that such products are a decade away. *A critical technical question for FDA and others to answer is to give a best guess as to how much research remains to be undertaken, and in what specific areas.*

To the extent that most of the relevant R&D has already been undertaken, the incentive problems are not significant. *Enforcing full and even free cross-licensing of extant R&D may not pose the same incentive problems as enforcing cross-licensing of future R&D.* Two potential dangers with cross-licensing existing R&D are (1) it may damage the government's credibility that such a requirement will not be repeated in the future, thus reducing incentives for future R&D; and (2) it may be difficult to define an "existing" innovation (how would a prototype be classified, where the bulk of the costs are bringing it to market?). Despite these potential problems, it may be useful to draw a distinction between cross-licensing of existing R&D and

¹ Patents are granted for a term of 17 years (14 years for design patents), which may be extended only by a special act of Congress (except for certain pharmaceutical patents). After expiration of the term, the patentee loses rights to the invention.

future R&D.

Another important incentive question is to what extent the firms will be allowed to market their innovations. The FDA and others raise legitimate concerns about allowing marketing of reduced risk tobacco products: by providing a government imprimatur of reduced health risks, allowing such advertising may induce more smoking (either by non-smokers or by those who had intended to reduce their smoking levels). So even if each cigarette is "safer," the public health risk may be expanded because of the increase in total smoking relative to the baseline. *To the extent that advertising of reduced risk products is not allowed, however, firms will have little interest in developing such products.*

One possibility -- which may not be technically feasible -- would be to allow firms to publish "health hazard ratings." For example, cigarette packages could carry health hazard ratings of 90, 95, or 100 depending on the risks profile of the product.² It seems unlikely that a product carrying a health hazard rating of "90" would be much more attractive to a non-smoker than one carrying a rating of "100." Such a system could provide firms with some incentives to develop safer products -- because extant smokers would pay attention to the health hazard rating -- while minimizing the potential for perverse results. The system would also facilitate a CAFE-like regulation that cigarette sales by each individual producer could have a mean health hazard rating of no more than some level.

V. Options

The above discussion suggests several possible options:

1. *Maintain current provisions.* The current provisions provide limited incentives for innovation, but strong incentives for diffusion. This solution is acceptable if we believe that most of the knowledge about developing safer products already exists -- and there is therefore more to be gained from disseminating what is known than from trying to develop new knowledge and new products and technology.
2. *Require full (and perhaps free) cross-licensing of existing knowledge but not future discoveries.* As noted above, this option would efficiently diffuse the existing stock of knowledge without affecting firms' incentives for future investments in R&D. Future R&D efforts could be governed by the regular patent system, or one of the options below. One important detail in such a system would be the delineation of existing R&D from future R&D.
3. *Grant patents for a limited period.* The Settlement effectively eliminates the patent period. An intermediate position, which would provide more balance between incentives and dissemination, would shorten the patent period from 17 years to perhaps a few years. At the end

² Given the difficulty of distinguishing real health benefits, the scale should only include a few discrete levels -- perhaps 90, 95, and 100 -- instead of being continuous.

of the patent period, other firms would have free access to the knowledge.

4. *Grant patents for a limited period and then have the tobacco fund buy out the patent holder (could be combined with #2).* One solution to the tradeoff between dissemination and incentives is to have the government buy out the patent holder and then license the knowledge to other producers (perhaps for a nominal fee). For example, we could grant a 2-year patent for tobacco products. At the end of the 2-year period, the tobacco fund would compensate the patent holder for some multiple (e.g., 3) of profits from the patent over that period -- a proxy for the present value of the profits from the patent itself. The patent will then expire, and the knowledge could be distributed to other firms for free or for a nominal fee, ensuring relatively rapid dissemination. This structure would maintain incentives for future R&D, encourage patent holders to market their innovations aggressively during the patent period, and ensure dissemination after the end of the patent period.

5. *Eliminate cross-licensing requirements.* Eliminating the cross-licensing provisions would allow companies to profit from innovation as they would in any other industry, thus encouraging future R&D. Concerns about strategic withholding of innovations and the related lack of diffusion could be alleviated by the settlement's provision allowing the FDA to set performance standards. In that way, a minimum level of safety could be set for the entire industry and adjusted as major innovations occurred.

VI. Summary of key points and questions

- Innovation generally requires investment -- and full disclosure coupled with free adoption by other firms provides little or no incentive for such investment to be undertaken.
- Enforcing full and even free cross-licensing of extant R&D may not pose the same incentive problems as enforcing cross-licensing of future R&D. But the government's credibility may suffer, and it may be difficult to define "existing" R&D.
- To the extent that the FDA does not allow advertising of reduced risk products, firms will have little interest in developing such products. To counter the potential risk to public health from allowing advertising of "safer" cigarettes, one possibility -- which may not be technically feasible -- would be to allow firms to publish "health hazard ratings."
- The cross-licensing requirements embodied in the Settlement are near one extreme of possible patent systems. Modifications could include limiting cross-licensing to existing R&D, allowing a shorter-than-usual but non-zero patent period, or simply eliminating the cross-licensing requirements and relying on FDA regulations to encourage dissemination.

Even With Settlement, Big Tobacco Can't Lose

The economics of tobacco are so unbelievable that the industry was able to grossly overpay to buy itself peace, underwrite real advances for public health and emerge with its killer instinct for profit satisfied. In an imperfect world, the recent settlement is a win for both sides.

Before Big Tobacco folded, its expected liability was far less than the \$368 billion-plus it just agreed to. Juries have been seeing contemporary smokers for what they are—people who bought a legal product and knowingly took health risks upon themselves (even while the industry did its best to dissemble). If left to individual courts, including appellate courts, the industry might never have paid a dime.

"We got more than I can ever get in litigation," Christine Gregoire, Washington's attorney general, told me. And the dollars are huge. The present value of Philip Morris's obligation is estimated at \$50 billion. That's about half what the company is worth.

So is Big Tobacco a loser? Far from it.

The industry that brought you the Marlboro man and the morning cough earns, in the U.S., \$7.7 billion a year pre-tax. To fund annual payments under the settlement, cigarette prices will rise, within a few years by about 80 cents a pack. So smokers are losers (unless they stop smoking). Nobody knows how many will quit, but it won't be enough to offset the rise in prices. Rough guess: prices up 40%, smoking down 15%. That works out to \$1.2 billion a year in lost profits. Throw in interest charges on the big payment that will be due upfront, and manufacturers are out some \$2 billion in yearly profits.

However, with tobacco barred from billboards and sporting events and restricted elsewhere, the industry's \$6 billion marketing budget will plummet—as it did when tobacco was kicked off the airwaves. Suppose it drops 30%,

the estimate of Sanford C. Bernstein & Co.'s Gary Black. Presto, most of its lost profits were just recouped.

What kind of business can raise prices by nearly half, excise a third of its marketing and not miss a beat? Must have a heck of a product (read: an addictive one). Must have low costs, too. Cigarette machines churn out 12,000 butts a minute. You go to a factory and see lots of machines, not many people. But that's not all. Any other business with such fundamentals would attract a ton of competitors. But imagine trying to persuade the board of,

annual tab will rise with inflation; however, it will be reduced in line with sales. All in, the amount PM pays will grow very slowly. However, its \$7 billion cash flow, which is increasingly fueled by selling cigarettes overseas, is growing at double-digit rates. In time, that cash flow will not merely equal, it will greatly surpass and eventually dwarf the settlement dollars.

The settlement won't (as the industry hopes) remove the tar from its image, but it will get something that profits alone can't buy: a higher price-earnings multiple on Wall Street.

Health-minded critics have argued that if tobacco wins, the public must lose. But much as it may hurt to say it, the public interest isn't reducing tobacco profit; it's reducing smoking, particularly among *bambinos*. According to Bill Novelli, president of Campaign for Tobacco-Free Kids, the single best way to cut into smoking is to make it more expensive. The settlement, pending Congress's approval, will do that.

It also requires states to police the stores. I was dubious whether that would do much until I saw the figures: Sixty percent of the under-18 inhalation set *usually* buy

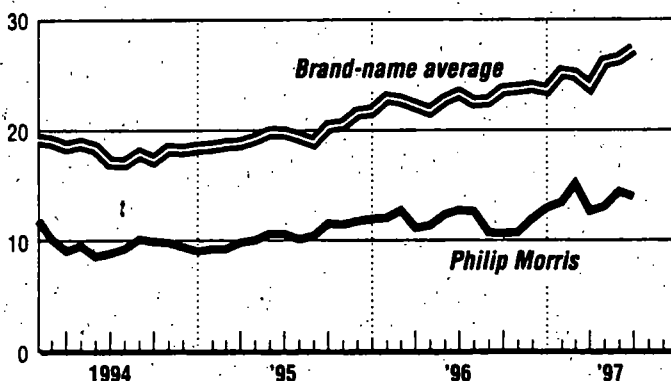
their own. By comparison, it's pretty tough for a 14-year-old to order a dry martini. Cigarette vendors, like bartenders, now will be encouraged to fear loss-of-license and jail time.

Expect less from programs to finance would-be quitters (you got to want to for yourself) and to publicize the non-news that smoking kills. But if sports can sell a \$150 rubber shoe, it can sell a pack of smokes. Ending the tie-ins is a good idea.

One more win is that the settlement pushes Congress—the proper venue for resolving long-running national problems—to act. Before it throws tobacco back to 1,000 courts, where results are unlikely, it ought to think about that.

Desperately Seeking a Multiple

Price-earnings multiples of seven brand-name consumer stocks and Philip Morris



Source: Sanford C. Bernstein

say, Johnson & Johnson that it could raise its return by diversifying into tobacco. Fear of liability and social opprobrium act as a protective shield against new entrants.

Normally, when there are limited suppliers for a product perceived as necessary, such as electric power, the government holds down prices. But that would stimulate demand. So tobacco is unregulated in price, addictive and insulated from new competition. In business, it doesn't get any better.

Philip Morris, the biggest company, has free cash flow of close to \$7 billion—about equal to its annual settlement bill from 2002 to eternity. (On an aftertax basis, the bill is smaller.) That

THE WALL STREET JOURNAL

THURSDAY, JULY 3, 1997

Recent Train Collisions Spur U.S. To Order Railroad-Safety Reviews

By ANNA WILDE MATHEWS

Staff Reporter of THE WALL STREET JOURNAL

The nation's major railroads have been ordered by federal regulators to conduct an immediate and sweeping review of safety procedures, following a series of deadly collisions between freight trains.

The review was ordered last week, but its significance was underscored yesterday when two Union Pacific Corp. freight trains, one of which was carrying hazardous material, collided near a small Kansas town, killing one crew member and forcing the evacuation of hundreds of residents. It follows two high-profile fatal train crashes in the past six weeks that prompted the Federal Railroad Administration to require safety reviews from all railroads.

Specifically, the agency said it wants railroads to review their safety, testing and inspection programs, and tell regulators in writing what they are doing and what they intend to do to ensure the best possible safety levels.

Rail-Safety Issues

Industry officials insist the accidents are flukes and point to declining accident rates among railroads. But some safety experts argue that industry consolidation and cost-cutting have led to some safety risks. "Unlike airlines, people generally are unaware of rail-safety issues," says Walter Schuchmann, with R.L. Banks & Associates, a transportation consulting firm in Washington. "But trains are carrying hazardous materials through cities and towns every day."

Yesterday's accident, at 2:15 a.m. CDT, on rural track near Rossville, Kan., involved two Union Pacific trains heading in opposite directions. The cause is still being investigated, as were the reasons behind the two earlier major crashes. In June, two other Union Pacific trains collided in Devine, Texas, erupting a fuel tank and killing two crew members and two stowaways. A few weeks before, a CSX Corp. train rammed another from behind, killing one crew member and forcing the evacuation of 90 residents after a chemical tank car sent up a cloud of fumes near St. Albans, W.Va.

The three incidents were particularly attention-grabbing in an industry that has an improving safety record. Nationwide, according to preliminary government statistics, there were 2,376 train accidents last year and 1,022 rail-accident-related fatalities. The accident rate is down almost 70% since 1980 and the number of accidents dropped 3% from 2,459 in 1995. That decline comes as railroads are carrying more goods than ever before, according to industry figures.

A spokesman for Union Pacific, based in Bethlehem, Pa., said the recent incidents were "clearly exceptions." CSX, based in Richmond, Va., insisted that railroads are "the safest transportation mode out there."

Cuts in Work Forces

But since 1980, the number of major railroads has dropped to 5 from about 40, with the remaining companies cutting out thousands of jobs. Union officials and some safety experts say that with the cutbacks, crews are often overburdened and overworked.

For instance, while trains once carried as many as six crew members, today they typically run with just two, an engineer and a conductor. "Two crew members aren't enough," says J.M. Brunkenhoefer, of the United Transportation Union.

Some safety experts have also questioned the consolidation of train-control functions by the major railroads. While dispatchers once typically worked in regional centers close to the areas where they directed trains, they are now often thousands of miles away. CSX controls almost all the dispatching for its 18,500-mile system in Jacksonville, Fla. Union Pacific's dispatchers, for 36,000 miles of track, work in Omaha, Neb., and Denver. Soon, they will be only in Omaha.

The Federal Railroad Administration, part of the Department of Transportation, has sweeping powers to regulate operations, including speed and dispatching practices. So far, the administration has indicated concern about railroad zones with no signals, where dispatchers send instructions by radio. "We felt we needed to have an immediate response to these unrelated incidents," a spokesman said.

Fed Choice to Leave Rates Alone Boosts Stocks in Late-Day Surge

ABREAST OF THE MARKET

By ROBERT O'BRIEN
Dow Jones Newswires

NEW YORK — Stocks essentially yawned at a widely anticipated decision by the Federal Reserve to leave interest rates unchanged, but then rolled to big gains in the closing minutes of the session.

In a display of what's become a familiar pattern of late-session volatility, stocks climbed to their highs for the session heading into the closing bell.

The Dow Jones Industrial Average, up about 35 points with some 10 minutes remaining in the trading session, doubled its advance in the waning minutes. The average finished with a rise of 73.05, or 0.95%, to close at 7795.38, an inch away from its record of 7796.51.

A cross-section of blue-chip stocks participated in the advance. Caterpillar rose 2 to 107 1/4, Procter & Gamble jumped 2 to 141 1/4, Travelers Group rose 2 1/4 to 66 1/4, and Coca-Cola climbed 1 13/16 to 70 7/16. Though they weren't big gains, they added up to a sizable advance for the average.

"There's some pretty powerful stuff going on in the market," said Bernard Schaeffer, president of Investment Research Institute in Cincinnati. "We're rallying on news that everybody's expecting."

Good news, to be sure, that the Federal Reserve left monetary policy unchanged. But a surprise? Hardly.

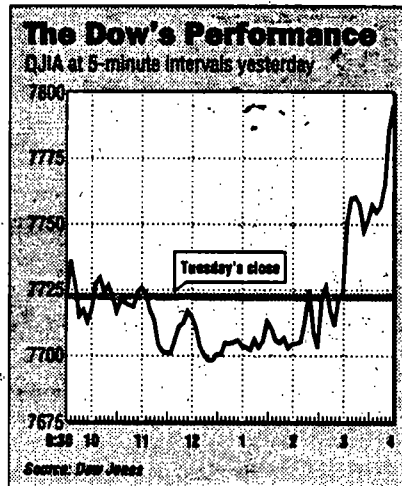
"There was very little surprising" about the outcome of the Federal Open Market Committee meeting, said Abby Joseph Cohen, market strategist at Goldman Sachs. "Most of us thought they would decide what they did."

