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August 6, 1997 **DRAFT**

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 requires Federal implementing legislation. It provides suggestions, not binding requirements, on the Federal Government. Taken at its face for purposes of analysis, the 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.) Recent practice would 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 by the tobacco industry; 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. However, if the receipts were not scored as indirect business taxes, logic might argue that the Federal Government score the likely impact on cost-of-living provisions (through the consumer price index) on entitlement benefits and taxes.

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 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 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 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)	(2.0)	(3.0)	(4.2)	(4.6)	(23.6)	(14.9)	(38.5)
Credits for civil suits at cap	0.0	(1.4)	(1.5)	(1.6)	(1.9)	(1.8)	(12.2)	(8.1)	(20.3)
Inflation adjustments on above	0.0	0.0	0.2	0.4	0.7	1.1	9.0	2.4	11.4
Credit for BBA97 excise tax increase	0.0	0.0	(1.9)	(1.8)	(2.6)	(2.5)	(12.5)	(8.8)	(21.3)
Additional Payments to offset BBA97 Credits	0.0	0.0	1.9	1.8	2.6	2.5	12.5	8.8	21.3
Look-back surcharge	0.0	0.0	0.0	0.0	0.0	1.7	8.6	1.7	10.4
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	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Tax offset at 25% (IBT)	(2.5)	(1.5)	(1.6)	(1.8)	(2.2)	(2.9)	(14.2)	(12.4)	(26.6)
Reduction in tobacco excise taxes (non-PAYGO)	(0.4)	(0.5)	(0.9)	(1.2)	(1.5)	(1.5)	(7.4)	(6.1)	(13.4)
Total, Federal revenues	**7.1**	**4.0**	**3.7**	**4.3**	**5.0**	**7.1**	**35.2**	**31.2**	**66.4**
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	0.6	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	1.7	8.6	1.7	10.4
Subtotal, specified spending in bill	0.0	4.6	4.8	6.0	6.9	10.5	35.0	32.9	67.9
Unspecified residual to reach total payments	**10.0**	**1.4**	**1.4**	**1.3**	**1.8**	**0.9**	**21.8**	**16.8**	**38.6**
Total, Federal outlays, excl. debt Service	**10.0**	**6.0**	**6.2**	**7.3**	**8.7**	**11.4**	**56.8**	**49.7**	**106.5**
Federal deficit:									
Revenues (deficit effect)	(7.1)	(4.0)	(3.7)	(4.3)	(5.0)	(7.1)	(35.2)	(31.2)	(66.4)
Programmatic outlays	10.0	6.0	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Debt service	0.1	0.2	0.3	0.5	0.6	0.9	8.2	2.6	10.8
Federal deficit	**3.0**	**2.2**	**2.8**	**3.5**	**4.3**	**5.2**	**29.7**	**21.1**	**50.9**
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect)	(7.5)	(4.5)	(4.7)	(5.5)	(6.5)	(8.6)	(42.6)	(37.3)	(79.9)
Outlays	10.0	6.0	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Total PAYGO deficit effect	**2.5**	**1.5**	**1.6**	**1.8**	**2.2**	**2.9**	**14.2**	**12.4**	**26.6**
ADDENDA:									
Available (residual) spending if held to PAYGO neutrality	7.5	(0.1)	(0.1)	(0.5)	(0.4)	(2.0)	7.6	4.4	12.0
Available (residual) spending if held to budget neutrality	7.1	(0.6)	(1.1)	(1.8)	(1.9)	(3.5)	0.3	(1.7)	(1.5)
Deficit impact of higher CPI (COLAs and indexation)	0.0	0.5	1.5	2.5	3.4	3.9	22.3	11.9	34.3
Potential increase in Federal matching grants(lower end)	0.8	0.7	0.7	0.6	0.9	0.4	10.9	4.1	15.0
Potential increase in Federal matching grants(upper end)	1.0	1.5	1.6	1.8	2.2	2.9	14.2	10.9	25.1

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 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. Industry payments are reduced to provide a credit for excise tax increases enacted as part of BBA '97.
11. States could, through income or substitution effects, increase medicaid spending, thereby generating a 57% Federal match.
12. CPI effects shown as memorandum only because they at least partially overlap with the 25% income offset.

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	67.5	41.0	108.5
Adult sales volume adjustments	0.0	(1.1)	(2.0)	(3.0)	(4.2)	(4.6)	(23.6)	(14.9)	(38.5)
Credits for civil suits at cap	0.0	(1.4)	(1.5)	(1.6)	(1.9)	(1.8)	(12.2)	(8.1)	(20.3)
Inflation adjustments on above	0.0	0.0	0.2	0.4	0.7	1.1	9.0	2.4	11.4
Credit for BBA97 excise tax increase	0.0	0.0	(1.9)	(1.8)	(2.6)	(2.5)	(12.5)	(8.8)	(21.3)
Additional Payments to offset BBA97 Credits	0.0	0.0	1.9	1.8	2.6	2.5	12.5	8.8	21.3
Look-back surcharge	0.0	0.0	0.0	0.0	0.0	1.7	8.6	1.7	10.4
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	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Reduction in tobacco excise taxes (non-PAYGO)	(0.4)	(0.5)	(0.9)	(1.2)	(1.5)	(1.5)	(7.4)	(6.1)	(13.4)
Total, Federal revenues	**9.6**	**5.5**	**5.3**	**6.1**	**7.2**	**9.9**	**49.4**	**43.6**	**93.0**
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	0.5	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	1.7	8.6	1.7	10.4
Subtotal, specified spending in bill	0.0	4.6	4.8	6.0	6.9	10.5	35.0	32.9	67.9
Unspecified residual to reach total payments	**10.0**	**1.4**	**1.4**	**1.3**	**1.8**	**0.9**	**21.8**	**16.8**	**38.6**
Total, Federal outlays, excl. debt Service	**10.0**	**6.0**	**6.2**	**7.3**	**8.7**	**11.4**	**56.8**	**49.7**	**106.5**
Federal deficit:									
Revenues (deficit effect)	(9.6)	(5.5)	(5.3)	(6.1)	(7.2)	(9.9)	(49.4)	(43.6)	(93.0)
Programmatic outlays	10.0	6.0	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Debt service	0.0	0.0	0.1	0.1	0.2	0.3	2.7	0.7	3.4
Federal deficit	**0.4**	**0.6**	**1.0**	**1.4**	**1.7**	**1.8**	**10.1**	**6.8**	**16.9**
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect)	(10.0)	(6.0)	(6.2)	(7.3)	(8.7)	(11.4)	(56.8)	(49.7)	(106.5)
Outlays	10.0	6.0	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Total PAYGO deficit effect	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
ADDENDA:									
Available (residual) spending if held to PAYGO neutrality	10.0	1.4	1.4	1.3	1.8	0.9	21.8	16.8	38.6
Available (residual) spending if held to budget neutrality	9.6	0.9	0.5	0.1	0.3	(0.6)	14.4	10.7	25.1
Deficit impact of higher CPI (COLAs and indexation)	0.0	0.5	1.5	2.5	3.4	3.9	22.3	11.9	34.3
Potential increase in Federal matching grants(lower end)	0.8	0.7	0.7	0.6	0.9	0.4	10.9	4.1	15.0
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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. Industry payments are reduced to provide a credit for excise tax increases enacted as part of BBA '97.
11. States could, through income or substitution effects, increase medicaid spending, thereby generating a 57% Federal match.
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SUMMARY OF DISPOSITION OF SETTLEMENT FUNDS 8-6-97
(1998-2008, nominal dollars)

	Indirect Business Tax		Voluntary Payment	
	Target Met	Target Not Met	Target Met	Target Not Met
Gross Industry Payment		106.5		106.5
Potential Offsets				
Federal Indirect Business Tax Offset		26.6	N.A.	N.A.
Increased Federal Indexation Costs	N.A.	N.A.	34.3	34.3
Decreased Federal Excise Taxes		13.4		13.4
Decreased State Excise Taxes	0.0	18.2	0.0	18.2
Subtotal	0.0	58.2	34.3	65.9
Net Industry Payment	0.0	48.3	(34.3)	40.6
Specified Uses of Funds				
Explicitly Federal	43.9	43.9	43.9	43.9
Federal Share of Grantable Uses	2.9	3.9	2.9	3.9
Explicitly State	1.3	1.3	1.3	1.3
State Share of Grantable Uses	2.9	12.2	2.9	12.2
Private	6.5	6.5	6.5	6.5
Subtotal	57.4	67.8	57.4	67.8
Remaining Net Funds	(57.4)	(19.5)	(91.7)	(27.2)
Percent of Gross Industry Payment	ERR	-18.3%	ERR	-25.5%
Memorandum:				
Gross Payment Less Specified Uses	-57.4	38.7	-57.4	38.7

August 6, 1997 **DRAFT**

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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 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 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 Not Met
(in billions of dollars)