Broad-market measures set records. The Standard & Poor's 500-stock index soared 13 points, or 1.46%, to 904.03, its first-ever finish above the 900-point level.

The Nasdaq Composite Index scored a best-ever finish of its own. The index rose 17.36 points, or 1.21%, to 1455.61.

Transportation stocks, one of the exceptional performers in the session, rode with the big late-session volatility lift. The Dow Jones Transportation Average jumped 43 points, or 1.57%, to a record at 2787.86.

Airlines and railroads contributed equally to the rise. UAL climbed 1 11/16 to 73 9/16, AMR jumped 2 7/16 to 95 1/4, and Delta Air Lines moved up 2 13/16 to 87 1/4.



Meanwhile, Illinois Central improved 1 3/16 to 35 1/4, Norfolk Southern rose 2 1/4 to 106 1/4, and CSX rose 1 1/4 to 56 9/16.

Banking stocks improved on more optimism for the interest-rate outlook while technology stocks benefited from encouraging comments from analysts.

Among banks, Citicorp jumped 4 11/16 to 128 1/16, Chase Manhattan shot up 3 to 102 1/4, and Wells Fargo climbed 6 13/16 to 278 1/4.

The rise was reflected in the Philadelphia Stock Exchange Bank Index, which got a lift of 14.34, or 2.22%, to finish at 659.11, and continue the pattern of outsized gains put up by the interest-rate-sensitive banking group.

Analysts said they expect the market to trade on profit forecasts, now that the Fed focus has passed.

"My expectation is that, on a short-term basis, equities will pay keen attention to profits," said Ms. Cohen of Goldman, Sachs. "As we enter the reporting period, the catalyst for further price action will be earnings."

On the earnings front, shares of Nike fell 1/4 from Tuesday's close, ending at 57 1/4. Late Tuesday, the athletic footwear and apparel maker reported that its fiscal fourth-quarter earnings missed Wall Street's profit targets.

Among the technology stocks, some of the best performances came out of the networking group, after industry analysts issued some encouraging comments about stocks in the group. 3Com rose 3 11/16 to 48 1/4 on Nasdaq, following an upgrade from Salomon.

Ascend Communications climbed 5 5/16 to 49 1/16 on Nasdaq. Merrill Lynch raised its rating on the stock.

THE WALL STREET JOURNAL
THURSDAY, JULY 3, 1997

Philip Morris To Pay Most Of First Bill

Tobacco Plan Payment Based on Market Value

By BARRY MEIER

The Philip Morris Companies, the giant of the cigarette industry, will provide the majority of an initial \$10 billion payment under the \$368.5 billion tobacco settlement proposal reached last week, industry officials said yesterday.

Under a formula agreed to by the five tobacco companies taking part in the proposal, the first \$10 billion payment will be divided based on their stock market value. Under the plan, which was a heated topic of discussion among companies during the talks, Philip Morris will pay \$6.5 billion of the initial payment and maybe more, people inside and outside the company said.

The subsequent annual payments under the settlement, which will start at \$8.5 billion and grow to \$15 billion, will be divided based on each company's share of the cigarette market in the United States. At the beginning of this year, Philip Morris had about 50 percent, and its closest competitor, the R.J.R. Nabisco Holdings Corporation, the parent company of the R. J. Reynolds Tobacco Company, had about 25 percent.

R.J.R. Nabisco's part of the initial \$10 billion payment will be about \$600 million, the company said yesterday in a filing with the Securities and Exchange Commission. That payment is significantly less than the initial payment of the third-leading cigarette marketer in the United States, B.A.T. Industries P.L.C., and reflects R.J.R. Nabisco's weaker financial position, said Martin Feldman, a tobacco industry analyst with Smith Barney.

The payment disclosures came yesterday as tobacco producers filed documents with the S.E.C. that discussed the possible effect of a tobacco settlement on their future earnings.

In its filing, Philip Morris said that it expected a settlement "would materially adversely affect" the company's financial position in its first year and potentially afterward. R.J.R. Nabisco said in its filing that a settlement "could have a significant negative effect" on its tobacco subsidiary and on the financial health of the parent company.

While several analysts said that they

Continued From First Business Page

expected that R.J.R. Nabisco, which is struggling to maintain a healthy credit rating, might feel some financial effect from the settlement, they said that Philip Morris would absorb the costs of the proposal quickly.

"I think the impact on them will be negligible," said Gary Black, a tobacco industry analyst with Sanford C. Bernstein. "It's in their best interests not to tout the deal too highly."

Along with B.A.T. Industries, which is the parent company of the Brown & Williamson Tobacco Corporation, other tobacco producers participating in the proposed settlement include the Loews Corporation, the parent company of Lorillard Inc., and UST Inc., the parent of the United States Tobacco Company.

While a spokesman for Philip Morris said that the company's share would be about \$6.5 billion, Mr. Feldman, the analyst, said he estimated that it could reach \$7 billion to \$7.5 billion. Joe Helewicz, a spokesman for Brown & Williamson, said that B.A.T. Industries, which has about 15 percent of the United States cigarette market, would pay \$1.7 billion of the initial \$10 billion payment.

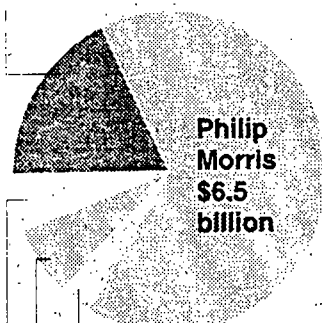
The remainder of the initial payment will be paid by Loews, UST and other chewing tobacco companies that join the settlement, Mr. Feldman said.

Several people close to the talks said that companies involved in the talks clashed over matters such as how to divide the initial payment because R.J.R. Nabisco and other companies feared that Philip Morris would use its greater financial strength to gain a competitive advantage from the settlement.

Dividing the Ante

Philip Morris said yesterday that it expected to contribute about \$6.5 billion to the tobacco industry's first payment of \$10 billion under last week's settlement agreement, with the cost to each company determined by its market capitalization. If yesterday's closing prices are used, here is how the \$10 billion would be divided among the five tobacco companies.

Brown & Williamson (B.A.T.)
\$1.7 billion



U.S. Tobacco (UST)
\$324 million

Lorillard (Loews)
\$720 million

R.J. Reynolds (RJR Nabisco)
\$571 million

Source: Bloomberg Financial Markets

The New York Times

Corrections

An article on Sunday about Hong Kong's role as a haven for Chinese dissidents misstated the whereabouts of a dissident named Wang Xizhe. He now lives in the Boston area, not New York. The article also misstated the year that another dissident, Wang Juntao, left China. It was in 1994, not 1995.

A chart yesterday about new guidelines for diagnosing diabetes described incorrectly a group of people without symptoms who should be tested more frequently than once every three years for the disease if they are 45 or older, and should at least consider being tested if younger. It is those whose levels of HDL cholesterol are low — 35 milligrams per deciliter or lower — not people

whose levels are high.

An article yesterday about labor union support for New York City mayoral candidates misidentified the unit of the Communications Workers of America that has endorsed Sal F. Albanese in the Democratic primary. While District 1 of the Communications Workers, representing more than 30,000 workers in the city, has endorsed Mr. Albanese, Local 1180, representing 7,500 middle managers working for New York City, has not yet made an endorsement.

A review on June 16 about the Venice Biennale, the art exhibition, misstated the closing date. It is Nov. 9, not Oct. 15.

Continued on Page 6

The New York Times

WEDNESDAY, JUNE 25, 1997

H.M.O.'s Fight Plan to Pay For Some Emergency Care

By ROBERT PEAR

WASHINGTON, June 22 — For six months, as Congress has considered far-reaching proposals to regulate managed health care, the industry has waged a public relations offensive under the slogan "putting patients first."

But last week, lobbyists for the industry mobilized an extremely different offensive, resisting any requirement to pay for patients who go to hospital emergency rooms reporting severe pain.

The budget bill coming up for debate in the Senate and the House this week would establish new protections for elderly people who join health maintenance organizations. The measure says, for example, that health plans have to pay for emergency care in any situation that a "prudent lay person" would regard as an emergency.

The lobbyists are working overtime to put their imprint on the legislation as Congress, following the lead of many states, sets standards for the quality of care.

Patients, doctors and hospitals say H.M.O.'s have often refused to pay for emergency-room services, saying there was no real emergency, if, for example, chest pains resulted from indigestion rather than a heart attack.

Such denials can leave patients with thousands of dollars in medical bills and discourage them from seeking emergency care.

H.M.O.'s contend that Federal standards are unnecessary and set a bad precedent for Government intervention in the practice of medicine. In the last few weeks, as three Congressional committees endorsed the "prudent lay person" standard, more than a dozen H.M.O. lobbyists patrolled the halls, pressing their case.

Senators Bob Graham, Democrat of Florida, and John H. Chafee, Republican of Rhode Island, proposed an amendment to make clear that severe pain might be a symptom of an emergency medical condition.

The Senate Finance Committee approved the proposal, 17 to 3. But the fight, which continues as the legislation moves to the floor, epitomizes the struggle over countless items in the budget bill.

The American Association of Health Plans, the national lobby for H.M.O.'s and other managed-care companies, developed "talking points" for its members to use in attacking the Graham-Chafee proposal. In strongly urging lawmakers to oppose the amendment, the association makes these arguments:

¶ Pain is a highly subjective term and has vast differences in meaning among consumers, depending on their threshold or tolerance for pain."

¶ "Overuse of hospital emergency rooms drives up health care costs" and harms care.

¶ "Hospital emergency-room waiting times are often extensive, causing patients to leave without any medical intervention."

¶ "Incorrect medications are often prescribed, and medical conditions are often misdiagnosed" because emergency-room doctors have none of the patients' medical records.

The document in which the arguments were published carries no letterhead or other indication of its source. But in an interview, Kristin Bass, director of legislative affairs at the American Association of Health Plans, said: "It was prepared here at A.A.H.P. It was written by our policy analysts and people in our medical affairs department."

The president of the association, Karen M. Ignagni, said the talking points had been distributed to Washington representatives, lawyers and lobbyists for 70 H.M.O.'s who meet once a week to coordinate strategy.

Ms. Ignagni asked, "If you have a root canal and experience severe pain, does that justify a visit to the emergency room?" Another H.M.O. lobbyist said Mr. Graham's amendment would require health plans to pay for patients who stubbed their toes and went to emergency rooms for treatment.

Such arguments infuriate doctors who specialize in emergency medicine and the treatment of pain.

Dr. Joel R. Saper, director of the Michigan Head Pain and Neurological Institute in Ann Arbor, said: "Severe pain can be a sign of serious life-threatening illness. Abdominal pain can be a sign of acute appendicitis. Severe head or neck ache can signal a hemorrhage in the brain. Severe back pain can be an early warning signal of an abdominal aneurysm or cancer of the pancreas."

Thus, Dr. Saper said: "Medicare H.M.O.'s should not be allowed to deny coverage for emergency-room visits by patients in severe pain based on the eventual diagnosis. Patients cannot make this distinction prior to a physician evaluation."

Dr. Andrew T. Nathanson, an emergency-care doctor at Rhode Island Hospital in Providence, said: "I frequently evaluate patients having a major heart attack or pulmonary embolism or collapsed lung whose only symptom is chest pain. Other patients with similar symptoms have benign conditions. But the patients and, many times, the doctors don't know the cause until a thorough evaluation is performed."

"If it's one of the benign conditions, insurance companies may retrospectively deny payment, saying

the person's condition was obviously not an emergency. But that wasn't obvious at all when the patient first showed up."

Under a 1986 Federal law, a hospital has to provide a diagnostic examination and treatment to stabilize the condition of any patient who requests care in its emergency room. The law explicitly mentions severe pain as a symptom of an emergency medical condition.

But Mr. Graham said, "Current law allows Medicare H.M.O.'s to deny payment for emergency services that the hospital must provide." His bill is intended to eliminate that disparity by establishing a uniform standard for treatment and payment.

Since December, the American Association of Health Plans has issued six policy statements to show its commitment to "putting patients first." H.M.O. officials have said the

The medical industry begins a new offensive.

statements are intended to address consumers' concerns and to head off Federal and state legislation.

Dr. Joanne Wilkinson, coordinator of emergency services at Harvard Pilgrim Health Care, an H.M.O. with more than one million members in New England, agreed that a person in severe pain should have access to immediate care.

But in a letter to Senator Chafee, Dr. Wilkinson wrote: "The unacceptable concept is that these services must be reimbursed in emergency rooms if a person chooses to be present there. Many of the symptoms covered in the language of the bill — e.g., low back pain, migraine headaches, urinary tract infections and sprains — represent conditions which can be adequately cared for outside of a hospital setting with far less cost."

In her letter, Dr. Wilkinson said the American College of Emergency Physicians was using "emotional anecdotes" to win support for Senator Graham's proposal.

Tobacco mkt - Econ. Analysis

6/28/97

Bruce Reed Chairing

Four working groups

Regulatory issues - FDA/advertising/environmental issues

Health Issues - spending

Legal issues - liability & antitrust

Industry performance & accountability

Including overall economic analysis of tobacco industry;

• examination of financial implications of agreement

• international aspects of tobacco control

CEA takes lead on industry effects

- makeup of tobacco industry
- effect of settlement on companies
- international components
- advertising/communications industries
- sporting events
- vending machines/retailers
- farmers

Summers: Do we expect settlement to be borne by continuing smokers or shareholders? Is deal promoting collusion to raise price

Alicia: what about the Senate proposed tobacco tax

Very very worried about "sharing rule" that could promote collusion among the tobacco firms b/c the agreement contemplates that prices would $\uparrow$ as settlement is paid.

Targets / penalties / incentives contained in agreement
- wants to have Treasury / NHS coordinate this
-- how to look at reduced smoking by kids; how firms are likely to respond in spinoffs, etc.

International aspects - Don Torullo will take lead
- could look at US policy toward tobacco exports

Int'l Tobacco Consumption

CIGARETTE CONSUMPTION AND TRADE

(Billion Pieces)

	1994	1995	1996
World Cigarette Consumption	5,206.5	5,284.6	5,295.8
U.S. Cigarette Exports	220.2	231.1	243.9

*

The world's leading cigarette consuming nations in 1996 were; China (accounting for nearly 32 percent of the world's cigarette consumption), the United States (10 percent), Japan (6 percent), the Russian Federation (4 percent), and Indonesia (3 percent).

The United States' leading cigarette export markets in 1996 were; Japan (28 percent of U.S cigarette exports), Belgium/Luxembourg (25 percent, most of which is re-exported to other European markets), the Russian Federation (7 percent), Lebanon (5 percent), and Cyprus (4 percent).

The USDA does not maintain information on the level of trade by individual cigarette company.