08/06/97
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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)	(2.0)	(3.0)	(4.2)	(4.6)	(23.6)	(14.9)	(38.5)
Credits for civil suits at cap	0.0	(1.4)	(1.5)	(1.6)	(1.9)	(1.8)	(12.2)	(8.1)	(20.3)
Inflation adjustments on above	0.0	0.0	0.2	0.4	0.7	1.1	9.0	2.4	11.4
Credit for BBA97 excise tax increase	0.0	0.0	(1.9)	(1.8)	(2.6)	(2.5)	(12.5)	(8.8)	(21.3)
Additional Payments to offset BBA97 Credits	0.0	0.0	1.9	1.8	2.6	2.5	12.5	8.8	21.3
Look-back surcharge	0.0	0.0	0.0	0.0	0.0	1.7	8.6	1.7	10.4
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	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Tax offset at 25% (IBT) Indirect Business Tax	(2.5)	(1.5)	(1.6)	(1.8)	(2.2)	(2.9)	(14.2)	(12.4)	(26.6)
Reduction in tobacco excise taxes (non-PAYGO)	(0.4)	(0.5)	(0.9)	(1.2)	(1.5)	(1.5)	(7.4)	(6.1)	(13.4)
Total, Federal revenues	**7.1**	**4.0**	**3.7**	**4.3**	**5.0**	**7.1**	**35.2**	**31.2**	**66.4**
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	0.6	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	1.7	8.6	1.7	10.4
Subtotal, specified spending in bill	0.0	4.6	4.8	6.0	6.9	10.5	35.0	32.9	67.9
Unspecified residual to reach total payments	**10.0**	**1.4**	**1.4**	**1.3**	**1.8**	**0.9**	**21.8**	**16.8**	**38.6**
Total, Federal outlays, excl. debt Service	**10.0**	**6.0**	**6.2**	**7.3**	**8.7**	**11.4**	**56.8**	**49.7**	**106.5**
Federal deficit:									
Revenues (deficit effect)	(7.1)	(4.0)	(3.7)	(4.3)	(5.0)	(7.1)	(35.2)	(31.2)	(66.4)
Programmatic outlays	10.0	6.0	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Debt service	0.1	0.2	0.3	0.5	0.6	0.9	8.2	2.6	10.8
Federal deficit	**3.0**	**2.2**	**2.8**	**3.5**	**4.3**	**5.2**	**29.7**	**21.1**	**50.9**
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect)	(7.5)	(4.5)	(4.7)	(5.5)	(6.5)	(8.6)	(42.6)	(37.3)	(79.9)
Outlays	10.0	6.0	6.2	7.3	8.7	11.4	56.8	49.7	106.5
Total PAYGO deficit effect	**2.5**	**1.5**	**1.6**	**1.8**	**2.2**	**2.9**	**14.2**	**12.4**	**26.6**
ADDENDA:									
Available (residual) spending if held to PAYGO neutrality	7.5	(0.1)	(0.1)	(0.5)	(0.4)	(2.0)	7.6	4.4	12.0
Available (residual) spending if held to budget neutrality	7.1	(0.6)	(1.1)	(1.8)	(1.9)	(3.5)	0.3	(1.7)	(1.5)
Deficit impact of higher CPI (COLAs and indexation)	0.0	0.5	1.5	2.5	3.4	3.9	22.3	11.9	34.3
Potential increase in Federal matching grants(lower end)	0.8	0.7	0.7	0.6	0.9	0.4	10.9	4.1	15.0
Potential increase in Federal matching grants(upper end)	1.0	1.5	1.6	1.8	2.2	2.9	14.2	10.9	25.1

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 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. Industry payments are reduced to provide a credit for excise tax increases enacted as part of BBA '97.
11. States could, through income or substitution effects, increase medicaid spending, thereby generating a 57% Federal match.
12. CPI effects shown as memorandum only because they at least partially overlap with the 25% income offset.

SUMMARY OF BUDGETARY EFFECTS OF PROPOSED SETTLEMENT

08/13/97
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(In billions of dollars; assumes youth consumption reduction targets are not met)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	998-03	1998-08
RECEIPTS													
Base Payment (inc. trust and up-front payment).....	**10**	**9**	**10**	**12**	**14**	**15**	**15**	**15**	**15**	**15**	**15**	**69**	**144**
Adult Sales Volume Adjustment..................................	---	(1)	(2)	(3)	(4)	(5)	(5)	(5)	(5)	(5)	(5)	(15)	(39)
Credit for Personal Compensation Claims..................	---	(1)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(8)	(20)
Inflation Adjustment..	---	---	0	0	1	1	1	2	2	2	2	2	11
Look-Back Surcharge for Youth Consumption.............	---	---	---	---	---	2	0	3	1	1	3	2	10
Net Industry Settlement Payments...................	**10**	**6**	**6**	**7**	**9**	**11**	**10**	**12**	**11**	**11**	**13**	**50**	**106**
Tax Offsets													
Indirect Business Tax Offset....................................	(3)	(1)	(2)	(2)	(2)	(3)	(2)	(3)	(3)	(3)	(3)	(12)	(27)
Reduction in Federal Excise Taxes..........................	(0)	(1)	(1)	(1)	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(6)	(13)
Total Federal Tax Offsets....................................	(3)	(2)	(3)	(3)	(4)	(4)	(4)	(5)	(4)	(4)	(5)	(19)	(40)
Net Additional Receipts to US Government......	**7**	**4**	**4**	**4**	**5**	**7**	**6**	**8**	**7**	**7**	**8**	**31**	**66**
POTENTIAL USES/CHANGES													
State Attorneys General Proposals, Total...................	---	5	5	6	7	9	6	6	7	4	4	31	58
Offset Reduction in State Excise Taxes.......................	1	1	1	2	2	2	2	2	2	2	2	8	16
Use of Youth Look-Back Surcharge (90% grants)........	---	---	---	---	---	2	0	3	1	1	3	2	10
Potential Increase in Federal Medicaid Match.............	1	1	2	2	2	3	2	3	3	3	3	11	25
Total Potential Uses...	**2**	**7**	**8**	**9**	**11**	**15**	**11**	**14**	**12**	**9**	**11**	**51**	**109**

Don't want second time

NOTE. Net additional receipts levels assume the elimination of the credit for BBA excise taxes

Bruce N. Reed
08/13/97 10:48:26 PM

Record Type: Record

To: Elizabeth Drye/OPD/EOP

cc:
Subject: Tobacco Budget

The Medicaid match

Here are my thoughts on the OMB document:

1. The tort fund is too big. The proposed allocation in the settlement talks was much smaller. The year by year spending was $0 in yr 1, 500m in yr 2; 1b in yrs 3, 4, and 5; 1.5b in yrs 6, 7, and 8; and 4b in yrs 9 and beyond. All this $ is supposed to come out of the base amount, so these figures should be adjusted downward to reflect the volume adjustment. (volume adjustment first? 33% irrelevant?

2. The lookback provisions are too weird when you drop double counting. We should do something simpler once we've made up our mind -- I doubt it would affect revenues much.

3. Where are they getting the Medicaid match #? What are they assuming the states are receiving in order to match at that rate? Are they assuming that's how the public health trust gets spent? If so, we should disabuse them of that idea.

4. Where are we in negotiations over whether the tort fund $ gets charged for the business tax offset? Summers had agreed that there should be some kind of baseline assumption for liability in a non-settlement world. If we reduce the tort fund as in item #1 above, this is not a huge issue for years 1-8, but it's a big deal over the long haul.

5. I can't believe we would give states the penalty money AND offset their excise tax increases.

6. We should insist as a matter of policy that cigarettes be removed from the CPI. We shouldn't get socked with billions in deficit impact for doing the right thing.

Thanks. Let's talk tomorrow.

Expenditures
– Medicaid match – arbitrary.
– OMB grab bag "other" to make a point. –
Not fruitful to argue over it

July 30, 1997

REVISING THE LOOK-BACK

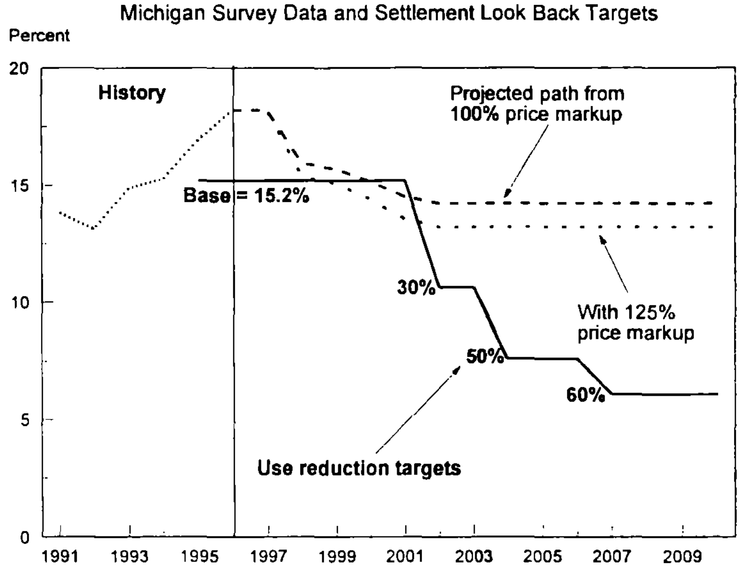
The proposed settlement contains a "look-back" provision with the stated purpose of providing economic incentives to tobacco firms to achieve "dramatic and immediate reductions in the number of underage consumers of tobacco products." Manufacturers would face a surcharge if tobacco-use reduction targets 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 proposed surcharge would be small in terms of the price per pack of cigarettes -- at the $2 billion cap it would represent about 8 cents per pack, and with a 75 percent abatement, only 2 cents per pack. Moreover, firms can readily pass this small cost through to the price of cigarettes, since the payments are adjusted for sales. *A lookback surcharge at this level is therefore unlikely to provide strong incentives for tobacco companies to reduce youth smoking.*

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.