OPTIONAL FORM 99 (7-80)

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To	MR. ROBIN FARZAD	From	PETE BUR
Dept./Agency	White House DPC	Phone #	FAS/USDA
Fax #	456-7028	Fax #	Tel: 720-9497

NSN 7540-01-317-7368

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GENERAL SERVICES ADMINISTRATION

WORLD HEALTH ORGANIZATION



TOBACCO

ALERT



WORLD NO-TOBACCO DAY 1996 ■ SPECIAL ISSUE

THE TOBACCO EPIDEMIC: A GLOBAL PUBLIC HEALTH EMERGENCY

Every ten seconds, another person dies as a result of tobacco use. Tobacco products are estimated to have caused around 3 million deaths a year in the early 1990s, and the death toll is steadily increasing. Unless current smoking trends are reversed, that figure is expected to rise to 10 million deaths per year by the 2020s or early 2030s, with 70% of those deaths occurring in developing countries.¹ The global public health community, through the World Health Assembly, has expressed increasing concern about these alarming trends. From 1970 to 1995, the World Health Assembly adopted 14 resolutions which, taken together, strongly urge Member States to implement comprehensive tobacco control measures.

This report will provide a global overview of the varieties and quantities of tobacco products in use around the world, estimates of smoking prevalence by country and by region, and trends in global tobacco consumption. The economic importance of tobacco industry and trade to the global economy will also be discussed. Estimates of trends in tobacco mortality will be presented. Finally, highlights of some current successes in tobacco control policy will be examined.

TOBACCO ALERT

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TYPES OF TOBACCO PRODUCTS

By the end of the twentieth century, manufactured cigarettes have come to be the predominant form by which tobacco is consumed around the world. However, there are many other methods by which tobacco is consumed, and in some regions, other forms predominate. Some of the major forms of tobacco products currently in use are:

Smoking tobacco

■ Cigarettes

■ Manufactured and "roll-your-own cigarettes" (tobacco wrapped in paper)

■ Kreteks

■ Bidis (tobacco wrapped in a temburni leaf)

■ Cigars (air-cured and fermented tobaccos, with a tobacco wrapper)

■ Briar, slate and clay pipes

■ Water pipes

Smokeless tobacco

■ Chewing tobacco (Plug, loose-leaf and twist)

■ Pan (Herel quid)

■ Snuff (Nasal snuff (dry) and oral snuff (moist))

■ Other smokeless tobacco products

For further information on types of tobacco products and the history of tobacco use, the reader is referred to publications of the International Agency for Research on Cancer^{1,2} and other publications.^{3,4}

In general, global sales data are most complete for manufactured cigarettes, and range from incomplete to non-existent for other tobacco products. Moreover, it is not a straightforward

matter to combine sales data for different tobacco products to arrive at an overall index of tobacco consumption. It is not surprising, therefore, that most sources of tobacco consumption statistics concentrate on manufactured cigarettes. In this report, however, estimates have been made of total cigarette consumption, including manufactured cigarettes, roll-your-owns, bidis and kreteks.

In the absence of reliable data on the consumption of all the various forms of tobacco products, it is difficult to estimate total tobacco consumption. It is nevertheless possible to arrive at an estimate of all non-cigarette tobacco consumption using a residual method of calculation. From the WHO Tobacco or Health data base it has been estimated that the total number of cigarettes consumed annually in the period 1990-92 was 6.05×10^{12} . These consisted of about 0.75×10^{12} bidis (average weight 0.25 g), 0.1×10^{12} roll-your-own cigarettes (average weight 1 g) and 5.2×10^{12} manufactured cigarettes and kreteks (average weight 0.75 to 1 g). It is thus estimated that the weight of cigarettes consumed globally was 4.2 to 5.5×10^6 kilograms. Total annual global consumption of unmanufactured tobacco (dry weight) in the period 1990 to 1992 was 6.5×10^6 kilograms, which is estimated to have been distributed as follows:

All cigarettes: 4.2-5.5* (65-85%)*	
Manufactured cigarettes and kreteks:	3.9-5.2* (60-80%)*
Bidis:	0.7* (3%)*
Roll-your-owns:	0.1* (2%)*
All other tobacco products: 1.0-2.3* (14-35%)*	

All tobacco products: 6.5* (100%)*

TOBACCO ALERT

In view of the paucity of data on tobacco products other than cigarettes, most of the smoking prevalence and tobacco consumption data presented in the following sections refer to consumption of cigarettes, including manufactured cigarettes, RYO's, bidis and kreteks. It should be kept in mind, however, that these estimates do not account for a further 15% to 35% of global tobacco consumption, consumed in the form of tobacco products other than cigarettes. This under-estimation is likely to be particularly relevant in the Mediterranean region, and Central and Southern Asia, where these other forms of tobacco products are in widespread use.

SMOKING PREVALENCE

Data sources and quality

For many years, WHO has encouraged Member States to use standardized survey questions and methods to elicit information on smoking prevalence. Guidelines on standardized survey methods were first issued in 1983,^a and then revised in 1987.^b In 1996, these guidelines were expanded and updated.^c In a growing number of countries, surveys of smoking prevalence are being conducted, using WHO recommendations for standardized survey procedures.

With the assistance of WHO's Member States, country representatives and Regional Offices, WHO Headquarters has received data from a number of smoking prevalence surveys from around the world. Of these, surveys from 87 countries were

Table 1. Estimated number of smokers in the world (early 1990s; M = millions)

	Males	Females	Total
Developed countries	200 M	100 M	300 M
Developing countries	700 M	100 M	800 M
World	900 M	200 M	1 100 M

Source: WHO estimates

judged to be methodologically sound, with reasonably reliable and comparable results. These surveys were representative of national populations, or of a large segment of the national population. The results of these surveys have been used to construct regional and global estimates of smoking prevalence.

WHO guidelines for conducting surveys of tobacco use recommend that current smokers be further classified as daily or occasional smokers, and that all three categories be reported (daily, occasional and current (daily + occasional)). Most countries that have carried out prevalence surveys have reported daily smoking, and that is the basic prevalence indicator that has been used here. In many cases, it was not always possible to distinguish between daily and current smoking, based on available survey reports. Some of the surveys reported here may therefore not be strictly comparable with each other. Differences in survey methods, definitions and other biases may reduce the comparability of data.

Despite these limitations, a large number of countries have followed WHO recommendations for standardized survey procedures and reporting. It has thus been possible to provide

reasonably reliable global and regional estimates of smoking prevalence based on data for 87 countries, representing 85% of the world's population. As more and more countries adopt the WHO recommendations for standardized survey procedures and reporting, estimates of global and regional smoking prevalence will become more reliable.

Estimation methods

The estimated percentage of the adult population in each WHO Region for which there are reasonably reliable data on smoking prevalence is as follows:^d

WHO Regions (87/150)	
African (7/46)	33
American (19/35)	94
Eastern Mediterranean (8/22)	62
European (34/50)	83
South-East Asia (5/10)	94
Western Pacific (14/77)	95
World (87/234) ^d	85
More developed countries (34/51)	90
Less developed countries (53/180)	84

With the exception of the WHO African Region, survey results

^a Estimated annual global consumption, 1990-1992 (in kilograms x 10⁶).

^b Estimated percentage of global consumption.

^c The numbers shown in brackets are the number of countries reporting smoking prevalence data over the total number of countries in the region.

^d Developed countries include 35 countries with established market economies and 19 formerly socialist countries of Europe. The world total (234) is greater than the number of WHO Member States because it includes a number of countries and territories that are not WHO Member States.

TOBACCO ALERT

Table 2. Daily smoking prevalence, men and women aged 15 and over, selected regions, early 1990s

	Men	Women
WHO Regions		
African Region*	29	4
American Region	35	22
Eastern Mediterranean Region	35	4
European Region	46	26
South-East Asia Region	44	4
Western Pacific Region	60	8
More developed countries	42	24
Established market economies	37	23
Formerly socialist economies of Europe	60	28
Less developed countries	48	7
China (1984)	61	7
India (1980s)	40	3
Other Asia and Islands	54	7
Middle Eastern crescent**	41	8
Sub-Saharan Africa *	25	3
Latin America and the Caribbean	40	21
World	47	12

Source: WHO estimates

* Smoking prevalence estimates for Africa are based on very limited information and should be used with caution (see text).

** Includes countries of Northern Africa, Western Asia and the Central Asian Republics of the former Soviet Union.

were available from countries representing 60%-95% of the total regional population. Apart from the African Region, available data were reasonably representative of each region as a whole. Within each region (excluding the African Region), average daily smoking prevalence of the population 15 years of age and over was first estimated for both men and women for all countries with known smoking prevalence. The regional estimate was calculated by weighting these national estimates by the adult population of those countries. The resulting weighted average smoking prevalences were then assumed to apply to the entire region, including those countries for which

smoking prevalence was not known. Multiplication of these estimated regional prevalences by the regional adult population aged 15 years and over yielded estimates of the total number of smokers in each region.

For the African region, very little survey information was available. Therefore, a modified estimation method was used. Reasonably reliable national survey data are available for 7 out of the 46 countries in WHO's African region, representing 33% of the region's total population aged 15 years of age and over. Population-weighted average prevalence estimates for these few countries were 36% for men and 10% for women. However, it is unlikely

that these countries are representative of smoking prevalence in the region as a whole. Scattered local surveys, reports of per capita cigarette consumption and other information suggest that average smoking prevalence for other countries in the African region is lower than these estimates, possibly as low as 25% for men and 1% for women. These prevalence levels were combined with the estimates for the countries where smoking prevalence is better known to yield the final population-weighted smoking prevalence estimates reported here. Clearly, smoking prevalence estimates for Africa are based on very limited information, and should be used with great caution.

Results

WHO estimates that there are about 1.1 thousand million smokers in the world, about one-third of the global population aged 15 years and over (see Table 1). The vast majority of these are in developing countries (800 million), most of whom are men (700 million). In China alone, there are about 300 million smokers (90% men, 10% women), about the same number as in all developed countries combined. About one-third of these regular smokers in developed countries are women, compared with only about 1 in 8 in the developing world.

Globally, it is estimated that 47% of men and 12% of women smoke (see Table 2). In the developed countries the corresponding figures are 42% for men and 24% for women. In developing countries, available data suggest that about 48% of men and 7% of women smoke. Table 2 also provides estimates of daily smoking prevalence for each of the six WHO regions and eight geo-

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Table 3. Estimated smoking prevalence among men and women 15 years of age and over, by country, latest available year (ranked in order of male smoking prevalence)

Country (year of survey)	Men	Women	Country (year of survey)	Men	Women
1 Republic of Korea (1989)	68.2	6.7	42 India (1980s)	40.0	3.0
2 Latvia (1993)	67.0	12.0	42 Iraq (1990)	40.0	5.0
2 Russian Federation (1993)	67.0	30.0	42 Malta (1992)	40.0	18.0
4 Dominican Republic (1990)	66.3	13.6	42 Mongolia (1990)	40.0	7.0
5 Tonga (1991)	65.0	14.0	42 Uzbekistan (1989)	40.0	1.0
6 Turkey (1988)	63.0	24.0	50 Brazil (1989)	39.9	25.4
7 China (1984)	61.0	7.0	51 Egypt (1986)	39.8	1.0
8 Bangladesh (1990)	60.0	13.0	52 Morocco (1990)	39.6	9.1
9 Fiji (1988)	59.3	30.6	53 Lesotho (1989)	38.3	1.0
10 Japan (1994)	59.0	14.8	53 Mexico (1990)	38.2	14.4
11 Sri Lanka (1988)	54.8	0.8	55 El Salvador (1988)	38.0	12.0
12 Algeria (1980)	53.0	10.0	55 Italy (1994)	38.0	26.0
12 Indonesia (1986)	53.0	4.0	55 Portugal (1994)	38.0	15.0
12 Samoa (1994)	53.0	18.6	58 Chile (1990)	37.9	25.1
15 Saudi Arabia (1990)	52.7	N/A	59 Guatemala (1989)	37.8	17.7
16 Estonia (1994)	52.0	24.0	60 Denmark (1993)	37.0	37.0
16 Kuwait (1991)	52.0	12.0	61 Germany (1992)	36.8	21.5
16 Lithuania (1992)	52.0	10.0	62 Norway (1994)	36.4	35.5
16 South Africa (1995)	52.0	17.0	63 Honduras (1988)	36.0	11.0
20 Poland (1993)	51.0	29.0	63 Netherlands (1994)	36.0	29.0
21 Seychelles (1989)	50.9	10.3	63 Switzerland (1992)	36.0	26.0
22 Bolivia (1992)	50.0	21.4	66 Colombia (1992)	35.1	19.1
23 Albania (1990)	49.8	7.9	67 Costa Rica (1988)	35.0	20.0
24 Cuba (1990)	49.3	24.5	67 Slovenia (1994)	35.0	23.0
25 Bulgaria (1989)	49.0	17.0	69 Swaziland (1989)	33.0	8.0
25 Thailand (1995)	49.0	4.0	70 Luxembourg (1993)	32.0	26.0
27 Spain (1993)	48.0	25.0	71 Singapore (1995)	31.9	2.7
28 Mauritius (1992)	47.2	3.7	72 Belgium (1993)	31.0	19.0
29 Greece (1994)	46.0	28.0	72 Canada (1991)	31.0	29.0
29 Papua New Guinea (1990)	46.0	28.0	72 Iceland (1994)	31.0	28.0
31 Israel (1989)	45.0	30.0	75 Australia (1993)	29.0	21.0
32 Cook Islands (1988)	44.0	26.0	75 Ireland (1993)	29.0	28.0
33 Czech Republic (1994)	43.0	31.0	77 United Kingdom (1994)	28.0	26.0
33 Jamaica (1990)	43.0	13.0	78 United States of America (1991)	28.1	23.5
33 Philippines (1987)	43.0	8.0	79 Pakistan (1980)	27.4	4.4
33 Slovakia (1992)	43.0	26.0	80 Finland (1994)	27.0	19.0
37 Cyprus (1990)	42.5	7.2	81 Turkmenistan (1992)	26.6	0.5
38 Austria (1992)	42.0	27.0	82 Nigeria (1980)	24.4	6.7
39 Malaysia (1986)	41.0	4.0	83 Paraguay (1990)	24.1	5.5
39 Peru (1989)	41.0	13.0	84 Bahrain (1991)	24.0	6.0
41 Uruguay (1990)	40.9	24.6	84 New Zealand (1992)	24.0	22.0
42 Argentina (1992)	40.0	23.0	86 Sweden (1994)	22.0	24.0
42 France (1993)	40.0	27.0	87 Bahamas (1989)	19.3	3.8
42 Hungary (1989)	40.0	27.0			

1 More recent data collected in 1991 on the smoking habits of men and women in the context of a prospective study of the health effects of smoking in China suggest that there has been little change in smoking prevalence since 1984.

Sources: WHO DBS

graphic regions. Male smoking prevalence varies substantially among regions, from less than 30% in the African Region to 60% in the Western Pacific Region (largely as a result of male smoking prevalence being 61% in China, the largest country in the region). Nor are patterns of male smoking prevalence uniform among developed countries. In

countries with established market economies, male smoking prevalence averages 37%, compared to 60% in the formerly socialist countries of Central and Eastern Europe.

Smoking among women is most prevalent in the formerly socialist countries of Central and Eastern Europe (28%), countries with established market econo-

mies (23%) and Latin American and Caribbean countries (21%). In all other regions, fewer than 10% of women smoke.

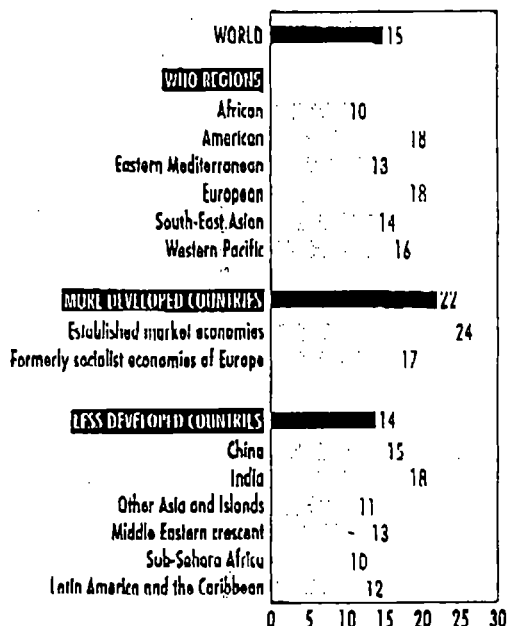
In many countries, people begin smoking at younger and younger ages with the median age of initiation under 15 in many countries. Moreover, smoking is frequently very prevalent among younger people. For example, in South Africa, over

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half of young men under the age of 35 are smokers. Over 40% of young people age 18-24 in both France and Spain are smokers. Starting to smoke at younger ages increases the risk of death from a smoking-related cause, and advances the age at which such risks will occur. Young people who start smoking early in life will often find it very difficult to quit smoking. Among those who continue to smoke throughout their lives, about one-half can be expected to die from a smoking-related cause, half of these in middle age (age 35-69), and the other half in old age (70 and over). In countries such as South Africa, where more than half of the young men are smokers, or France and Spain where more than 40% of young people aged 18-24 smoke, and most of those began at a young age, a very heavy future death toll from tobacco use can be expected.

Smoking prevalence estimates for each of the 87 countries for which data were available are shown in Table 3, with prevalence presented separately for men and women, and ranked by order of male smoking prevalence. Of these 87 countries, male smoking prevalence is 50% or more in 22 countries and 60% or more in eight countries. In general, smoking is much less prevalent among women, the highest prevalence reported being for Danish women (37%). Women's smoking prevalence is 25% or more in 26 countries and 30% or more in six countries. Three countries, the Russian Federation, Poland and Fiji rank in the top twenty for both male and female smoking prevalence. Although detailed estimates are presented in Table 3, great care must be exercised in comparing results. Small differences in prevalence among countries may be due to various sources of bias or other measurement error. In virtually all cases,

Figure 1. Number of cigarettes smoked per day per daily smoker, by region



the estimated prevalence levels should be considered as approximate, given the problems of data comparability and reliability.

The estimated number of cigarettes smoked per day per daily smoker for each WHO region and various geographic regions is shown in Figure 1. In general, fewer cigarettes are smoked per day per smoker in developing countries (14) than in developed countries (22). Among developed countries, the highest rate of daily consumption per smoker occurs in countries with established market economies (24 cigarettes per day), while in the formerly socialist countries of Europe, smokers smoke 17 cigarettes per day, on the average. Among regions, the number of cigarettes smoked per smoker ranges from a low of 10 per day in the African Region to a high of 18 per day in the American and European Regions. The rate shown for all developed countries, 22 cigarettes per smoker

per day, is higher than in any single WHO Region. This is because all WHO regions include at least some developing countries, where daily consumption per smoker is usually lower than in developed countries.

However, developing countries can take little comfort from these data. One of the characteristics of tobacco addiction is that tolerance to nicotine increases over time. In response, smokers increase their intake and, to the extent that they can afford to, smoke more cigarettes per day. In many developing countries, smoking has only become very widespread in recent years. As large cohorts of young smokers age, increases in daily consumption of cigarettes per smoker can be expected. This trend towards increasing daily consumption per smoker will be accelerated where economic development successfully results in increased real disposable personal income, unless there are effective tobacco control measures in place to reduce demand.

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Table 4. Global and regional estimates and trends in consumption of cigarettes per adult 15 years and over, 1970-72 to 1990-92

	1970-72	Cigarettes per adult 15 + 1980-82	1990-92	Annual % change		
				1970-72 to 1980-82	1980-82 to 1990-92	1970-72 to 1990-92
WHO Regions						
African Region	460	570	590	2.1	0.3	1.2
American Region	2580	2510	1900	-0.3	-2.8	-1.5
Eastern Mediterranean Region	700	940	930	2.9	-0.1	1.4
European Region	2360	2500	2340	0.6	-0.7	0.0
South-East Asia Region	850	1140	1230	2.9	0.8	1.8
Western Pacific Region	1100	1610	2010	3.8	2.2	3.0
More developed countries	2860	2980	2590	0.4	-1.4	-0.5
Established market economies	2910	3000	2570	0.3	-1.5	-0.6
Formerly socialist economies of Europe	2450	2830	2770	1.4	-0.2	0.6
Less developed countries	860	1220	1410	3.5	1.4	2.5
China	730	1290	1900	5.7	3.9	4.8
India	1010	1310	1370	2.6	0.4	1.5
Other Asia and Islands	780	1130	1190	3.7	0.5	2.1
Middle Eastern crescent	950	1240	1200	2.7	-0.3	1.2
Sub-Saharan Africa	470	490	500	1.8	0.2	1.0
Latin America and the Caribbean	1430	1540	1310	0.7	-1.6	-0.4
World	1410	1650	1660	1.6	0.1	0.8

Source: WHO estimates based on different sources (see text)

TOBACCO CONSUMPTION

Estimation methods, data sources and data quality

Cigarette consumption per adult 15 years of age and over is an important summary measure of tobacco use. It gives a good overall indication of how much tobacco is currently consumed, and by inference, the relative size of the future burden of disease and death that will be caused by tobacco. Manufactured cigarettes are an important source of income for tobacco manufacturers and often an important source of taxation

revenue for a number of governments. Therefore, manufacturers, governments or both have an incentive to carefully monitor and record manufactured cigarette production, sales, import, and export volumes. Hand-made cigarettes and bidis are less carefully monitored, but based on information available on consumption of bidis, manufactured and hand-made cigarettes, an estimate of apparent total cigarette consumption per person 15 years of age and over has been prepared based on the following formula:

$$\text{Cigarette consumption per adult} = \frac{\text{Production} + \text{Imports} - \text{Exports}}{\text{Population aged 15+}}$$

Estimates of consumption were based mainly on the comprehensive, standardized set of data reported by the United States Department of Agriculture (USDA) for manufactured cigarette production and trade, supplemented wherever appropriate by information from the United Nations Statistical Office (UNSO). Data from national sources were preferred when these were deemed to be the most reliable. This measure of apparent consumption is an approximation of true consumption because it does not take account of stocks held by cigarette traders, wholesalers and retailers. This will only be a source of inaccuracy when there are large fluctuations in stocks from one year to the next.

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In India, eight times more bidis than manufactured cigarettes are consumed annually, and in Bangladesh, nearly four times more. A bidi has yields of toxic constituents equal to or greater than a cigarette. For purposes of this analysis, one bidi was considered equal to one cigarette. Accordingly, information from a number of regional surveys was used to estimate total bidi consumption of these two countries, and these estimates were added to manufactured cigarette consumption estimates to yield total cigarette consumption estimates for both India and Bangladesh.

In a number of countries, roll-your-own cigarettes are particularly popular. They account for more than half of all cigarettes consumed in Norway and slightly less than half in the Netherlands. In a number of other countries, the consumption of roll-your-own cigarettes also accounts for a substantial proportion of cigarette consumption. For all countries for which information or estimates on roll-your-own cigarette consumption was available, these were added to estimates of manufactured cigarette consumption, assuming that one gram of roll-your-own tobacco is equivalent to one cigarette.

As this measure of per capita cigarette consumption is based only on production and trade information, it has the inherent limitation of conveying no information about the characteristics of the people who actually smoke the cigarettes. The measure cannot provide information on the smoking behaviour of population subgroups. For this, surveys of smoking prevalence are needed. Taken together, estimates of smoking prevalence combined with estimates of per capita cigarette consumption provide a more comprehensive picture of the extent of tobacco use in a population.

Figure 2. Trends in per adult cigarette consumption in developed and developing countries, 1970-92

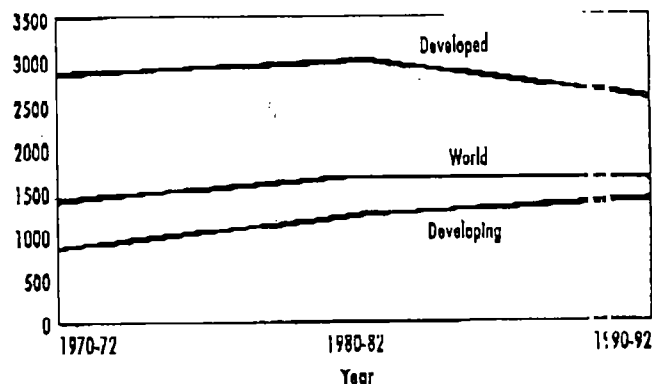


Figure 3. Average cigarette consumption per adult in industrialized countries, 1920-1990

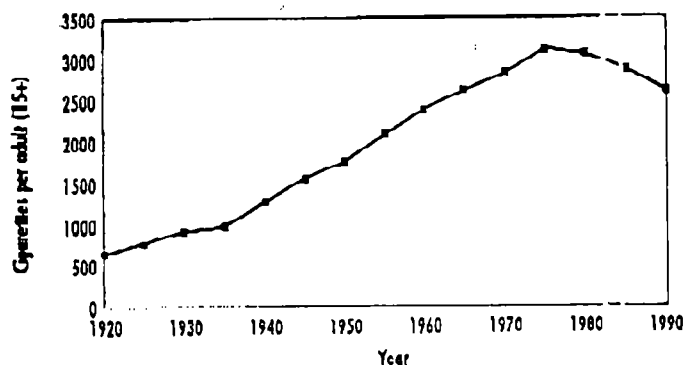
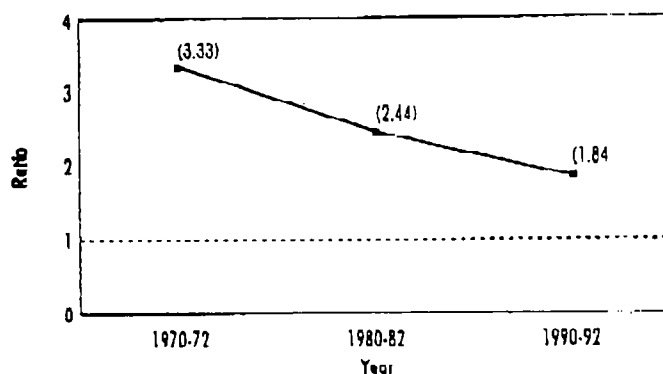


Figure 4. Relative change in cigarette consumption: developed versus developing countries

(ratio of cigarette consumption per adult in developed to that in developing countries)



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Table 5. Estimated per capita consumption of cigarettes per adult 15 years of age and over, selected countries, 1970-72 to 1990-92, ranked according to consumption in 1990-92

Per capita consumption						Per capita consumption							
	1970-72	Rank	1980-82	Rank	1990-92		1970-72	Rank	1980-82	Rank	1990-92	Rank	
Poland	3 010	11	3 400	6	3 420	1	Albania	1 220	54	1 230	59	1 220	57
Greece	2 640	16	3 440	4	3 590	2	Egypt	730	73	1 180	61	1 210	58
Hungary	2 940	13	3 320	7	3 260	3	Indonesia	500	83	950	72	1 180	59
Japan	2 950	12	3 430	5	3 240	4	Guyana	1 220	53	1 280	57	1 130	60
Korea, Republic of	2 370	20	2 750	15	3 010	5	Paraguay	1 190	55	1 030	68	1 100	61
Switzerland	3 700	2	3 060	10	2 910	6	Thailand	810	69	1 080	66	1 050	62
Iceland	2 940	14	3 230	9	2 860	7	Senegal	430	88	760	79	950	63
Netherlands	3 150	6	3 290	8	2 820	8	Chile	1 310	49	1 380	53	1 030	64
Yugoslavia	2 330	21	3 030	12	2 800	9	El Salvador	1 260	50	1 030	67	1 010	65
Australia	3 410	4	3 440	3	2 710	10	Dominican Republic	910	66	1 010	69	1 010	66
United States	3 700	3	3 560	2	2 670	11	Bangladesh	510	81	680	82	990	67
Spain	2 190	22	2 440	21	2 670	12	Mexico	1 600	39	1 370	54	970	68
Canada	3 910	1	3 600	1	2 540	13	Korea, Democratic						
New Zealand	3 060	9	2 890	13	2 510	14	People's Republic	1 050	60	1 210	60	960	69
Ireland	3 050	10	3 030	11	2 420	15	Panama	1 150	58	950	71	960	70
Germany	2 430	18	2 420	22	2 360	16	Iran	900	67	1 160	62	930	71
Belgium	3 090	7	2 880	14	2 310	17	Morocco	680	75	1 120	63	920	72
Israel	2 060	23	2 400	23	2 290	18	Congo	880	68	890	73	900	73
Cuba	2 670	15	2 630	17	2 280	19	Ecuador	650	77	830	74	870	74
Bulgaria	1 770	35	1 880	36	2 240	20	Jamaica	1 400	43	990	70	860	75
United Kingdom	3 250	5	2 740	16	2 210	21	Honduras	1 090	59	1 080	65	850	76
Austria	2 390	19	2 420	18	2 210	22	Sierra Leone	460	86	870	76	810	77
Saudi Arabia	1 220	52	1 940	35	2 130	23	Yemen	470	85	370	88	810	78
France	1 860	31	2 080	29	2 120	24	Vietnam	N/A	111	790	77	790	79
Turkey	1 950	29	2 250	25	2 100	25	Angola	740	71	740	80	740	80
Luxembourg	3 090	8	2 580	19	2 080	26	Comoros	270	98	590	87	740	81
Portugal	1 440	40	1 800	41	2 010	27	Cote d'Ivoire	800	70	810	75	710	82
Syria	950	63	1 730	45	2 000	28	Benin	640	78	770	78	650	83
Italy	1 800	34	2 310	24	1 920	29	Pakistan	630	79	720	81	640	84
Venezuela	2 060	24	2 210	26	1 920	30	Laos	510	82	600	86	600	85
Denmark	2 050	25	2 020	31	1 910	31	Haiti	170	104	630	85	580	86
China,							Nepal	170	105	290	103	580	87
Peoples Republic of	730	72	1 290	56	1 900	32	Kenya	420	89	540	89	500	88
Surinam	1 160	56	1 870	37	1 870	33	Togo	560	80	480	92	490	89
Norway	2 030	26	1 950	39	1 830	34	Madagascar	270	99	470	93	460	90
Mauritius	1 310	48	1 940	34	1 830	35	Mozambique	370	95	460	94	460	91
Trinidad and Tobago	1 440	41	1 960	32	1 780	36	Zimbabwe	700	74	660	83	430	92
Philippines	2 010	27	2 180	27	1 760	37	Bolivia	400	92	560	90	430	93
Colombia	1 860	30	1 790	42	1 750	38	Sri Lanka	460	87	520	91	430	94
Tunisia	1 380	44	1 590	49	1 750	39	Zambia	500	84	430	96	430	95
Finland	2 000	28	1 800	40	1 740	40	Liberia	390	93	420	97	420	96
South Africa,							Tanzania,						
Republic of	1 340	46	1 600	48	1 720	41	United Republic of	380	94	370	99	370	97
Uruguay	1 630	38	1 720	44	1 700	42	Nigeria	290	97	350	100	370	98
Jordan	1 020	61	1 840	39	1 680	43	Peru	410	90	390	98	350	99
Malaysia	1 400	42	2 050	30	1 630	44	Guatemala	660	76	640	84	340	100
Singapore	2 510	17	2 550	20	1 610	45	Malawi	200	102	330	101	330	101
Argentina	1 810	33	1 770	43	1 610	46	Uganda	300	96	300	102	300	102
Algeria	950	64	1 580	50	1 600	47	Zaire	220	101	240	105	270	103
Fiji	1 150	57	1 650	47	1 590	48	Ghana	410	91	440	95	250	104
Romania	1 740	36	2 130	28	1 550	49	Niger	110	108	100	110	170	105
Sudan	1 700	37	1 840	38	1 550	50	Sudan	170	106	150	108	150	106
Brazil	1 330	47	1 730	44	1 500	51	Myanmar	90	109	140	109	150	107
Nicaragua	1 380	45	1 440	52	1 460	52	Salomon Islands	250	100	250	104	140	108
India	1 010	62	1 310	55	1 370	53	Afghanistan	150	107	160	107	140	109
Costa Rica	1 850	32	1 520	51	1 340	54	Ethiopia	60	110	70	111	90	110
Iraq	1 250	51	1 090	64	1 280	55	Cape Verde	200	103	220	106	N/A	111
Cambodia	940	65	1 260	58	1 220	56							