Underage Daily Cigarette Smoking Percentages and Targets

Michigan Survey Data and Settlement Look Back Targets



The % price markup is relative to the per pack penalty payment; the reductions in teen use shown resultfrom the effects of the price increases via the teen elasticity of demand.

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 the shortfall of the percent decline in underage use relative to the reduction target percentage -- was determined as part of the negotiations between the Attorneys General and the industry. Our estimate for the "break-even" surcharge level under the current structure is $75 million per percentage point, similar to the $80 million of the agreement.

- 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 $225 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. Company by Company Fines: ***Fines should be levied on a firm-by-firm basis to create the right incentives and to avoid "free-rider" problems***. Because the smoking reduction targets are specified based on industry-wide underage usage, individual firms have an incentive to keep selling to youths because they reap the full reward while bearing only part of the penalty. As each firm has this same incentive, in practice it is less likely that the reduction targets would be met. By specifying the fines on a company by company basis, the fine will hit an individual firm's profits directly if it fails to reduce youth smoking of its brands.

    - However, there are important 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. Also, 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. Finally, a mechanism must be developed to deal with reported use of more than one brand.

    - 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.

3. <u>No tax deductibility</u>: ***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 <u>not</u> tax deductible.* (If, contrary to our recommendations, deductibility is retained, the fine estimates shown below should be increased by about 50%).

4. <u>No Volume Adjustment</u>: ***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.

<u>Fine Levels:</u> Our calculations show that, with the above provisions, the *break-even* value for the fine would be about $1460 *per youth smoker*. Over time, the $1460 base value would have to be adjusted by the change in industry per unit profits ($ 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 penalties equal to three times profits would therefore point to a total *surcharge level of $4380 per youth smoker.*

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.

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5. <u>Improved Partial Abatement Mechanism</u>: ***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.

- 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.

6. Penalty should be nonlinear to maximize impact. 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. This would have the effect of increasing the penalty as the level of noncompliance rises.

- 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.

7. **<u>Incentives and the 18- to 21-year old age group</u>.** Because the agreement is targeted at underage youth smokers, we must be aware of the incentives it creates relative to slightly older groups. For example, data show that 90% of adult smokers begin smoking as teenagers, and since the reduction targets are specified in terms of 13-17 year-olds, the industry may just simply target 18- to 20-year olds.

   - One option would be to expand 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 $4575 per youth smoker. Industry lost profits are higher (about $1525) 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.

8. <u>The *double-counting provision* of the settlement should be reconsidered</u>. In practice, if the double counting adjustment were eliminated, 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.

   - Since more years of smoking as a teen will increase the odds of addiction, it may be appropriate to increase the fines for each year that a teen smokes.

   - 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.

July 30, 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	108.5
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	6.0	6.5	7.7	9.4	10.4	51.9	50.0	101.9
Tax offset at 25% (IBT)	-2.5	-1.5	-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	0.5	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	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	16.5	8.7	25.1
Total, Federal outlays, excl. debt Service	**10.0**	**6.5**	**7.6**	**9.5**	**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	6.5	7.6	9.5	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	3.5	17.0
Federal deficit	**3.0**	**2.8**	**4.2**	**5.9**	**7.6**	**8.8**	**53.8**	**32.3**	**86.1**
MEMORANDUM: PAYGO budget effects:									
Revenues (deficit effect)	-7.5	-4.5	-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**	**12.5**	**25.5**
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

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 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 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	-19.6	-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	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	-0.9	-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	1.6	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	0.6	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	4.8	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**	**25.6**	**18.9**	**44.4**
COLA impact of higher CPI (non-PAYGO)	0.0	0.5	1.1	1.8	2.5	2.8	16.5	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	0.9	1.3	13.8	3.6	17.4
Federal deficit	**3.0**	**2.8**	**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	-46.1	-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**	**1.5**	**1.6**	**1.9**	**2.3**	**3.2**	**15.4**	**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

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 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 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 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	-19.6	-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	6.0	6.5	7.7	9.4	10.4	51.9	50.0	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**	**5.4**	**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	0.6	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	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	16.5	8.7	25.1
Total, Federal outlays, excl. debt Service	**10.0**	**6.5**	**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	-7.5	-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	0.5	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**	**53.3**
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	67.5	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	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	-5.9	-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	5.6	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	0.6	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	4.8	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**	**25.6**	**18.9**	**44.4**
COLA impact of higher CPI (non-PAYGO)	0.0	0.5	1.1	1.8	2.5	2.8	16.5	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)	-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**	**5.5**	**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	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 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.

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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 to state & Fed gov't	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	4.1	2.9	4.1
Explicitly State	1.3	1.3	1.3	1.3
State Share of Grantable Uses	2.9	13.7	2.9	13.7
Private	6.5	6.5	6.5	6.5
Subtotal	57.4	69.4	57.4	69.4
Remaining Net Funds	(37.1)	(38.9)	(11.6)	(10.4)
Percent of Gross Industry Payment	-36.4%	-34.2%	-11.4%	-9.2%
Memorandum:				
Gross Payment Less Specified Uses	44.5	44.5	44.5	44.5

July 30, 1997

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 settlement.*

- 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. The small fixed payments mandated by the settlement amount to *only slightly more than one year's profits for the industry.*

- This and other collusion-facilitating aspects of the settlement, such as the ban on advertising and restrictions on entry, 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 benefits to the industry from this settlement are reflected in Wall Street's reaction, which has been very positive: tobacco companies, who had been expected to see a discount in their future prices of up to one-third, are now expected to perform as well as the market generally.

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.

A key question for consideration is *whether the right balance has been struck among these objectives.*

- The current settlement offers very valuable insurance to the tobacco industry at what appears to be relatively little cost, allows them to collect their penalty payments through higher prices, and facilitates collusion.

- 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.

II. Mechanics of the Settlement

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.

- This dependence on quantity sold makes the payment function like an excise tax. 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: the quantity adjustment is reduced by 25% of the increase in profits over the base year.

There is also a youth smoking "lookback" penalty. That penalty is considered in more detail in a separate memo prepared by Treasury.

III. Effects of the Settlement on Consumers, the Industry, and the Government

Statistical evidence suggests an elasticity of demand for cigarettes among adults of -0.4 in the short run, and -0.7 in the longer run

- Teenagers, which represent about 7 percent of smokers (but consume fewer packs than adults), appear to be more responsive to price than adults

If the volume adjusted payments 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).

- The number of adult smokers would decline by 15%, and the number of teen smokers would fall by 22%, for a decline of almost one million teen smokers

- This would amount to a regressive tax increase on consumers, since smokers are disproportionately low income

At the same time, this settlement places *relatively little burden on the companies*

- The fixed payment of $10 billion represents only about 14 months of pre-tax profits of the tobacco industry

- The fact that the market for smoking is shrinking through this price increase does lower profits, but this is largely offset by reduced expenditures on advertising and legal fees.

Our analysis suggests that, overall, the reduction this settlement will imply *at most a 10% fall in the profits of tobacco companies* by the fifth year of the agreement

This computation assumes only a one-for-one pass through to prices. But 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.*

- 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 could actually lead to a *rise in industry profits*, which will be incrementally taxed at only 25% by this settlement.

From the government's perspective, the revenues from this settlement are much lower than the statutory stream of payments, due to offsets to other (excise and income) taxes, revenue costs of a rise in the CPI, and payments for civil suits

- The OMB estimates that, by the fifth year of the settlement (2003), the federal government will only collect $5.8 billion of the $15 billion in statutory payments

Thus, the breakdown of payments in that year is:

Statutory:	$15 billion
Volume adjusted:	$11.3 billion
Share borne by tobacco companies:	$0.7 billion
Share borne by consumers:	$10.6 billion
Net Federal revenues:	$5.8 billion

This table highlights two key features of the settlement: it raises less money than envisioned, and it raises almost all of that money from consumers.

IV. 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.

- 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 key to Wall Street analysts positive reception appears to be the *reduced risk of bankruptcy offered by the settlement 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.*

V. Other incentive considerations

The settlement creates reduced incentives to develop "less hazardous" tobacco products

- 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.

- But 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.

The settlement embodies some perverse incentives with respect to lawsuits

- 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.

Lawyers may receive a disproportionate share of the settlement funds

- 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, which is less than one-half of the monthly job growth generated by the U.S. economy over the past year

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 settlement 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 on jobs, both in industry and on farms, will be very small.

VII. Policy options

It is clear that the settlement raises less money than initially promised, and that it raises this money primarily from consumers. This suggests the value of changing the structure of the payment schedule to capture more industry "surplus".

- This would increase burden-sharing between tobacco companies and consumers

- It would also raise more funds to meet our public health goals.

We see four directions for changing the structure of the payments:

A. Increase the annual payment amount

To raise, on net, the gross amount of money envisioned by the settlement would require that the *payments by the companies more than double.*

- Increases in the annual payments would further the policy goal of reducing smoking, as prices would rise even higher, and would provide more funds to promote our public health agenda.

B. Increase the fixed payments by tobacco companies

The settlement greatly reduces the risk of bankruptcy from litigation and is expected to confer a large stock market gain on shareholders. It seems reasonable to expect shareholders to pay more for this "insurance". This could be accomplished in at least two ways:

- Increase the initial payment from its current level of $10 billion, to $20 or $30 billion

- In addition to the path of volume adjusted payments, add a string of payments which are based on historical market share. This would penalize tobacco companies for past behavior, through a fixed cost which is borne by shareholders and not current smokers

C. Increase the "excess profits tax"

Under the agreement, the industry payment is increased if profits rise from the base year, but only by 25% of the incremental profits. If the goal of this settlement is to penalize the tobacco companies, this tax rate should be increased to a much higher level, say 75%.

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.

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.

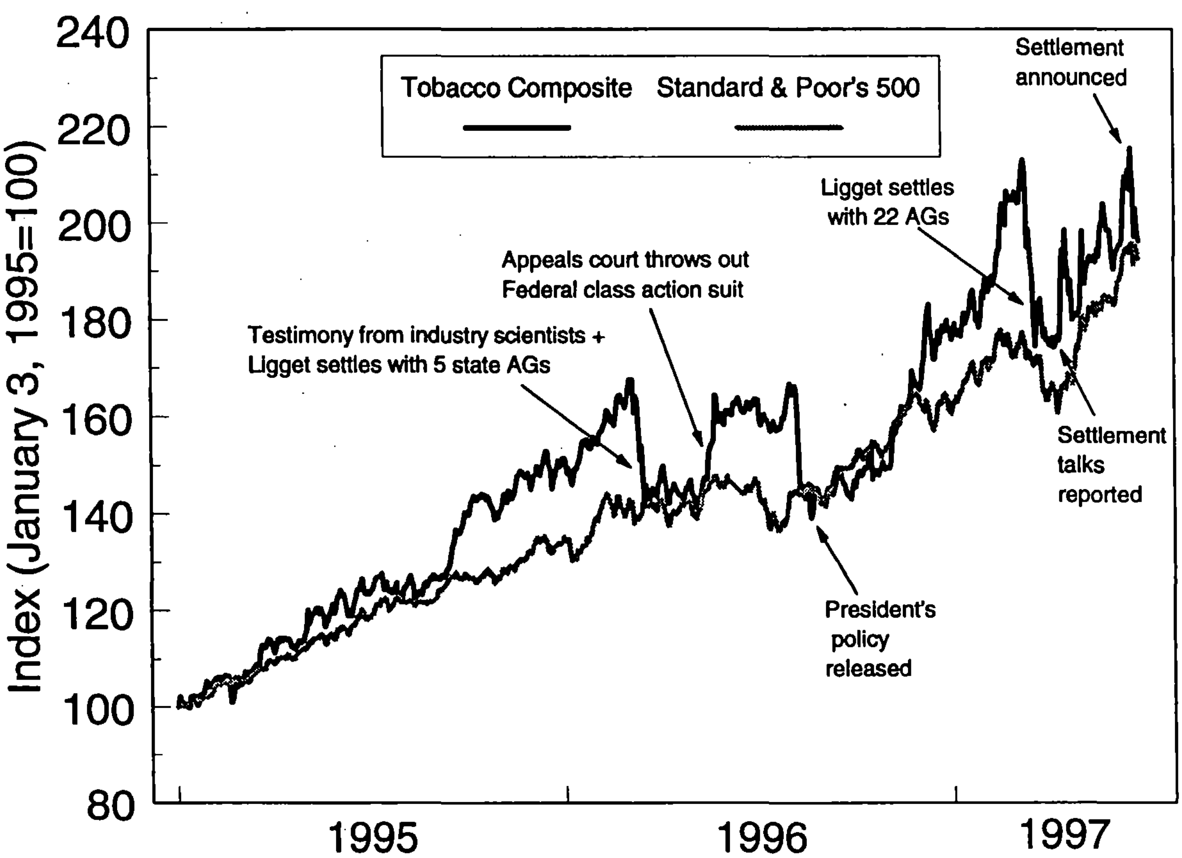
This memo does not consider the structure of the youth smoking "lookback" penalties. This issue is the subject of a separate memo prepared by Treasury.

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

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[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.

Economic Effects of the Tobacco Settlement
Discussion Agenda
July 11, 1997

I. Impact of the Settlement on the Tobacco Manufacturing Industry

- Overall the industry is in very good shape and could be made better by the settlement.
- A critical issue here is whether the settlement facilitates collusion that could lead to even higher prices than are implicit in the payment and higher industry profits; both FTC and DOJ expressed serious concern about the antitrust immunity.
- Wall Street analysts see tobacco stocks as a good buy if the settlement goes through. Uncertainy about whether it will go through probably explains the timid response in the market so far. In large part, the analysts' positive assessment reflects a negative view of tobacco company stocks in the absence of a settlement.
- The tobacco manufacturing industry represents a tiny piece of the labor market. It employs about 41,000 people, or only 0.03 percent of the 119.5 million workers on non-farm payrolls. By comparison, the economy generates between 100,000 and 200,000 new jobs every month.
- The companies with a large domestic market share and a strong overseas presence should do fine; Liggett was marginal to begin with and might be tipped over the edge by the settlement.

II. Impact on prices and smoking

- The industry payment will operate like an excise tax equivalent to about 62 cents per pack once the base value reaches $15 billion per year.
- Other aspects of the settlement may increase the degree of non-competitive pricing so that the price rises by more than the amount of the implicit excise tax and industry profits increase. This could be especially serious with antitrust immunity.
- To the extent that the price goes up by more than the implicit excise tax, the discouraging effect on smoking will be larger.
- Large price increases will discourage smoking but increase the burden on continuing smokers (which would disproportionately affect those below the median income).
- The price increase should have an important impact on youth smoking because youth smoking is more responsive to price changes than adult smoking.
- The reduction in smoking would produce substantial positive health effects.

III. Impact on other sectors

- One study estimates job losses in tobacco and downstream industries might total about 6,500 after 8 years from an annual price increase of 2.1 percent, with most concentrated in the Southeast tobacco region. The price increase resulting from the settlement would probably be twice as large, so job losses could be larger as well.
- The overall impact on other sectors should be small.
- Although over 140,000 farms engage in tobacco farming, many engage in other activities as well (The average impact of reductions in demand due to a 62 cent rise in cigarette prices would be about $885 a farm on a tobacco crop worth $18,000 a farm) – Ken Warner Study –

IV. Budgetary Effects

- If the pass-through of the excise tax is only about 1-for-1, the actual amount of money collected will be less than the base value due to secular decline in demand and price-induced reductions. Reduced volume will also result in less other revenue, such as excise taxes, for the Federal government. Preliminary estimates suggest the actual payments could be half to two-thirds the full value of the base payments.
- A valuation of the settlement payments should be expressed on a present value basis, not simply as a cumulative sum over an arbitrary 25 years. This can take another third off the expressed value of the settlement (over and above the adjustment for reduced volume).
- The settlement will result in higher Federal budget outlays over time, primarily in Social Security because less smoking means people live longer.

V. The "look-back" and youth smoking

- The look back penalty for failing to meet targets for youth smoking reduction was meant to approximate the expected lifetime profits to the industry of hooking a young smoker.
- The penalty may be only half expected profits. But even if the penalty were about equal to expected profits, that would merely make the industry indifferent about attracting a youth smoker. To penalize them would require something like treble damages.
- The industry is likely to demonstrate "good faith" efforts to reduce smoking which gives them a rebate of much of the penalty even if they do not achieve their target.

VI. Important incentive effects

- The industry has little incentive to fight individual suits, which will largely be paid out of the settlement fund subject to a cap. As residual claimants to the settlement fund, States and the Federal government may not want to see successful lawsuits.
- The advertising ban does not cover important methods of advertising, creating an incentive to shift advertising into those areas.
- A free-rider problem exists for the look-back (individual companies pay only part of the cost but get all of the benefit when they attract an extra youth smoker because the penalty is based on industry performance).
- Consumers may have incentives to switch to higher tar cigarettes or smoke more intensively
- Substitution of cross-licensing for patent and trademark protection reduces incentive to develop new safer products.

DRAFT
July 10, 1997

FACT SHEET ON THE U.S. TOBACCO INDUSTRY

Production

- **The United States was the world's second largest producer of leaf tobacco** in 1995, accounting for about 9 percent of the estimated 14.0 billion pounds that were produced worldwide.

Top 10 Leaf Tobacco Producers - 1995		Million Pounds	Share of Total (Pct.)
1.	China	5,180	37
2.	United States	1,323	9
3.	India	1,156	8
4.	Brazil	877	6
5.	Turkey	464	3
6.	Zimbabwe	463	3
7.	Indonesia	375	3
8.	Italy	292	2
9.	Greece	291	2
10.	Malawi	240	2

- **Some 124,000 farms in 16 states grow tobacco.** About three-quarters of these are actually classified as tobacco farms, meaning that tobacco comprises at least 50 percent of sales.

- **Six states account for 91 percent of production:** North Carolina and Kentucky originate 65 percent; Tennessee, Virginia, South Carolina, and Georgia produce another 26 percent.

Miller?

- The U.S. **tobacco crop** in 1996 was worth $2.5 billion, representing approximately 2.4 percent of the total for all cash crops and farm commodities.