Source: WHO estimates based on different sources (see text)

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Table 6. Apparent use of unmanufactured tobacco by tobacco manufacturers, 25 leading countries, 1994*

Rank	Country	Metric tonnes of tobacco (dry weight)	Percent of world total
WORLD		6 971 738	100.0
1	China	2 899 700	41.6
2	United States	667 146	9.6
3	India	436 535	6.3
4	Japan	190 000	2.7
5	Germany	187 381	2.7
6	Turkey	179 200	2.6
7	Indonesia	165 786	2.4
8	Brazil	152 500	2.2
9	Russian Federation	138 005	2.0
10	Pakistan	96 403	1.4
11	United Kingdom	92 328	1.3
12	Poland	88 052	1.3
13	Netherlands	87 775	1.3
14	Spain	80 512	1.2
15	Republic of Korea	73 657	1.1
16	Greece	71 840	1.0
17	Philippines	71 200	1.0
18	Canada	62 758	0.9
19	Italy	55 951	0.8
20	Ukraine	55 059	0.8
21	Bulgaria	52 500	0.8
22	France	44 271	0.6
23	Thailand	40 968	0.6
24	South Africa	39 634	0.6
25	Democratic Peo. Rep. of Korea	38 500	0.6

Total 6 067 661 87.0

25 leading countries
for apparent use
of unmanufactured tobacco

* Beginning stocks + imports + production - exports - ending stocks

Source: United States Department of Agriculture, Foreign Agricultural Service

Adjustments

Production and trade data supplied by the United States Department of Agriculture were assessed for accuracy, validated and, where appropriate, adjusted.

The known presence of widespread cigarette smuggling was often an appropriate reason for adjusting national data. Where possible, the USDA has corrected its consumption estimates to ac-

count for smuggling. When supplementary information was available from countries on the extent of cigarette smuggling, further adjustments have been made. Adjustments for smuggling improve the quality of the consumption estimates, but remain a source of potential error, since estimates of smuggling can seldom be verified. In some countries, duty-free sales and/or smuggling were known to

be widespread and were probably the source of unreasonably high estimates of cigarette consumption, but no information was available to carry out further adjustments to consumption data. In these cases, data for these countries were excluded from comparative analyses.

In a few cases, very large (over 4000) or very small (under 50) estimates of annual cigarette consumption per adult resulted from these indirect estimation methods. These estimates were viewed as implausible and have not been retained for comparative analyses. In the absence of possible explanations such as armed conflict, smuggling, or sudden economic change, large year-to-year changes in per adult consumption (i.e. a change greater than 250 cigarettes per adult in one year) were adjusted using curve-smoothing techniques.

When reported absolute production and/or import figures remained constant for several years, adjustments were made to ensure that consumption per adult was kept constant. Because of an increasing adult population in most countries, this generally resulted in an upward adjustment of reported cigarette production and/or imports. Where there was reason to believe that per adult consumption may well have declined over the period in question, this adjustment was not performed.

The effect of short-term, temporal fluctuations in per adult cigarette consumption was minimized by reporting three-year annual averages rather than yearly data for this indicator. Thus, three-year annual average per adult cigarette consumption are reported here for the periods 1970-72, 1980-82 and 1990-92.

Results

Global and regional estimates of cigarette consumption per adult 15 years of age and over are given

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Figure 5. World unmanufactured tobacco and cigarette consumption, 1970-94

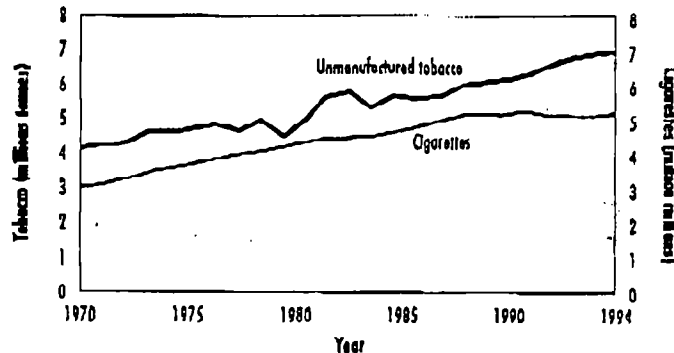
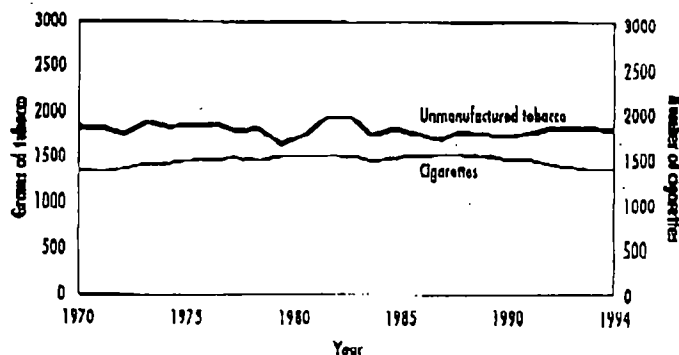


Figure 6. World unmanufactured tobacco and cigarette consumption per adult (15+), 1970-94



in Table 4 for the period 1970-72 to 1990-92 for WHO regions and economic development regions. Cigarette consumption has increased in some regions and decreased in others. Over this twenty-year period per adult consumption remained about the same in the European Region, decreased in the American Region and increased in all other regions, most rapidly in the Western Pacific Region. Consumption has decreased in developed countries since 1980-82, but this decrease has been counterbalanced by a comparable increase (1.4% per year) in less developed countries. As a result, global cigarette

consumption remained steady at about 1650 cigarettes per adult from 1980-82 to 1990-92.

Figure 2 demonstrates clearly that the apparent stability in global cigarette consumption per adult is composed of decreasing consumption in developed countries, offset by increasing consumption in developing countries. Increases in consumption have been most rapid in China, the world's most populous nation, accounting for about 80% of the adult population of WHO's Western Pacific Region. In China, estimated per adult consumption of cigarettes increased by 260% from 1970-72 to 1990-92.

Despite these opposite trends in developed and developing countries, average per adult consumption in developed countries (2590 in 1990-1992) remains substantially higher than in developing countries (1410 in 1990-92). Figure 3 shows that average per adult consumption of cigarettes in developed countries with established market economies rose steadily from around 600 cigarettes per capita in 1920 to a high of over 3000 cigarettes per adult in the mid 1970s. Since then, the rate has declined by about 16%. Increases in cigarette consumption in developing countries in the 1970s and 1980s mirror ominously increases in cigarette consumption in industrialized countries earlier in the twentieth century. Moreover, the gap in per adult cigarette consumption between developed and developing countries is narrowing. Figure 4 shows that in the early 1970s, average cigarette consumption per adult was 3.3 times higher in developed countries than developing countries. By the early 1990s, this ratio had decreased to 1.8. If this trend continues, per adult consumption in developing countries will exceed that of developed countries shortly after the turn of the century.

Trends in estimated per adult consumption are compared for 111 countries in Table 5. Only countries for which per capita consumption could be estimated with a reasonable degree of reliability have been retained for this comparative analysis. Table 5 shows that there has been a dramatic shift in the group of countries with the highest rates of tobacco consumption over the period 1970-72 to 1990-92. In the early 1970s consumption was highest in Canada, Switzerland,

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the United States, Australia and the United Kingdom, countries where cigarette smoking among men had been widespread for decades. Consumption in all these countries had fallen from above 3000 cigarettes per adult in 1970-72 to below that level by 1990-92. Per adult tobacco consumption in the early 1990s was highest in Poland, Greece, Hungary, Japan and the Republic of Korea, in that order. Consumption exceeded 3000 cigarettes per adult in all these countries in 1990-92, and exceeded 3500 cigarettes per adult in Poland and Greece.

While global consumption of cigarettes per adult remained steady from the early 1970s to the early 1990s, global population has continued to increase. Therefore, the absolute number of cigarettes consumed has continued to increase, as shown in Figure 5. Unmanufactured tobacco consumption increased at about the same rate over the same period, reaching seven million tonnes in 1994. Predictably, both indicators showed little change from 1970 to 1994 when calculated as rates of consumption per adult (Figure 6). The data shown in Figures 5 and 6 differ somewhat from the information shown in Table 4. Figures 5 and 6 are based on unadjusted data from the United States Department of Agriculture. Consumption of bidis and roll-your-own tobacco are not included in the estimated trends in manufactured cigarette consumption, nor have any of the adjustments discussed earlier been made. On the other hand, the estimate of dry weight of unmanufactured tobacco consumption given here is a reasonable approximation of total global consumption of all forms of manufac-

Table 7. Apparent consumption of manufactured cigarettes, 25 leading countries, 1994*

Rank	Country	Millions of cigarettes	Percent of world total
WORLD		5 203 417	100.0
1	China	1 646 028	31.5
2	United States	508 917	9.8
3	Japan	321 038	6.2
4	Russian Federation	177 000	3.4
5	Indonesia	164 224	3.2
6	Germany	148 144	2.8
7	Brazil	109 100	2.1
8	Poland	103 087	2.0
9	Republic of Korea	98 300	1.9
10	Italy	96 531	1.9
11	Turkey	94 627	1.8
12	France	90 113	1.7
13	United Kingdom	89 670	1.7
14	India	86 530	1.7
15	Philippines	85 360	1.6
16	Spain	82 940	1.6
17	Ukraine	80 000	1.5
18	Canada	51 047	1.0
19	Mexico	47 115	0.9
20	Thailand	45 692	0.9
21	Argentina	41 800	0.8
22	Egypt	37 979	0.7
23	South Africa	37 685	0.7
24	Romania	37 000	0.7
25	Pakistan	36 146	0.7
Total		4 316 073	82.9

25 leading countries
for consumption
of manufactured cigarettes

* Production + imports - exports

Source: United States Department of Agriculture, Foreign Agricultural Service

tured tobacco products. For most of the period 1970 to 1994, manufactured cigarettes accounted for about 60% - 80% of total tobacco consumption by weight (assuming 1 cigarette = 0.75 to 1 gram of unmanufactured tobacco). As shown earlier, bidis and roll-your-own cigarettes account for about a further 5% of global tobacco consumption by weight, with the remaining 15% to 35% being

made up of a wide variety of other tobacco products.

TOBACCO INDUSTRY

Most of the global tobacco manufacturing industry is controlled by a small number of state monopolies and multinational corporations. The largest of these is

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Table 8. Import costs of tobacco, 1993, selected countries, in thousands of US\$, ranked according to % of country's total import costs*

Rank	Country	Cigarettes	Other manufactured tobacco products	Unmanufactured tobacco	Import costs: all tobacco	% of each country's total import costs
1	Lebanon	260 000	3 000	2 400	265 400	5.60
2	Gambia	7 000		3 000	10 000	3.73
3	Oman	186 734	8 550	348	195 632	3.52
4	Niger	11 000			11 000	2.62
5	Paraguay	46 525	102	4 596	51 223	2.05
6	Maldives	5 096			5 096	1.99
7	Yemen	21 000		30 500	51 500	1.71
8	Togo	7 128			7 128	1.61
9	Bulgaria	72 393	226	17 502	90 121	1.55
10	Guyana	7 200		700	7 900	1.51
11	Sierra Leone	1 300		2 500	3 800	1.30
12	Central African Republic	661		3 158	3 819	1.26
13	Romania	72 000		16 400	88 400	1.24
14	Albania	9 000		400	9 400	1.19
15	Djibouti	5 047		150	5 197	1.05
16	Egypt	15 594	6	128 222	143 822	0.90
17	Singapore	820 980	1 129	42 567	864 676	0.87
18	Morocco	62 562	1 242	14 054	77 858	0.85
19	Guinea	8 070		350	8 420	0.83
20	Turkey	214 894		93 666	308 560	0.82
21	Mauritania	3 500		1 300	4 800	0.76
22	Russian Federation	268 338	2 585	76 645	347 568	0.73
23	Senegal	3 600		10 000	13 600	0.72
24	Nepal	212		8 000	8 212	0.72
25	Benin	4 696		800	5 496	0.72

* Blank = data not available

Source: World Bank, Human Development Department

the state monopoly in China, which sold 1.7×10^{12} cigarettes in 1993, 31% of the global market, about the same market share as the three largest multinational tobacco corporations combined. In 1993, the seven largest multinational tobacco corporations accounted for nearly 40% of global cigarette sales.⁹

Readers may wish to consult other publications for thorough analyses of the global tobacco industry.^{4,9} The current report will be confined to presentation of a few key indicators of the state of the global tobacco industry.

Data sources

Tobacco is grown in over 100 countries and comes in a number of varieties, including Virginia flue-cured, burley, Oriental and others. After the tobacco is harvested, most varieties are subject to an on-farm heat curing process. Depending on the variety, tobacco may be cured by piped warm air (flue-cured), or it may be cured directly over an open, slow-burning fire (fire-cured), or it may be left in the sun to cure (sun-cured). Sales of tobacco from the farm after curing are known as *farm-weight sales*. Leaf dealers

purchase this cured tobacco from farmers, and subject the tobacco to further drying and processing for periods varying from a few months to two years. During this time, moisture loss will reduce the weight of tobacco by 8% to 12% in most cases, and occasionally by as much as 40%. It is then resold to tobacco manufacturers for transformation into such products as cigarettes, cigars, pipe tobacco, and fine-cut tobacco for roll-your-own cigarettes. Sales to tobacco manufacturers are known as *dry-weight sales*. Modern manufacturing practices have

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Table 9. Export earnings from tobacco, 1993, selected countries, in thousands of US\$, ranked according to % of country's total export earnings*

Rank	Country	Cigarettes	Other manufactured tobacco products	Unmanufactured tobacco	Export earnings: all tobacco	% of each country's total export earnings
1	Malawi	1 000		212 929	213 929	64.11
2	Zimbabwe	2 000	975	470 000	472 975	23.46
3	Albania			15 000	15 000	7.17
4	Bulgaria	173 544	76	55 651	229 271	4.37
5	Burundi	1 725		2 500	4 225	4.21
6	Uganda			7 011	7 011	3.33
7	Greece	52 171	9	336 711	388 891	2.73
8	United Republic of Tanzania	3 700		13 000	16 700	2.22
9	Oman	120 313		1 030	121 343	2.09
10	Brazil	193 127	379	697 002	890 508	2.03
11	Guatemala		9 000	33 000	42 000	2.02
12	Turkey	42 945		395 560	438 505	1.60
13	Honduras	2 944	3 702	6 347	12 993	1.14
14	Niger	3 000			3 000	1.04
15	Singapore	970 308	224	6 994	977 526	0.96
16	Netherlands	1 155 680	191 359	55 407	1 402 446	0.76
17	Central African Republic	760		700	1 460	0.76
18	Croatia	38 191		5 836	44 027	0.76
19	Sierra Leone	700		545	1 245	0.75
20	Sri Lanka	1 968		24 392	26 360	0.75
21	United States	3 933 930	6 420	1 321 630	5 261 980	0.70
22	China	484 954		134 842	619 796	0.68
23	Argentina	296		116 980	117 276	0.68
24	Dominican Republic		1 800	12 536	14 336	0.60
25	Syrian Arab Republic	21 000		5 667	26 667	0.56

* Blank = data not available

Source: World Bank, Human Development Department

greatly reduced wastage of tobacco during the manufacturing process, meaning that use of global dry-weight tobacco leaf by tobacco manufacturers is a reasonably good proxy measure of final global tobacco consumption by tobacco users.

The United States Department of Agriculture (USDA) reports on production, sales, stocks and trade of both farm-weight and dry-weight unmanufactured tobacco, as well as similar information on manufactured cigarettes. The USDA maintains a world-wide

network of data collection agents in United States missions and embassies around the world, and devotes a good deal of attention to ensuring the timeliness and accuracy of data on tobacco leaf production and trade. USDA data on world unmanufactured tobacco production and trade are comprehensive, accurate and reliable for most countries. However, it should be noted that USDA estimates are subject to revision for several years as data reports from previous years are received and finalized. Information reported by the USDA for the year

1994 on apparent use of tobacco leaf by tobacco manufacturers (beginning stocks + imports + production - exports - ending stocks) of dry-weight unmanufactured tobacco is given in Tables 6 to 25 leading countries. Table 7 displays corresponding information for 25 leading countries on apparent consumption of cigarettes (production + import - exports).

Based on information provided by countries to the World Bank and the United Nations Statistical Office, the World Bank publishes information on the dollar

6/27/97
Gruber/Stone
mtg

Issues for Tobacco Group on Industry Analysis - Domestic Issues

I) Background on the economics of the tobacco industry — CEA

- Evidence on elasticities of demand for tobacco products, by age group
- Evidence on the substitutability across tobacco products that are differentially taxed
- Evidence on pricing behavior by this industry, and resultant implications for pricing from the structure of the settlement
- Evidence on the response of smoking behavior to other interventions, such as advertising, by age group
- The incidence of cigarette price increases

II) Effects on the tobacco sector

CEA/Treasury

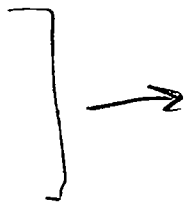
Fact sheet on
industry -
Treasury

- Computation of after-tax profit stream pre vs. post settlement
- Incorporate behavioral responses along a number of dimensions
 - shifting structure of products to avoid taxation
 - shifting sales abroad to avoid taxation
 - etc.
- Effects on labor demand in this sector — Labor Dept.
- Event study of stock market response

III) Spillover effects on other industries in terms of labor demand and profits

- Other sectors affected:

- advertising
- vending
- sporting events
- retail
- hospitality
- medical/insurance



idea is to get "fact sheets"
on these industries

- Particular focus on farmers — CEA/USDA
- Incorporate benefits to smoking cessation sector

IV) Effects on government revenues and expenditures

- Projected net payments
- Reduction through corporate tax deductibility
- Reduction through excise tax "leakage"
- Effect on government expenditure programs

} Treasury

- Social Security
- Medicare
- Medicaid

NHS/
Treasury

PBGC - Lorillard may have underfunded plan

→ OMB, also

V) Evaluating "lookback" provisions for teen smoking

CEA/Treasury

- Compare penalties to profit stream from continued youth smoking

VI) Collect and synthesize expert opinion on these issues

VII) Long Run/Normative Issues

- Interaction of settlement with politics of tobacco taxation
 - Does the settlement "crowd out" tobacco taxes?
- Implication for future litigation - this is implicit "tax" on settlement monies
- To what units should payments be tied
 - unit sales
 - revenues
 - total tar or nicotine
- Should payments be on industry or company-by-company basis?
- Should we induce price increase or replace this with a quota, auctioned over companies?

Incentive effects

Justice/Anti-trust

SUMMARY OF THE PROPOSED RESOLUTION

The proposed resolution, which would be implemented through legislation and a binding contractual protocol to be entered into by participating members of the tobacco industry, mandates a total reformation and restructuring of how tobacco products are manufactured, marketed and distributed in the United States:

(1) by seeking to prevent underage access to, and dramatically reduce underage use of, tobacco products;

(2) by confirming the Food & Drug Administration's authority to regulate tobacco products under the Food, Drug and Cosmetic Act, with certain provisions applicable to tobacco products;

(3) by mandating changes in the corporate culture of tobacco companies;

(4) by setting national requirements limiting smoking in public places (with State and local governments remaining free to set more stringent requirements);

(5) by requiring that the participating members of the tobacco industry pay hundreds of billions of dollars to fund medical research; public education; cessation programs; health-care costs incurred by federal, state and local governments; and federal and state enforcement of the restrictions imposed by the proposed resolution;

(6) by preserving the rights of individuals to sue the tobacco industry;

(7) by ensuring that members of the tobacco industry who seek to avoid the strictures of the new regime will be held fully accountable for any injuries their products may cause; and

(8) by establishing a comprehensive regime of federal regulation and federal and state enforcement to implement these requirements.

The principal details follow.

1. Prevention of Underage Use of Tobacco Products

The proposed resolution strikes at the core problem of underage consumption of tobacco products. The Food & Drug Administration ("FDA") and other public health authorities have concluded that virtually all new consumers of tobacco products are under legal age. The proposed resolution attempts to cure what the FDA has termed a "pediatric disease" by drastically curtailing advertising and marketing practices that have been criticized as appealing to minors; by imposing strict controls restricting the sale of tobacco products to adult consumers only; and by requiring dramatic reductions in the levels of underage use, with the tobacco

industry to pay substantial economic surcharges if the required reductions are not met. In so doing, the proposed resolution incorporates all of the restrictions in the current FDA rule, and in many instances goes substantially beyond them.

A. Curtailment of Advertising

With the specific consent of the tobacco companies participating in the proposed resolution, virtually all forms of non-text tobacco advertising accessible by adolescents will be banned. The proposed resolution would, among many other things:

1. Prohibit use of human images and cartoon characters -- such as *Joe Camel* and the *Marlboro Man* -- in all tobacco-product advertising.
2. Ban all outdoor tobacco-product advertising, including advertising in enclosed stadia and advertising inside a retail establishment that is directed outside.
3. Except for advertising in adult-only facilities or adult publications, limit tobacco-product advertising to black text on a white background.
4. Ban sponsorships (including concerts and sporting events) in the name, logo or selling message of a tobacco brand.
5. Ban all non-tobacco merchandise (such as caps, jackets and bags) bearing the name, logo or selling message of a tobacco brand.
6. Ban direct or indirect payments for tobacco product placement in movies, television programs and video games.
7. Prohibit direct and indirect payments to "glamorize" tobacco use in media appealing to minors, including live and recorded music performances.
8. Prohibit tobacco-product advertising on the Internet unless it is designed to be inaccessible in or from the United States.

B. Access Restrictions

The proposed resolution will also sharply restrict adolescents' access to tobacco products. Without preventing state and local governments from imposing stricter measures, the proposed resolution would incorporate every access restriction embodied in the current FDA rule, and would add additional significant restrictions. The access restrictions include:

1. Setting a minimum age of 18 to purchase tobacco products.

2. Establishing a requirement of face-to-face transactions for all sales of tobacco products.
3. Requiring retailers to check photo identification of anyone under 27.
4. Banning all sales of tobacco products through vending machines.
5. Banning self-service displays of tobacco products except in adult-only facilities.
6. Banning the distribution of tobacco products through the mail except for sales subject to proof of age (with subsequent FDA review to determine if minors are obtaining tobacco products through the mail).
7. Imposing retailer compliance obligations to ensure that all displays, advertising, labeling, and other items conform with all applicable requirements.

The access restrictions would be coupled with an entirely new system of enforcement to ensure that these provisions are meaningful in practice. The proposed resolution mandates minimum federal standards for a retail licensing program: any entity that sells directly to consumers -- whether a manufacturer, wholesaler, importer, distributor or retailer -- would need to obtain and maintain a license. Sellers would be subjected to stiff penalties and potentially to suspension or loss of their licenses if they do not comply with the access restrictions. The federal government and state and local authorities would enforce these access and licensing provisions through funding provided by annual tobacco industry payments.

The proposed resolution also contains powerful economic incentives for the states to do their part to reduce underage tobacco use and to enforce the access restrictions. States are required to achieve levels of compliance with the access restrictions within their borders of 75% by the fifth year after enactment of the proposed resolution, 85% by the seventh year and 90% by the tenth year and each year thereafter. States that fail to do so would lose a significant portion of the health-care program funds that would otherwise be allocated to them out of the payments to be made by the tobacco industry (which are described below). Funds withheld from states on this basis would, in turn, be reallocated to those states that demonstrated superior "no sales to minors" enforcement records.

C. "Look Back" -- Economic Surcharges on the Tobacco Industry if Underage Use is not Greatly Reduced

The proposed resolution would give the tobacco industry powerful economic incentives to further the goal of dramatically reducing underage tobacco use by imposing surcharges on the industry if required reductions are not achieved. The proposed resolution's "look back" provision establishes steep required reductions in the level of underage tobacco use from estimated levels over the past decade: for underage cigarette use, 30% by year 5 after

enactment of the proposed resolution, 50% by year 7 and 60% by year 10, with incidence remaining at such reduced levels thereafter; for underage smokeless tobacco use, 25% by year 5, 35% by year 7 and 45% by year 10, likewise with incidence remaining at such reduced levels thereafter. (These required reductions amount to even steeper declines from estimated current levels of underage cigarette use.)

For any year in which these required reductions are not met, the FDA must impose a mandatory surcharge on the participating members of the industry in question (cigarette or smokeless tobacco) based upon an approximation of the present value of the profit the companies would earn over the lives of all underage consumers in excess of the required reduction (subject to a \$2 billion annual cap for the cigarette industry (as adjusted for inflation) and a comparably derived cap for the smokeless tobacco industry). Tobacco product manufacturers could receive a partial refund of this surcharge (up to 75%) only after paying the assessed amount and only if they could thereafter prove to the FDA that they had fully complied with the resolution, had taken all reasonably available measures to reduce youth tobacco usage and had not acted to undermine the achievement of the reduction goals.

2. Regulation of the Tobacco Industry

The proposed resolution mandates new warning labels, requires the industry to disclose research on the health effects of its products and information about non-tobacco ingredients, makes industry-funded cessation programs available to persons who want to quit, and endows the FDA with extensive regulatory powers over the tobacco industry in this country.

A. Warnings and Labeling

The proposed resolution first requires a new set of rotating warnings to be placed on packages of tobacco products. Their content – such as “WARNING: Smoking can kill you” – follow requirements in other countries, such as Canada. Their location is to be more prominent than previous warnings: 25% of the front of cigarette packs (at the top of the pack) and 25% of the principal display panel of smokeless tobacco products.

In addition, the proposed resolution would expand the health warning concept as applied to advertising. For example, without limiting the FDA’s normal rulemaking authority, the proposed resolution (1) would require that use of currently employed descriptions such as “low tar” and “light” be accompanied by a mandatory health disclaimer in advertisements; and (2) prohibit the use of any health claims without review by the FDA. The FDA would also have the corresponding power, but not the obligation, to modify advertising restrictions with respect to tobacco products that it concludes present sufficiently reduced health risks.

B. Disclosure of Health Research and Information

To ensure access by the FDA to full information about the health effects of

tobacco products, the proposed resolution imposes a series of comprehensive disclosure obligations on the tobacco industry. First, the industry is required to disclose to the FDA previously confidential internal laboratory research relating to health, toxicity, addiction and drug dependence, and is under a continuing obligation to disclose to the FDA all such research generated in the future (with protection for proprietary information and applicable privileges). Second, industry documents produced (or to be produced) in the pending Attorney General actions and other litigations relating to smoking and health, addiction or nicotine dependency, "safer" or "less hazardous" cigarettes and underage tobacco use and marketing will be made available to the public in a national tobacco document depository. To the extent the industry continues to assert that any such documents are covered by privileges or protections, the proposed resolution provides for a binding, fast-track procedure by which any interested person may challenge such assertion before a specially appointed federal court. Finally, any subpoena authority that the FDA has with respect to manufacturers of other devices would also apply to tobacco manufacturers.

The proposed resolution also institutes new and greatly expanded disclosure obligations with respect to non-tobacco ingredients. The tobacco industry is required to disclose to the FDA the identity and amount of non-tobacco ingredients used in each brand. The industry is also required to disclose ingredient information to the public to the same degree that current federal law requires for food products (roughly, the identity of ingredients -- other than flavorings -- in descending order of quantity).

C. Cessation Programs

The proposed resolution provides funding for people who want to quit using cigarettes or smokeless tobacco. The proposed resolution authorizes the FDA to accredit cessation programs and techniques that it determines to be effective. Those cessation programs and techniques are then to be made available to members of the public, to be paid for by funds provided under the proposed resolution by the tobacco industry.

D. Regulation of Tobacco Products

The proposed resolution would impose a regulatory regime to govern the manufacturing, content and development of tobacco products in this country. This regime would include FDA approval of the ingredients used in tobacco products and the imposition of standards for reducing the level of certain constituents, including nicotine.

First, the proposed resolution subjects the tobacco industry to the "good manufacturing practice" standards comparable to those applicable to other FDA-regulated industries, but tailored specifically to tobacco products. These standards include requirements regarding quality control systems, FDA inspections (including inspections of facilities and certain records), and record-keeping and reporting. At the same time, the proposed resolution makes clear that tobacco farmers face no greater regulatory burden than the producers of other

raw products regulated by the federal government.

Second, the proposed resolution greatly expands federal regulatory authority over the non-tobacco ingredients used in tobacco products. In addition to requiring full disclosure of these ingredients to the FDA, the proposed resolution requires manufacturers to submit within 5 years a safety assessment for ingredients currently used, and to obtain the FDA's preapproval for any new ingredients. The FDA would have authority to disapprove an ingredient's safety. In connection with this process, manufacturers are required to have procedures for the selection, testing, purchase, storage, and use of ingredients; to keep records regarding the foregoing; and to allow FDA access to such records, with protection of proprietary information.