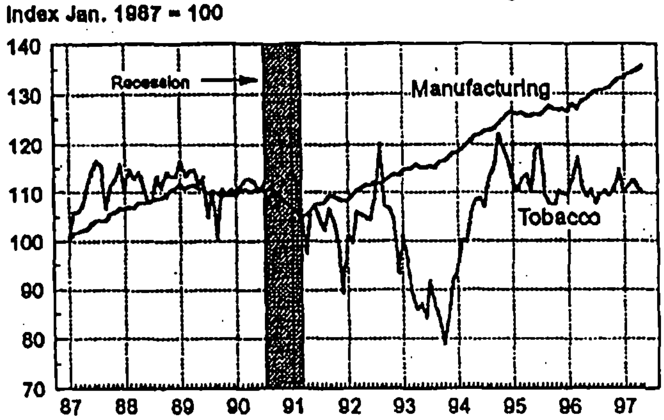
- The **manufacture of tobacco products** accounted for $16.6 billion or 0.2 percent of gross domestic product in 1994, down from 0.6 percent in the early 1960's.

10 B domestic
6.6 B exported

- Tobacco manufacturing makes up 1.2 percent of **U.S. industrial output.**

  – **Production slid from early 1991 through most of 1993**, but by mid-1994 returned to levels that prevailed in the late 1980's.

TOBACCO PRODUCTION
Relative to All Manufacturing

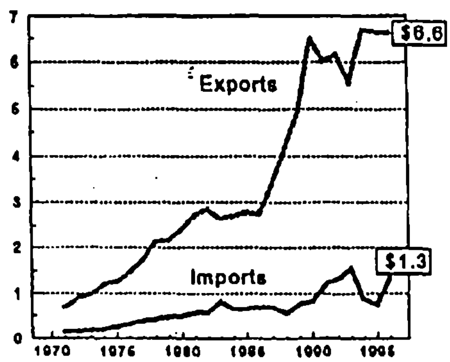


Trade

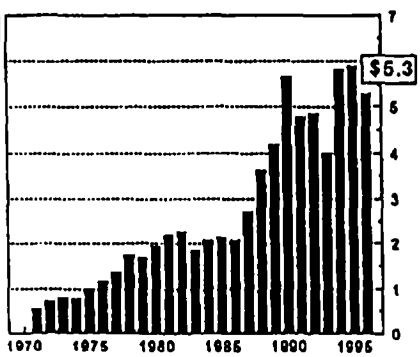
- **Exports of tobacco products** totaled \$6.6 billion in 1996, \$5.2 billion of which was in manufactured tobacco products and \$1.4 billion in unmanufactured (leaf) tobacco. The value of **tobacco imports** was \$1.3 billion last year, \$1.1 billion of which was in unmanufactured products.

  – Exports rose rapidly from the mid-1980's through 1990 but have since been little changed and the trade balance has shown similar patterns.

TOBACCO IMPORTS AND EXPORTS
Billion Dollars



TOBACCO TRADE BALANCE
Billion Dollars



- **U.S. factories produced** an estimated record of 760 billion cigarettes in 1996, of which about 36 percent were shipped abroad for foreign consumption.

Consumption

- **U.S. consumers spent** an estimated $50.3 billion on tobacco products in 1996, or 1.0 percent of all consumer expenditures.

Tobacco Expenditures by Type - 1996 (est.)

	Billions	Percent of Total
Total	$50.3	100
Cigarettes	47.2	94
Cigars	1.0	2
Other (smoking tobacco, chewing tobacco, and snuff)	2.1	4

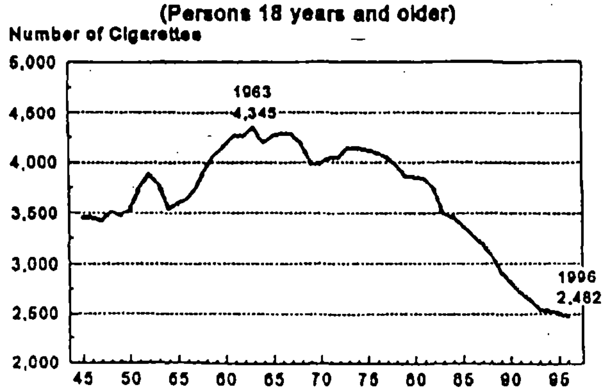
- The average household spent $269 in 1995 on tobacco products and smoking supplies, with **households in the lowest income quintiles spending more of their budget on tobacco.**

Tobacco Expenditures by Income Quintile in 1995

	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%
Tobacco	$204	$242	$327	$307	$278
Share of total expenditures	1.4%	1.1%	1.1%	0.8%	0.4%

- **Per-capita cigarette consumption has been on a long-term decline in the United States** from a record high of 4,345 in 1963 (based on the population 18 years and over) to 2,482 in 1996 -- a drop of 43 percent.

PER CAPITA U.S. CIGARETTE CONSUMPTION
(Persons 18 years and older)



- **Cigar consumption**, while a tiny part of the total, rose 19 percent last year, to 32.7 per male 18 years and over, but was only about 3 percent above the 1987 level.

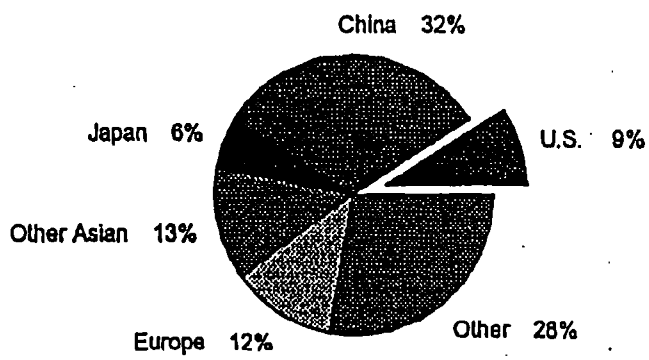
• More than offsetting the decline in the United States has been **a rise in foreign consumption of tobacco**, which has resulted in an increase in worldwide consumption of 1.2 to 1.5 percent annually.

- **Foreign sales**, however, are said to be **much less profitable that domestic** sales.

• **China is the leading world cigarette market**, consuming 1.7 trillion cigarettes annually, or about 3-1/2 times as many as the 470 billion of the United States. (China's population is about 4-1/2 times that of the United States.)

- **U.S. tobacco consumption is less than 10 percent of the world total.**

WORLDWIDE CIGARETTE CONSUMPTION
Total = 5.3 trillion cigarettes in 1996



Profile of Domestic Consumption

• There are estimated to be about **50.5 million adult smokers** (18 years and older) in the United States, or about 25 percent of the adult population. (See table on the next page.) These smokers consume an 18.2 cigarettes a day (almost a full pack) on average.

Adult Smoking Rates				Adult Quit Rates*
	Current	Former	Never	
Adults 18+	25.7	24.1	50.2	48.5
18-24	22.9	7.7	69.3	25.2
25-44	30.4	19.4	50.2	38.9
45-64	26.9	32.9	40.2	55.1
65+	13.3	36.4	50.3	73.3

* Percent of eversmokers who are former smokers

- There are about **3.1 million underage smokers** (younger than 18 years old). Their average consumption is about one-half a pack a day.
  - The FDA estimates that there are 1 million *new* underage smokers a year, which would roughly offset the number of 17-year-old smokers who turn 18 each year.
  - Youth smoking rates are shown below. (Note: "Daily" is used for the Lookback provisions.)

Youth Smoking Rates				
Age	Have smoked in past 30-days	Daily	Have smoked 1/2 pack or more a day	Daily users
	(Percent		)	(Number)
8th graders	21.0	10.4	4.3	395,000
10th graders	30.4	18.3	9.4	695,000
12th graders	34.0	22.3	13.0	847,000

- **Demand Elasticities:** A consensus estimate for overall demand elasticity is -0.4, signifying that for every 1.0 percentage increase in price, demand would fall by 0.4 percent. The Surgeon General's report provides the following elasticities by age:

Demand Elasticities			
Age Group	Total	Participation	Quantity per Smoker
12-17	-1.40	-1.20	-0.25
20-25	-0.89	-0.74	-0.20
26-35	-0.47	-0.44	-0.04
36-74	-0.45	-0.15	-0.15
All Adults (20-74)	-0.42	-0.26	-0.10
All Ages (12-74)	-0.47	-0.31	-0.11

Employment and Wages

- **Tobacco manufacturing's contribution to payroll employment is minuscule.** In 1996, 41,400 workers were employed in the tobacco manufacturing industry (which includes processing of tobacco, as well as production of cigarettes, cigars, etc.), or only 0.03 percent of the 119.5 million workers on nonfarm payrolls. More than 100,000 workers (0.23 percent of nonfarm employment) had been employed in the industry in the early 1950's.

    -- **Five states and Puerto Rico account for nearly 85 percent of the jobs in tobacco manufacturing.** (Note: These are the only states that report employment separately for tobacco manufacturing and are presumably the most important for the industry.)

Jobs in Tobacco Manufacturing		
	Number of Jobs	Share of State's Payroll Jobs (percent)
North Carolina	16,830	0.47
Virginia	9,550	0.31
Kentucky	4,210	0.25
Florida	1,480	0.02
Tennessee	1,180	0.05
Puerto Rico	1,040	0.11

- **Production workers in the tobacco industry earned $19.44 an hour last year,** 52 percent more than the average worker in manufacturing. Tobacco industry wages have climbed steadily from less than 75 percent of the average factory wage in the early 1950's. Few other industries can boast comparable wages (coal mining, steel, petroleum and coal product manufacturing also have earnings that top $19 an hour).

Average Hourly Earnings in 1996	
Private nonfarm	$11.81
Manufacturing	12.77
Tobacco	19.44

Prices

- **Tobacco products have a weight of only 1.6 percent in the CPI.** Since cigarettes make up 94 percent of tobacco consumption, their weight would be 1.5 percent.

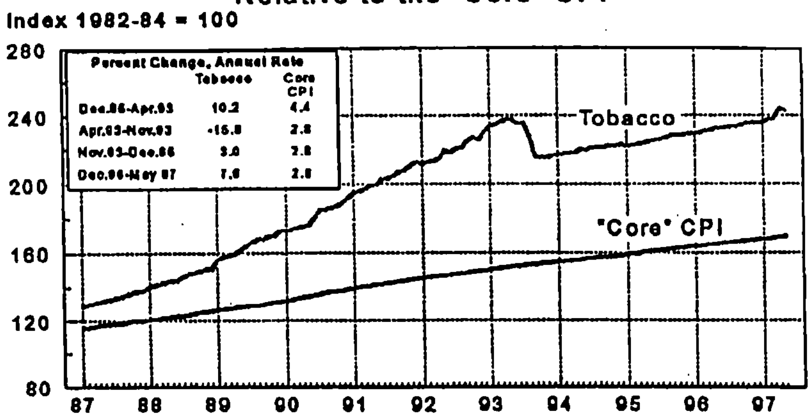
  – Current estimates of the impact of the tobacco settlement range suggest a $0.35 a pack increase in cigarette prices for 1998 and $0.62 by 2002. This amounts to a price hike between roughly 20 and 35 percent. **The impact on the CPI could be in the range of 0.3 to 0.5 percent**

- **Over the past decade, tobacco prices have risen at a 6.3 percent annual rate, compared to 3.7 percent for "core" consumer prices** (excluding food and energy). Faster growth was mainly the result of a sharp uptrend prior to 1993. (See chart on the next page.)

  – **In 1993, there was a steep downward adjustment in prices** as manufacturers of premium brands reduced prices to meet competition from the discount brands. Since 1993, tobacco prices grew at about the same pace as the core.

  – **This year, tobacco prices have sped up again,** increasing at nearly an 8 percent annual rate through May in part reflecting higher state taxes.

CONSUMER TOBACCO PRICES
Relative to the "Core" CPI



Industry Composition

- **The cigarette market is dominated by Philip Morris,** which accounts for half of cigarette sales in the United States.

The Cigarette Market in 1997 (est.)		
	Sales (Bil.Cigarettes)	Market Share (%)
Philip Morris	233.4	49.2
RJR Nabisco	114.5	24.2
BAT	76.8	16.2
Lorillard	39.9	8.4
Liggitt	8.0	1.7
TOTAL	474.1	100.0

- Philip Morris has the **widest profit margins** (45 percent of revenues per pack), followed by Lorillard (40 percent). Liggitt is estimated to have a margin of only about 3 percent this year. (See table on the next page.)

  – Domestic producers devote 33 percent of revenues to marketing (advertising, promotion, selling).

Advertising and Promotional Expenditures

- U.S. domestic cigarette **advertising and promotional expenditures** averaged $4.9 billion annually over the five years ended 1994.
  - **Conventional advertising** (point-of-sale, print media and outdoor and transit) accounted for only about $1 billion, or 21 percent of the total.
    - The biggest advertising expenditures were point-of-sale ($352 million). Outdoor and magazine advertising followed at $306 million and $266 million, respectively.
  - **Coupons, buy-one-get-one free promotions,** etc accounted for $1.8 billion, or 37 percent of spending. **Promotional allowances** (volume discounts and incentives for priority shelf space) made up $1.4 billion or 28 percent of spending.

Domestic Cigarette Advertising and Promotional Spending, 1990-94 Averages

	Billion Dollars	Percent
TOTAL	$4.929	100.0
Advertising	**1.015**	**20.6**
Newspapers	0.043	0.9
Magazines	0.266	5.4
Outdoor	0.306	6.2
Transit	0.048	1.0
Point-of-sale	0.352	7.1
Other promotional	**3.915**	**79.4**
Promotional allowances	1.386	28.1
Coupons and retail value added	1.810	36.7
Other	0.719	14.6

Prepared by
Treas./Econ.Policy/K.Hendershot

The Economics of the Proposed Tobacco Settlement

How does it work?

The proposed tobacco settlement has three provisions which could have economic impacts: 1) industry payments to the settlement fund, 2) restrictions on advertising, and 3) guidelines for FDA regulation of tobacco. Of these, the payments to the settlement fund are likely to have the most significant effects.

The Settlement Payments acts like an excise tax on tobacco. The Settlement language has the effect of making the annual industry Payment proportional to cigarette sales volume or a per-pack charge.[1] From the tobacco industry perspective, the Payments required by the settlement are equivalent to an excise tax of about 35 cents in the first couple years, rising to about 65 cents by the xth year, and remaining at that level thereafter. In fact, the effects of the Settlement Payment provisions could be replicated with an excise tax at the appropriate level and divided among States, the Federal government, and individuals (and allocated to particular uses, like smoking cessation, in some cases) in the manner set forth in the Agreement.

The economics of the Settlement Payments and an excise tax are similar; however, there are some important practical differences. Most important, an excise tax is straightforward: We know exactly what it is and have a lot of experience administering and enforcing excise taxes on tobacco. The Settlement would make the tobacco companies their own tax collectors, and some mechanism for oversight would need to be established, whereas, an additional excise tax could be easily administered Treasury Department. Additionally, the Settlement Payments are made to a Fund that is to be divides among States and individuals. The bulk of the payments to States are for damages to the Medicaid system. Under Medicaid statute, each State should give the Federal government a share of the Medicaid payments based on its Medicaid matching rate (after subtracting reasonable costs of bringing the suits). Of course, a Federal excise tax would go directly to the Federal government.

The settlement also provides for an "excess profits tax" of 25 percent. Because the tobacco industry is not competitive and the Settlement would provide some anti-trust exemptions, industry could restrict output and raise prices, increasing profits. (The economics of the industry is discussed more fully below.) This provision requires the tobacco industry to pay 25 percent of any profits above 1997 profits to the Settlement Fund. (It is not clear how these would be allocated among States, individuals, and the Federal government because these payments are not specifically for Medicaid damages.) Some worry that industry could find ways of "hiding" its profits to avoid this excess profits penalty. More specific rules and oversight are could help

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[1]If cigarette sales fall, the industry's Payment to the Settlement Fund is reduced by the ratio of that year's sales to 1996 sales; if sales rise, the Payment is increased by percent increase in sales to adults. The Settlement does not make clear how "adult volume" will be measured, but estimates indicate that adults consume more than 95 percent of cigarettes produced. Thus, the use of "adult volume" for an increase -- instead of "total volume" as for declines -- is of little consequence.

prevent this. Alternatively, the penalty could be related to a measure less prone to gaming, like revenues.

The advertising restrictions attempt to eliminate advertising targeted to children. These requirements are similar to those proposed (accepted?) in a recent FDA rule. The industry spends an estimate $xx billion on advertising every year. These restrictions could save the industry billions of dollars, increasing profits (which would be subject to the excess profits provision if profits rise above 1997 levels). On the other hand, the industry could intensify advertising efforts not banned by the Agreement (advertising to adults) or look for new, creative marketing techniques such that their overall advertising budget is little affected by the Agreement. Because advertising expenses are fixed costs, these provisions are not expected to effect the per-pack price of cigarettes.

The provisions for FDA regulation limit the FDA's authority to regulate tobacco products compared to the status quo. Problems with these provisions have been widely discussed, particularly by Koop/Kessler.

How will the Settlement Effect Particular Objectives/Outcomes?

Effect on Youth Smoking and Current Smokers

Youth Smoking. Most of the "work" in reducing youth smoking is likely to happen through price increases for cigarettes. Among young people, the "participation rate" of smoking is very sensitive to price. The Settlement will increase the price of cigarettes considerably, by between x an x percent. This suggests that smoking rates for young people are expected to fall by x to x percent, or about xx to xx million 8th, 10th, and 12th graders. The number of packs that a young smoker consumes is also fairly sensitive to price, and the price increase is expected to reduce consumption for young people who do continue to smoke by about xx to xx percent. Advertising and access restrictions, as well as public health advertising, may also reduce youth smoking over the long term, although fewer studies address these issues. Some evidence suggests that access restrictions (enforcing age requirements and requiring face-to-face purchase) are effective in reducing youth smoking. Recent FDA regulations have already done a lot to strengthen access restrictions. (Is this true??) [Insert assessment of advertising restrictions and public health ads.]

The "lookback" provision does not give the tobacco industry an incentive to reduce youth smoking. The Settlement requires industry to pay a penalty if targets for the reduction in youth smoking are not met, capped at $2 billion. If the industry can show the FDA that they have made a "good faith" effort, 75 percent of the penalty would be refunded. The amount of the penalty was selected to equal the present discounted value of profits for a new smoker. In other words, the penalty is by design financially neutral from the tobacco industry perspective. (Our calculations are consistent with this.) Depending on how "a good faith effort" is interpreted, the penalty could be significantly less than the expected profits from a new smoker. Furthermore, once the $2 billion cap is met, there is no marginal penalty for addicting new smokers. If the lookback provision is really meant to punish the industry for failing to reduce youth smoking, triple damages (or more) would be a more appropriate penalty. However, most of the work in reducing youth smoking is likely to be done by other aspects of the settlement: price increases, advertising and access restriction, and FDA regulation.