Finally, the proposed resolution gives the FDA substantial authority over product development by imposing a regulatory regime that would, among other things, set standards for the reduction of certain constituents, including nicotine, to encourage the development of "reduced-risk" tobacco products.

3. Changes in Corporate Culture

The proposed resolution requires fundamental change in the way participating members of the tobacco industry do business in order to ensure that they comply with the spirit, as well as the letter, of the proposed resolution.

Participating manufacturers are required to create, and to update each year, plans to ensure compliance; to identify ways to reduce underage use of tobacco products; and to provide internal incentives for reducing underage use and for developing products with reduced risk.

Participating manufacturers must also implement compliance programs setting compliance standards and procedures for employees and agents that are reasonably capable of reducing violations. These programs must assign to specific high-level personnel the overall responsibility for overseeing compliance; forbid delegation of substantial discretionary authority to individuals who have shown a propensity to disregard corporate policies; establish training or equivalent means of educating employees and agents; and institute appropriate disciplinary measures and steps to respond to violations and prevent similar ones from recurring.

Participating manufacturers are further required to take affirmative steps to inculcate the spirit of the new regime. They must promulgate corporate principles that express and explain the company's commitment to compliance, reduction of underage tobacco use, and development of "reduced-risk" tobacco products. They must work with retail organizations on compliance, including retailer compliance checks and financial incentives for compliance. And they must disband industry associations that have been criticized by public health authorities, and may only form new ones subject to strict oversight of their activities.

Companies would be subject to fines and penalties (including "Scarlet Letter" advertising) for breaching any of these obligations. To assist with enforcement, companies must direct their employees to report known or alleged violations to the company compliance officer, who is in turn required to provide reports to the FDA. Finally, "whistleblowers" in the tobacco industry will be provided with the maximum protection available under current federal statutes.

4. Nationwide Standards To Minimize Involuntary Exposure To Environmental Tobacco Smoke

The proposed resolution mandates the first federal minimum standards governing smoking in public places or at work (with states and localities retaining power to impose stricter requirements). It:

- Restricts indoor smoking in "public facilities" to ventilated areas with systems that exhaust the air directly to the outside, maintain the smoking area at "negative pressure" compared with adjoining areas and do not recirculate the air inside the public facility.
- Ensures that no employee may be required to enter a designated smoking area involuntarily while smoking is occurring.
- Exempts restaurants (other than fast food restaurants) and bars, private clubs, hotel guest rooms, casinos, bingo parlors, tobacco merchants and prisons.

The Occupational Safety and Health Administration would have authority to enforce these restrictions.

5. Payments by the Tobacco Industry

The proposed resolution requires those companies to pay hundreds of billions of dollars to fund federal and state enforcement efforts; to provide funds to federal, state and local governments for health care needs and research; to provide payments that yield public benefits and thereby resolve punitive damages claims that otherwise might be asserted in litigation based on past conduct; and to pay for the expenses related to the administration of the Act.

A particular priority for these expenditures is to fund a variety of public and private, non-profit efforts to discourage minors from beginning to use tobacco products and to assist current tobacco consumers in quitting. Those programs include research, public education campaigns, individual cessation programs, and impact grants to communities and individuals affected by the Act.

The participating companies are required to make an aggregate \$10 billion payment on the date of the proposed resolution's enactment. Thereafter, they are to make

specified annual payments tied to volume of domestic sales; these payments will be increased to reflect inflation and are to continue for as long as the companies continue to sell tobacco products in this nation. (If the industry's specified annual payment is to be reduced in a given year as a result of a decline in volume, but the industry's profit for that year is larger than its 1997 profits (as adjusted for inflation), the reduction in the annual payment due to the decline in volume would be offset to the extent of 25% of the increase in profit.) At current levels of sales, the proposed resolution requires total payments of \$368.5 billion over the first 25 years and \$743.5 billion over the first 50 years (subject to credits described below in connection with potential civil tort liability). These payments are separate from any surcharges required under the "look back" provision discussed above. These payments would be the joint responsibility of the participating companies, would receive priority in any bankruptcy or reorganization proceeding, and would be the obligation only of a company's manufacturing entity selling domestically. All payments under the proposed resolution (including any pursuant to the "look back" provision) are ordinary and necessary business expenses for the year of payment, and no part thereof is either in settlement of an actual or potential liability for a fine or penalty (civil or criminal) or the cost of a tangible or intangible asset.

The payments would be allocated among the programs and entities referred to above. The proposed resolution contemplates that the companies would then pass the annual payments through to consumers in order to promote the maximum reduction in underage use.

6. Preservation of Right to Sue

In addition to mandating the payments described above, the proposed resolution preserves individuals' right to sue the tobacco industry. In return for the enormous public health benefits and monetary payments described above, the proposed resolution instead affords the participating companies with protection from civil liability in the following ways.

First, the proposed resolution settles the present governmental and parens patriae actions, and bars similar actions from being maintained in the future. It also settles the currently pending class actions, to the extent they are not reduced to final judgment prior to enactment of the Act. Addiction claims are likewise settled.

Second, the proposed resolution preserves access to the tort system by individuals. Existing legal doctrine regarding the type of tort claims that can be brought, as reflected in the Supreme Court's Cipollone decision, is also preserved. Claims could not be maintained, however, on a class or other aggregated basis, and could be maintained only against tobacco manufacturing companies (and not their retailers, distributors or affiliated companies). In addition, claimants could seek punitive damages only with respect to claims predicated upon conduct taking place after enactment of the proposed resolution, since, as noted above, part of the aggregate industry payments are in settlement of punitive damages claims. Finally, except with respect to already pending actions, third-party payor (and similar) claims could be maintained only on a subrogated basis.

Judgments and settlements arising from tort actions would be paid as follows: The proposed resolution sets an annual aggregate cap equal to 33% of the industry's annual payment (including any reductions for volume decline or increases for inflation). Any excess judgments or settlements above the cap in a year would roll over until the next year. Moreover, while judgments and settlements would run against the defendant, they would give rise to an 80-cent-on-the-dollar credit against the industry's annual payment. Finally, to ensure that the available funds are not allocated disproportionately, any individual judgments in excess of \$1 million would be paid at the rate of \$1 million per year unless every other judgment and settlement could first be satisfied within the annual aggregate cap. In all circumstances, however, the companies would remain fully responsible for costs of defense.

7. Enforcement

Finally, the proposed resolution provides for a comprehensive scheme of enforcement. Violations of the proposed resolution's requirements carry civil and criminal penalties based upon the penalty provisions of the Food, Drug and Cosmetic Act and, where applicable, the provisions of the United States criminal code. Special enhanced civil penalties attach to violations of the obligations to disclose research about health effects and information about the toxicity of non-tobacco ingredients -- up to ten times the penalties applicable to similar violations by pharmaceutical companies.

In addition, terms of the proposed resolution would be embodied in state consent decrees, giving the states concurrent enforcement powers. State enforcement could not impose obligations or requirements beyond those imposed by the proposed resolution (except where the proposed resolution specifically does not preempt additional state-law obligations) and would be limited to the penalties specified in the proposed resolution and by prohibition on duplicative penalties.

The proposed resolution is subject to the approval of the Boards of the companies involved.

SW
THE WHITE HOUSE
WASHINGTON
March 3, 1998

• U.S. Code
Economy
• Include Satchel
• 3/12 testimony

MEMORANDUM FOR THE CHIEF OF STAFF

FROM: Bruce Reed

SUBJECT: Tobacco Communications Plan

Over the next few weeks, we plan to turn up the heat on Congress to pass tobacco legislation. We are organizing a series of events for the President, the Vice President, and others, including an intense week of message events to begin this Saturday. We are also putting in place a coordinated strategy with House and Senate Democrats who will start a daily drumbeat that Congress should not go home without passing comprehensive tobacco legislation.

The following plan represents the thinking of senior White House, HHS, and Treasury staff. Our message is simple: Every day Congress fails to pass tobacco legislation, 3,000 kids start smoking and 1,000 will die early as a result. We can dramatically reduce teen smoking and save a million lives over the next 5 years if we pass the President's proposal.

This Week

This week we plan to underscore our commitment to bipartisan, comprehensive legislation in several ways:

- Senators Chafee, Harkin, Lugar and Graham are expected to announce their bipartisan plan late this week or early next week, and we are hoping to have the Vice President appear with them at their announcement.
- Agency witnesses are testifying at McCain's hearing today on tobacco advertising.
- Secretary Shalala will begin to meet with editorial boards.

Next Week

Starting with the radio address, we plan a high profile, high intensity week of tobacco message events, including:

- In his March 7th radio address, the President will challenge the Congress not to go home this year without passing comprehensive bipartisan tobacco legislation that will dramatically reduce teen smoking, and note that Congress has less than 70 work days left.

- On Sunday, March 8th, The Washington Post will begin a three day series chronicling the tobacco wars from the drafting of the FDA rule to present.
- On March 9th, in a speech to the AMA on health care quality, President will laud the doctors' support for comprehensive tobacco legislation.
- Starting March 11th, the Democratic leadership will announce a countdown calendar, starting a daily drumbeat of how every day that passes without enacting tobacco legislation, 3,000 kids start smoking, causing 1,000 to die a premature death. Jeffords will mark up his FDA bill the same day.
- In a March 12th speech to the attorneys' general, the President will announce state-by-state numbers of how many lives will be saved by comprehensive tobacco legislation. This is the same day as the last Bliley hearing, when the industry is under subpoena to release more documents. It is also the first day of markup for the Senate Commerce Committee.
- On March 13th, we would like to leak a political memo by Geoff Garin and Mark Mellman on the popularity of tobacco legislation.
- On Saturday, March 14th, the Vice President will convene a regional tobacco roundtable in Boston, inviting key members of Congress (Kennedy, Chafee, Jeffords).

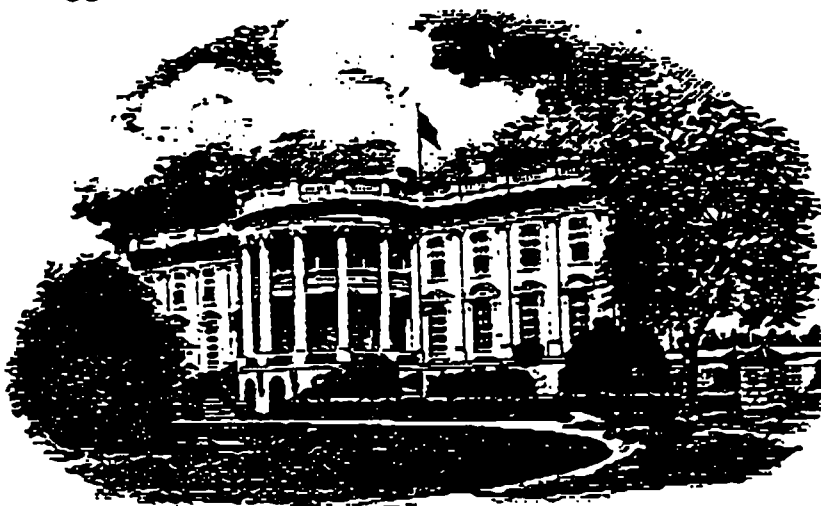
To Be Scheduled/Ideas Under Development

We are currently developing the following ideas for the rest of the month and the April recess:

- The Vice President will meet with network anchors.
- Treasury Deputy Secretary Summers will give a speech on the costs of smoking.
- Secretary Shalala will meet with women's magazines.
- We will coordinate new document releases with Waxman.
- Secretary Shalala will announce a Major League Baseball campaign to reduce smokeless tobacco use by young people (Camden Yards, March 31st).
- The Cabinet will do events in 15 top markets on April 2nd, which is Kick Butts Day.
- For the April recess, we will plan a major blitz:
 - A multidistrict media tour by Secretary Shalala.
 - Editorials in key districts and states.
 - A press packet/how-to kit for local TV producers.
 - Support for members who want to conduct town halls or other events.

Office of Management and Budget

to success
business
- economic



Natural Resources, Agriculture Branch

Fax Transmittal Cover Sheet

Number of pages (including cover) 6

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To: Tom Freedman

Phone: _____ Fax: _____

From: STUART Kasdin

Comments: Additional background materials
(1) OMB (early) estimate on local impacts
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Phone: (202) 395-3446

Fax: (202) 395-4941

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1. BUYING OUT THE VALUE OF QUOTA

(give producers "freedom to farm" their choice of crops)

	NC <u>Flue-cured</u>	KY <u>Burley</u>	<u>Total</u>	Assuming quota value is 20% less
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Total Quota rental value	\$346.50	\$199.95	\$546.45	\$437.16

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(in millions of dollars)

6%	\$9,081	\$7,265
7%	\$7,797	\$6,238
8%	\$6,828	\$5,462
9%	\$6,071	\$4,856

2. BUYING OUT THE PRODUCTION PROFIT

(producers prohibited from growing anything - no allowance for profit from growing alternative crops.)

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Net Profit on production (lb.)\1	\$0.96	\$1.04		Profit at 20% less
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Total Tobacco profit:	967.68	582.4	\$1,550.08	\$1,240.06

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6%	\$25,759	\$20,607
7%	\$22,118	\$17,695
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9%	\$17,220	\$13,776

1\ excluding fixed costs, including quota rents, land, etc.

* - what

EFFECT OF TOBACCO PROGRAM ELIMINATION

Effect on Tobacco Producers

(USDA estimates of FY 2006, assumes no settlement)

	<u>Flue-cured</u>	<u>Burley</u>
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1\ Elasticity of demand for leaf tobacco of -0.8

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Elimination of the tobacco program would allow farmers who do not presently hold tobacco quota (production) rights to plant tobacco, and those with quota to expand production. The question as to whether tobacco production is a net winner or loser from eliminating the USDA program depends largely on one's assumptions about demand. Nevertheless, the grower's association for flue-cured tobacco has previously expressed an interest in eliminating the USDA price-support and supply control program. (A 1997 study on the Impacts of Elimination of the Flue-Cured Tobacco Program by Brown, Thurman and Dugan, professors at NC State, estimated an increase in production of 32% and an increase in farm receipts of 20% for elimination of the program).

Effect on Quota Holders and Communities

Net benefits for tobacco overall do not distinguish the distributions of income. Quota owners would lose relative to non-quota owners. In some cases, landowners have purchased quota rights and this investment would be lost. USDA estimates that 463,000 individuals own quotas, but 340,000 of them do not grow tobacco. A 1991 survey indicated that only 7% of flue-cured operators owned their entire tobacco quota they produced, 21 % rented all their quota, and 72 % owned and rented quota.

Estimates on the value of quota rights come from different sources. A survey of markets produced average annual rental rates for flue-cured quota of \$0.45/lb. and \$0.43/lb. for burley tobacco. This annual rental rate is higher than the sales value of the quota since the effects of the presumed settlement, as well as the long-term decreasing domestic demand, reduce the sales value. The sale value of quota has been reported as \$3.50/lb for flue-cured tobacco and \$2.00/lb for burley tobacco. Flue-cured quota income for both non-producers that rented quota and growers who owned quota was about \$316 million in 1992 (Brown, et. al). With growers owning about 1/3 of the national quota, their annual quota rent is about \$101 million, while non-growers received about \$215 million.

The fully capitalized value of the quota equals \$546 million annually, or \$9 billion on a present value basis, assuming a 6% (Treasury) discount rate (see chart attached). Crudely adjusting for the risk that quota values will decline over the uncertainty of tobacco's future, by using a risk-adjusted discount rate of 9%, the quota value would equal \$6 billion.