Adult Smokers. Adults smokers are significantly less sensitive to increases in the price of cigarettes, so the reductions in adult smoking will be smaller. The evidence suggests that the number of adult smokers could fall by between xx and xx percent, and the packs smoker per smoker could fall by about xx to xx percent. Smokers are disproportionally lower-income, so as with a tax on cigarettes, the Settlement will be regressive. Analyses of recent cigarette tax proposals suggest that .... [insert table].

The estimates of the number of adults who quit smoking could be understated if smoking cessation techniques become better and/or cheaper. The Settlement provides some funding to subsidize smoking cessation programs. The Settlement also creates an incentive for the development of alternative nicotine delivery systems. There is essentially no evidence on the potential for this type of substitution: Any estimation of its scope would be highly speculative. The settlement also attempts to encourage the development of safer, lower-nicotine cigarettes, which would provide alternative for current adult smokers (although this may be undermined by other provisions discussed below). There is some evidence, however, that when lower-tar cigarettes were introduced, smokers often consumed more of these cigarettes. This might also be the case for lower-nicotine cigarettes.

Impact on the Tobacco and Related Industries

Does the Settlement "Punish" the Tobacco Industry? While putting the tobacco industry out of business is not the goal of this Settlement, the damages are, in part, punitive. The tobacco industry can clearly absorb the payments required by this settlement. (In fact, it is required that they be largely passed along to consumers in the form of higher prices.) [Checking into possibility that one or more smaller co's could be put out of business.]

[Insert Christian's industry paragraph.]

The impact on employment and farmers is likely to be small. [Insert Chad paragraph.]

Effects on related industries are likely to be small and temporary. [Insert Chad summary of FDA analysis.]

Potential for Side Effects and "Red Flags"

The incentive to develop safer cigarettes is greatly curtailed. The Agreement essentially eliminates intellectual property rights for tobacco-related innovations by requiring companies to notify FDA of any risk-reducing technologies that they develop or acquire and cross-licence them for a "reasonable" fee. In addition, the advertising restrictions could make it difficult to introduce a new product onto the market.

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 -- might like to discourage lawsuits.

What this lawyers would get form the settlement is not specified in the Agreement. We do not know specifically what agreements attorney's 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. These issues should be explicitly worked out in the Settlement to ensure that payments to lawyers are not excessive.

Draft – Not for Distribution

Impact of Proposed Resolution on Cigarette Prices and Industry Profits

Can the Settlement be thought of as an excise tax?

Yes. The key to understanding the payments as effectively being an excise tax on cigarettes is the volume adjustment provision found in Title VI, B.5 of the settlement, entitled "Adjustment for Volume Decrease (Adult Volume Only) or Total Volume Increase."

For any given year, let X_0 denote the scheduled payment. Let q represent the actual unit volume of cigarette sales, and q* denote the base volume in 1996. Then the volume adjusted payment would be $X_0(q/q^*)$, which can be rewritten as $(X_0/q^*)q$. This is the same as writing the volume adjusted payment as tq, where the "tax" $t = (X_0/q^*)$. This is just like an equivalent unit tax on cigarettes. As an example consider year 10 in which the base payment X_0 = $15 billion. Since the actual number of cigarettes sold in 1996 was q* = 24.4 billion, the effective tax per pack is equal to $t = (X_0/q^*)$ = $15 / 24.4 = 61.5 cents.

What will be the impact of the effective excise tax on prices of cigarettes?

According to the economic literature and historical evidence, the price of a pack of cigarettes will probably go up by at least as much as the tax, and probably more. Prominent analysts of the cigarette industry conclude that previous excise tax increases may have served as a focal point for coordinating oligopoly price increases by sellers. As a result we expect there to be two effects, 1) a direct price response to the increase in costs due to the effective excise tax, and 2) a further price increase as a result of opportune coordination on the part of sellers. The combined effect would raise prices by more than the increase in the excise tax. The range of the price increase expected starts from a conservative 100 percent of the tax to a high of 200 percent of the tax.

Will the advertising restrictions result in windfall profits for the industry?

The restrictions on advertising and marketing imposed by the settlement (Title I, A and Appendix VII), will not increase profits very much because of the expected substitution into non-restricted forms of advertising. Moreover, marketing innovations are expected as a result of the restrictions further increasing costs. Because the most important components of current cigartte advertising and marketing, promotional allowances (28% of total advertising expenditures) and coupons and retail value added (37%), are not barred by the Proposed Resolution, we expect these to increase in intensity. Furthermore, we expect there to be an increase in conventional media advertising. The bottom line then is that advertising expenditures may fall by about $ 500 million to $1 billion. This is equivalent to savings of less than 5 cent per pack (compared to the 62 cent effective excise tax starting in year 5).

What is the impact of increased prices on the tobacco industry's profits?

Corporate profits are expected to go up as part of the settlement. There are three components to the change in corporate profits:

- Fixed cost savings of at most 5 cents per pack due to decreased advertising expenditures
- Lost revenues of 33 cents per pack on those not sold due to the reduction in cigarette sales (on the order of 2 - 6 billion)
- Increased revenues of 10 to 16 cents per pack on remaining cigarettes due to new higher price (on the order of 18 - 22 billion)

It is clear that the combination of all three components would lead to higher industry profits.

Real Net Revenue From Tobacco Settlement

Attached are preliminary estimates of the net revenue from the tobacco settlement. They include revenue effects at federal, state and local levels. One set of calculations assumes that the payments are reflected in the price of all tobacco products, while the other assumes that the payments are reflected only in the price of cigarettes. These estimates are in real terms, measured in 1996 dollars.

We find that, considering all tobacco products, the real net revenue from the tobacco settlement is likely to be about $189 billion in total, if summed over the first 25 years of the agreement. We obtain essentially the same estimate in our cigarette only calculation.

Two reasons explain why our $189 billion net revenue estimate is substantially lower than the $368.5 billion figure cited in the report. First, the $368.5 billion figure in the report ignores the sales adjustment feature of the settlement. As sales fall, whether as a result of the long-term secular trend which has historically characterized the tobacco market, or as a result of the features of this agreement, the size of the payment falls proportionately. Adjusting for the fall in sales reduces the net revenue estimate by about 19%, to $298 billion.

Second, the $368.5 billion figure does not adjust for the reduction in revenue from existing excise, income, and employment taxes. Considering federal income and employment taxes, and federal, state and local excise taxes, this adjustment can reduce net revenue by an additional $109 billion, or by 32% of the $368.5 billion cited in the report. In total, then, we estimate that the actual increase in net government receipts will be about $189 billion, or 51%, of the $368.5 billion payment cited in the report.

The $368.5 billion figure also is misleading because it is a simple sum of (real inflation adjusted) payments which flow in over time. Proper measurement of the value of the payment flow would discount to reflect the (real) time value of money. As shown in the table, discounting the payment stream by a 3.7% real discount rate will reduce its sum from $189 billion to $123 billion, or by about 18% of the original $368.5 billion dollar figure cited in the report. A higher (lower) discount rate would lower (raise) the discounted present value of the payment stream, relative to our $123 billion figure.

Our modeling focuses on the basics of the payment plan outlined in the agreement. We do not include the effects of the special penalty imposed if profits increase, nor do we model the look-back provisions that impose a penalty if sales to minors fail to fall to specified target levels. By way of justification, we note that is seems unlikely that domestic profits will increase as a result of this agreement, so neglecting the profits tax seems reasonable in this preliminary estimate. For two reasons, the look-back also seems unlikely to have a major revenue effect. First, it seems likely that the agreement will be effective in significantly reducing under-age smoking, and so any penalty would likely be much lower than the $2 billion annual maximum. Second, any assessed penalty can be reduced by 75% as along as the manufactures can show that they made a "good-faith" effort to comply with the agreement.

One detail that we do incorporate is the inflation indexation of the payments. Without such indexing, the real value of the annual proscribed payments would fall below their published level, thereby reducing the real net-revenue to the government. Our approach implicitly assumes that inflation indexing is complete, so that the real value of each year's annual payment is completely unaffected by inflation.

While this is not an official revenue estimate, our modeling approach does rely on some standard revenue estimating conventions. In particular, our estimate is based on a fixed GDP assumption, which has a number of important implications. First is an income and employment tax offset, reflecting the fact that the tobacco payments are "taken-off the top", and so reduce the base of the income and employment taxes by lowering national income. These offsets capture reductions in personal income, corporate income, and employment taxes at the federal level.

Second, some features of the agreement, which may have important effects for particular firms, or for the tobacco industry as a whole, have no effect at all in our model. In particular, the fixed GDP assumption means that the settlement's restrictions on advertising, even if effective, would have no direct effect on revenue; all else constant, the tobacco industry's reduced spending on advertising leads to a reduction in taxable income in the rest of the economy (e.g., in the advertising sector) which approximately offsets the tobacco industry's increase in taxable income.

The advertising restrictions, if effective, also might reduce net revenue indirectly by reducing tobacco sales. We have ignored this for two reasons. First, it is likely that much tobacco advertising is spent in intra-industry fights over the distribution of a fixed pool of smokers, rather than in an attempt to increase the number of smokers in the pool. Mandated reductions in this type of advertising would have no effect on industry wide sales. Second, the advertising restriction's bark may be worse than its bite because they are loosely worded, and because they do not apply to some major categories of promotional expenses.

An alternative to holding GDP fixed would be to let it rise by the full amount of the increase in the price of tobacco products. In that case, income tax receipts would not fall, so that net revenue to the government would be $252 billion over 25 years. While net revenue seemingly is higher than in the fixed GDP case, in purchasing power terms it really is the same, as the rise in GDP reduces the purchasing power of government tax revenue.