Estimated average costs and returns for vegetable and field crops in North Carolina, 1994
(\$ per acre)

	<u>Gross Revenue</u>	<u>Cash Variable Expenses</u>	<u>Net profit (Revenue>variable expenses)</u>
Flue-cured Tobacco	4,090	1,885	2,205
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Source: USDA

Also, production would shift to different, lower-cost production sites, especially for burley tobacco, which has very restrictive lease and transfer provisions for quota.. These shifts could hurt local industries in tobacco-dependent areas.

Testimony: Senate Committee on Agriculture, Nutrition, and Forestry
September 18, 1997

Issues in a Buyout for Tobacco Growers

by

Bruce L. Gardner
Department of Agricultural and Resource Economics
University of Maryland

Summary

The basic idea of a buyout is simple: the U.S. government's tobacco support program would be ended, and the farm participants in this program would be compensated for their loss of benefits. Proponents of the program will ask, why end it? Opponents will ask, why pay compensation for the loss of benefits?

The answer to the first question is that while the tobacco program has been successful in stabilizing the tobacco market, and the program's cost has been largely shifted from taxpayers to the industry, the detailed regulation of production has created needless inefficiency in the economic organization and location of production. Moreover, the support of prices has constrained tobacco exports and induced imports, further reducing demand for U.S. tobacco. High-cost, highly regulated tobacco growing, with declining product demand, is not sustainable. Such economic costs were good reasons for the market-oriented reforms for grains and cotton in the 1996 Farm Act, and they are good reasons for deregulation of tobacco growing, too.

On the second question, the reason for a "buyout" approach which pays farmers for giving up the regulatory approach is again related to the treatment given to producers of other crops in 1996. Producers of other crops were compensated, so fairness suggests compensating tobacco growers, too. There are however several analytical issues that have to be addressed in detail before a buyout can be seriously proposed, and they are not easy ones:

1. What would be the effects of ending the tobacco program on tobacco production, prices, smoking and health, farm income, and other variables?
2. How would a buyout be implemented?
3. How much would a buyout cost, and where would the funds come from?
4. Are there really net economic gains to the nation, and if so how large are they?

My tentative answers are:

1. With the quantities of flue-cured and burley tobacco not subject to marketing quotas, and the support price eliminated, U.S. tobacco production would increase. Supply and demand parameters suggest about a 10 percent increase in U.S. tobacco output in the first year marketing restrictions are lifted. Longer-term increases would be larger. The large majority of the U.S. increase would be exported as tobacco leaf and products, and some of the rest would replace imported tobacco in U.S. production of cigarettes. The farm level price of tobacco would fall by about 10 percent in the short run, and cigarette consumption would rise slightly, by about one quarter of one percent. The rise in cigarette consumption is small in both the short and long run because so little of the cost of cigarettes is accounted for by the cost of tobacco. U.S. smokers spend almost \$50 billion annually on cigarettes which contain about \$2 billion worth of U.S. tobacco, so when the price of tobacco falls 10 percent, the most consumers can save is \$200 million or less than one-half of 1 percent of

Tuesday, September 23, 1997

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the price of cigarettes, even if the tobacco price decline is fully passed on to smokers by cigarette sellers.

At the level of farm production of tobacco, net income would fall. My estimate of the decline is about \$200 million annually, but the incidence would be very different for two groups of people: owners of marketing quotas and growers. Growers typically own some quota, but also lease quota, so they are members of both groups. Quota owners would lose the entire value of their quota, in annual rental terms more than \$500 million per year for flue-cured and burley combined. But growers would be better off as producers of tobacco, by perhaps \$300 million annually, partly from growing more tobacco for increased net exports, which an end to production restrictions would bring, and partly due to lower costs when growers are able to consolidate tobacco production in larger acreages in the lowest-cost locations.

2. Implementation of a buyout involves determining the value of quotas and the timing and amounts of payments to each quota owner. I believe the best means of implementation would provide payments that varied by county. In each county, lease and sales data for quota and tobacco land would be used to estimate the average value of quota in a base period, say 1995-97. This amount would be paid over a period of several years, perhaps 7 as in the 1996 Farm Act.

The funds needed could be collected by raising the cigarette excise tax or by earmarking additional funds in the tobacco industry settlement, if the settlement comes to pass.

3. What would a buyout cost? Using a U.S. average capital value of quotas of \$3.00 per pound, 1.6 billion pounds of quota would cost \$4.8 billion. Over 10 years, about \$500 million annually would be needed. This amount could be raised by increasing the cigarette tax by less than 2 cents a pack.

This tax would reverse the slight increase in smoking that ending quota restrictions would generate—the tax increase offsets the decline in the farm price of tobacco, leaving the demand for cigarettes roughly where it is under current marketing restrictions.

4. The net gains cannot be estimated with precision, of course. The most difficult issues, involving smoking and health, are placed to one side by setting up the buyout analysis so that the U.S. consumer price and consumption of cigarettes are unchanged. Taxpayers are not affected because the payments to growers are financed by the additional excise tax on cigarettes. The main change is that smokers and cigarette makers would be levied a tax to pay quota owners cash, rather than paying growers through the higher price caused by the tobacco program's marketing and production restrictions. Similarly, quota owners are just compensated for the loss of their quota rents, and neither gain nor lose. The gains to the nation are the gains to tobacco growers from an expanded export market and lower costs of production brought by their increased freedom of action. These gains, which I provisionally suggest are in the neighborhood of \$50 to \$200 million per year, are the nation's gains from a buyout.

An important transitional issue is the problems that are likely to arise in adjustment to a no-program situation, both for farmers who lose the stability of income provided by the program and for communities in which tobacco growing declines or even disappears in the absence of program protections. The latter problem may justify some form of adjustment assistance to particular areas as a use for some of the buyout funds. The former problem, of providing stability in market-oriented tobacco farming, could be addressed by appropriate private-sector insurance and storage businesses. The cigarette manufacturers might find it worthwhile to offer forward-priced contract or buying guarantees, as have been developing recently in other agricultural markets. The role of the Flue-Cured Tobacco Cooperative Stabilization and Burley Stabilization Corporations is worth special attention in this respect. Perhaps they could be privatized and perform the kind of functions that grain elevators and non-government marketing cooperatives now provide for other commodities.

The following provides more detail on the background and analytical basis for the preceding assessment. Background

The spirit of market orientation and deregulation that has influenced recent agricultural commodity policy, especially the FAIR Act of 1996, could be carried further in tobacco policy. One reason the tobacco programs—more specifically the programs for flue-cured and burley tobacco—have been largely left alone is

TOBACCO FARMERS

March 9, 1998

- economics
*[Signature]***Background:**

Since the 1930s, tobacco prices have been supported and stabilized by the federal government's commodity support program. The tobacco program operates through a combination of marketing quotas, which limit supply, and no-net-cost tobacco loans, which help to balance supply with demand. There are two main types of tobacco, Flue-cured and Burley. Flue-cured is common in North Carolina, Burley more popular in Kentucky.

The settlement agreement with the Attorneys General settlement agreement did not outline a plan to compensate farmers for the negative effects of diminished domestic tobacco sales that might result from comprehensive legislation. The President, however, made protecting tobacco farmers and their communities one of the five key elements of his plan for comprehensive tobacco legislation.

Status in Congress:

Thus far, three types of legislative approaches have been discussed. First, Senator Lugar has proposed legislation that would quickly "buy-out" quota owners from the governmental system at approximately \$8 a pound. In Senator Lugar's plan, tobacco prices would then be subject to the free market. Second, Senator Ford has proposed legislation that would maintain the current quota system. However, if prices decline Senator Ford would require the government to compensate farmers for the difference between the prices farmers would have enjoyed without legislation and the diminished prices they may experience -- up to a total of up to \$8 per pound. Finally, Senator Robb has legislation that would combine elements of both pieces of legislation. Senator Robb plans on offering a buy-out to farmers, but replacing the quota system with a production control system based on licenses. Unlike quotas, licenses would be given only to those who actually grew tobacco and could not be bought or rented.

No consensus has yet emerged in the tobacco growing community as to which legislation is preferred. Senator Ford's proposal, the LEAF Act, was initially seen by farmers as a useful block to Senator Lugar and attracted six Republican co-sponsors including Senators Helms and Faircloth. Flue-cured farmers, however, have become increasingly interested in the possibility of a buy-out and Senator Robb's approach has gained support. Recently, Senators Robb and Ford have discussed a compromise bill which might treat Flue-cured and Burley tobacco differently. The Administration has encouraged their efforts at compromise believing that a proposal that had widespread support among tobacco farmers and their communities would avert having important potential opponents to the legislation.

The Vice-President has said the Administration could support legislation like that introduced by Senator Conrad. Senator Conrad's bill established a pool of \$2 billion a year to compensate farmers and their communities but did not say exactly how the money would be

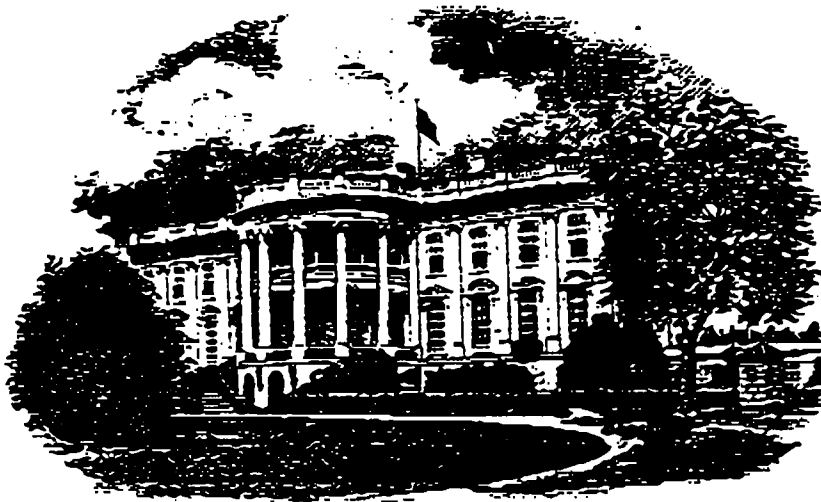
distributed.

Next Steps.

The Administration needs to continue to assure tobacco farmers and their communities that the President will not sign legislation that does not protect their interests. The President has said farmers should not suffer economically because of tobacco legislation. In addition, the Administration needs to urge Senators Ford and Robb to reach a compromise that can attract bipartisan support. The major issue separating Ford and Robb at this point is Robb's belief that there should be a decrease in the legislatively-set price of Flue-cured tobacco so it can be more competitive internationally. Senator Ford has opposed this, and the Administration has expressed concern to Robb's staff that decreasing the price of tobacco, no matter how small its effect on the price of cigarettes, is likely not compatible with comprehensive tobacco legislation.

Office of Management and Budget

Table -
Farm Economics



Natural Resources, Agriculture Branch

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1/30/98 (revised)

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(give producers "freedom to farm" their choice of crops)

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1. With the quantities of flue-cured and burley tobacco not subject to marketing quotas, and the support price eliminated, U.S. tobacco production would increase. Supply and demand parameters suggest about a 10 percent increase in U.S. tobacco output in the first year marketing restrictions are lifted. Longer-term increases would be larger. The large majority of the U.S. increase would be exported as tobacco leaf and products, and some of the rest would replace imported tobacco in U.S. production of cigarettes. The farm level price of tobacco would fall by about 10 percent in the short run, and cigarette consumption would rise slightly, by about one quarter of one percent. The rise in cigarette consumption is small in both the short and long run because so little of the cost of cigarettes is accounted for by the cost of tobacco. U.S. smokers spend almost \$50 billion annually on cigarettes which contain about \$2 billion worth of U.S. tobacco, so when the price of tobacco falls 10 percent, the most consumers can save is \$200 million or less than one-half of 1 percent of

the price of cigarettes, even if the tobacco price decline is fully passed on to smokers by cigarette sellers.

At the level of farm production of tobacco, net income would fall. My estimate of the decline is about \$200 million annually, but the incidence would be very different for two groups of people: owners of marketing quotas and growers. Growers typically own some quota, but also lease quota, so they are members of both groups. Quota owners would lose the entire value of their quota, in annual rental terms more than \$500 million per year for flue-cured and burley combined. But growers would be better off as producers of tobacco, by perhaps \$300 million annually, partly from growing more tobacco for increased net exports, which an end to production restrictions would bring, and partly due to lower costs when growers are able to consolidate tobacco production in larger acreages in the lowest-cost locations.

2. Implementation of a buyout involves determining the value of quotas and the timing and amounts of payments to each quota owner. I believe the best means of implementation would provide payments that varied by county. In each county, lease and sales data for quota and tobacco land would be used to estimate the average value of quota in a base period, say 1995-97. This amount would be paid over a period of several years, perhaps 7 as in the 1996 Farm Act.

The funds needed could be collected by raising the cigarette excise tax or by earmarking additional funds in the tobacco industry settlement, if the settlement comes to pass.

3. What would a buyout cost? Using a U.S. average capital value of quotas of \$3.00 per pound, 1.6 billion pounds of quota would cost \$4.8 billion. Over 10 years, about \$500 million annually would be needed. This amount could be raised by increasing the cigarette tax by less than 2 cents a pack.

This tax would reverse the slight increase in smoking that ending quota restrictions would generate—the tax increase offsets the decline in the farm price of tobacco, leaving the demand for cigarettes roughly where it is under current marketing restrictions.

4. The net gains cannot be estimated with precision, of course. The most difficult issues, involving smoking and health, are placed to one side by setting up the buyout analysis so that the U.S. consumer price and consumption of cigarettes are unchanged. Taxpayers are not affected because the payments to growers are financed by the additional excise tax on cigarettes. The main change is that smokers and cigarette makers would be levied a tax to pay quota owners cash, rather than paying growers through the higher price caused by the tobacco program's marketing and production restrictions. Similarly, quota owners are just compensated for the loss of their quota rents, and neither gain nor lose. The gains to the nation are the gains to tobacco growers from an expanded export market and lower costs of production brought by their increased freedom of action. These gains, which I provisionally suggest are in the neighborhood of \$50 to \$200 million per year, are the nation's gains from a buyout.

An important transitional issue is the problems that are likely to arise in adjustment to a no-program situation, both for farmers who lose the stability of income provided by the program and for communities in which tobacco growing declines or even disappears in the absence of program protections. The latter problem may justify some form of adjustment assistance to particular areas as a use for some of the buyout funds. The former problem, of providing stability in market-oriented tobacco farming, could be addressed by appropriate private-sector insurance and storage businesses. The cigarette manufacturers might find it worthwhile to offer forward-priced contract or buying guarantees, as have been developing recently in other agricultural markets. The role of the Flue-Cured Tobacco Cooperative Stabilization and Burley Stabilization Corporations is worth special attention in this respect. Perhaps they could be privatized and perform the kind of functions that grain elevators and non-government marketing cooperatives now provide for other commodities.

The following provides more detail on the background and analytical basis for the preceding assessment. Background

The spirit of market orientation and deregulation that has influenced recent agricultural commodity policy, especially the FAIR Act of 1996, could be carried further in tobacco policy. One reason the tobacco programs—more specifically the programs for flue-cured and burley tobacco—have been largely left alone is