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OTA
7/10/97

05:59 PM PRELIMINARY 07/10/97

Net Payments to all Governments from the Tobacco Settlement
Payment Reflected in All Products
100% Passthrough
($'s Millions)

		PDV
Base Payment	368,500	231,910
Gross Payment	284,399	182,735
Federal Excise Tax Leakage	(18,537)	(11,836)
State Excise Tax Leakage	(25,113)	(16,077)
Total Gross Excise Tax Leakage	(43,650)	(27,913)
Net Payment (Pre-Offset)	240,749	154,822
Income Tax Offset	(60,187)	(38,705)
Individual	(51,159)	(32,900)
Corporate	(9,028)	(5,806)
Net Payment including offset	180,561	116,116

Department of the Treasury
Office of Tax Analysis

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Net Yearly Payments to all Governments from the Tobacco Settlement
Payment Reflected in All Products
100% Passthrough
($'s Millions)

Year	Volume Adjusted	PDV	Volume Adjusted Fixed GDP	PDV Fixed GDP
1998	8,677	8,677	6,508	6,507
1999	6,404	6,163	4,803	4,623
2000	7,039	6,522	5,279	4,891
2001	8,288	7,392	6,216	5,544
2002	9,766	8,384	7,324	6,288
2003	10,295	8,508	7,721	6,381
2004	10,249	8,154	7,687	6,115
2005	10,207	7,817	7,655	5,863
2006	10,158	7,488	7,618	5,616
2007	10,104	7,170	7,578	5,378
2008	10,019	6,844	7,514	5,133
2009	9,925	6,526	7,444	4,895
2010	9,833	6,224	7,375	4,668
2011	9,741	5,935	7,306	4,451
2012	9,650	5,660	7,237	4,245
2013	9,560	5,397	7,170	4,048
2014	9,471	5,147	7,103	3,860
2015	9,382	4,909	7,037	3,681
2016	9,295	4,681	6,971	3,511
2017	9,208	4,464	6,906	3,348
2018	9,122	4,257	6,842	3,193
2019	9,037	4,060	6,778	3,045
2020	8,953	3,872	6,715	2,904
2021	8,870	3,692	6,652	2,769
2022	8,787	3,521	6,591	2,641
2023	8,706	3,358	6,529	2,518
Total	240,749	154,822	180,561	116,116

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05:46 PM PRELIMINARY 07/10/97

Net Payments to all Governments from the Tobacco Settlement
Payment Reflected in All Products
125% Passthrough
($'s Millions)

		PDV
Base Payment	368,500	231,910
Gross Payment	274,466	176,584
Federal Excise Tax Leakage	(22,760)	(14,545)
State Excise Tax Leakage	(30,835)	(19,747)
Total Gross Excise Tax Leakage	(53,594)	(34,292)
Net Payment (Pre-Offset)	220,872	142,292
Income Tax Offset	(55,218)	(35,573)
Individual	(46,935)	(30,237)
Corporate	(8,283)	(5,336)
Net Payment including offset	165,654	106,719

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05:47 PM PRELIMINARY 07/10/97

Net Yearly Payments to all Governments from the Tobacco Settlement
Payment Reflected in All Products
125% Passthrough
($'s Millions)

Year	Volume Adjusted	PDV	Volume Adjusted Fixed GDP	PDV Fixed GDP
1998	8,367	8,367	6,275	6,275
1999	5,976	5,752	4,482	4,314
2000	6,548	6,067	4,911	4,550
2001	7,662	6,833	5,746	5,125
2002	8,956	7,689	6,717	5,767
2003	9,411	7,778	7,059	5,833
2004	9,370	7,454	7,027	5,590
2005	9,331	7,146	6,998	5,359
2006	9,286	6,845	6,965	5,134
2007	9,237	6,555	6,928	4,916
2008	9,159	6,257	6,869	4,692
2009	9,074	5,966	6,805	4,475
2010	8,989	5,690	6,742	4,267
2011	8,905	5,426	6,679	4,069
2012	8,822	5,174	6,616	3,881
2013	8,740	4,934	6,555	3,701
2014	8,658	4,706	6,494	3,529
2015	8,577	4,487	6,433	3,366
2016	8,497	4,279	6,373	3,210
2017	8,418	4,081	6,314	3,061
2018	8,340	3,892	6,255	2,919
2019	8,262	3,711	6,197	2,784
2020	8,185	3,539	6,139	2,655
2021	8,109	3,375	6,082	2,532
2022	8,034	3,219	6,025	2,414
2023	7,959	3,070	5,969	2,302
Total	220,872	142,292	165,654	106,719

Department of the Treasury
Office of Tax Analysis

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 negiotiations 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 Ligget 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:

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] ($1.85/pack today)	+34% $2.47	+42% $2.63	+67% $3.09
Quantity [2] (24.2 bill. pack/yr)	-13% $19.3	-17% 18.5	-27% 16.3
Total revenue ($44.7 bill/yr today)	$47.6	$48.7	$50.4
Industry profits [3] ($7.8 bill/yr today)	$7.5	$10.1	$16.6
Old tax revenue [4] ($14 bill/yr today)	$11.2	$10.8	$9.5
New govt. rev. [5] ($ billions)	$12.0	$11.5	$10.1
Incremental govt. revenue ($ 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%

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 counties 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.

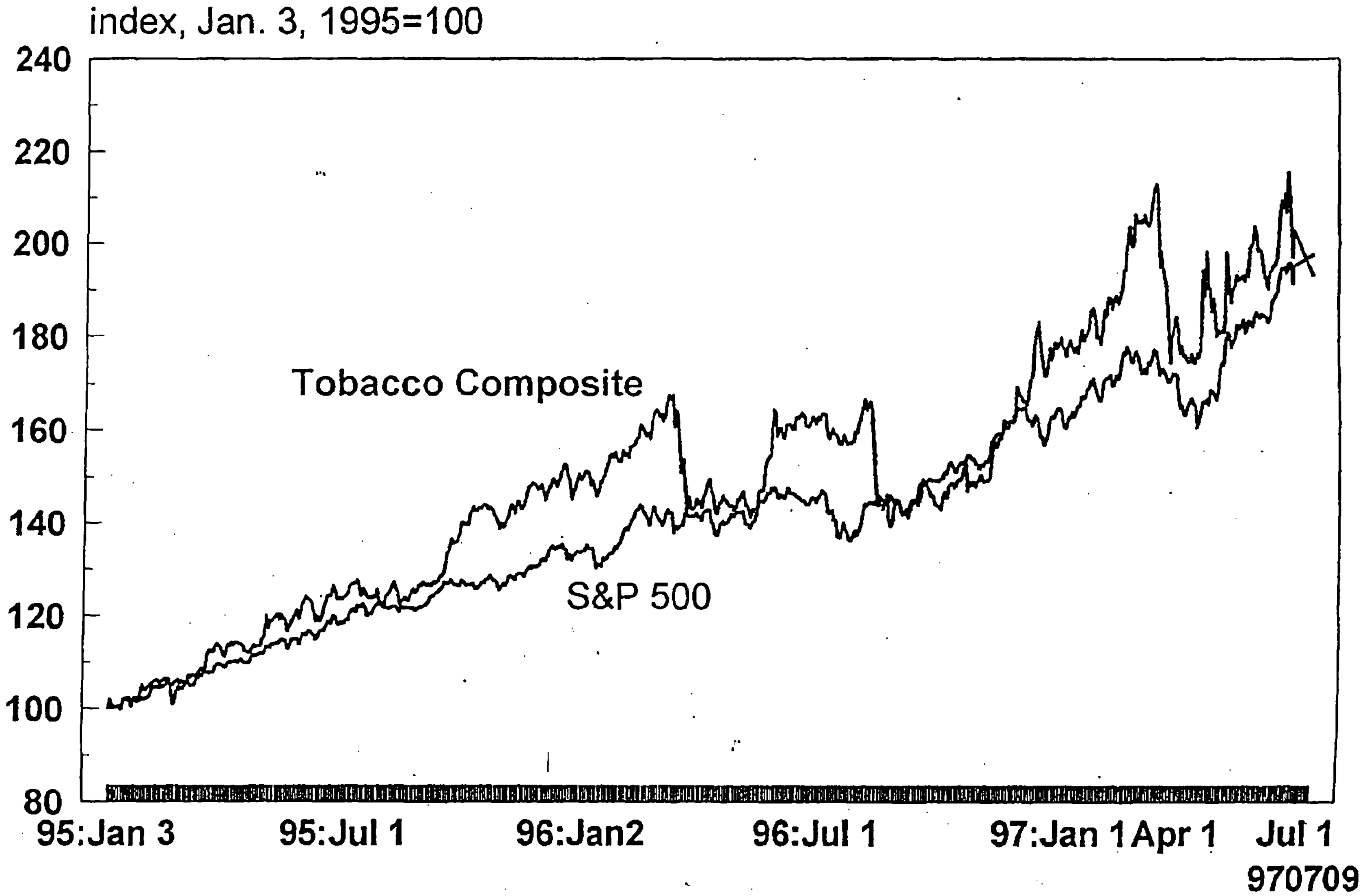
-- The analysts see a significant offset to the costs of the agreement coming from lowered advertising and marketing expenses.

-- 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

THE "LOOK BACK" SURCHARGE

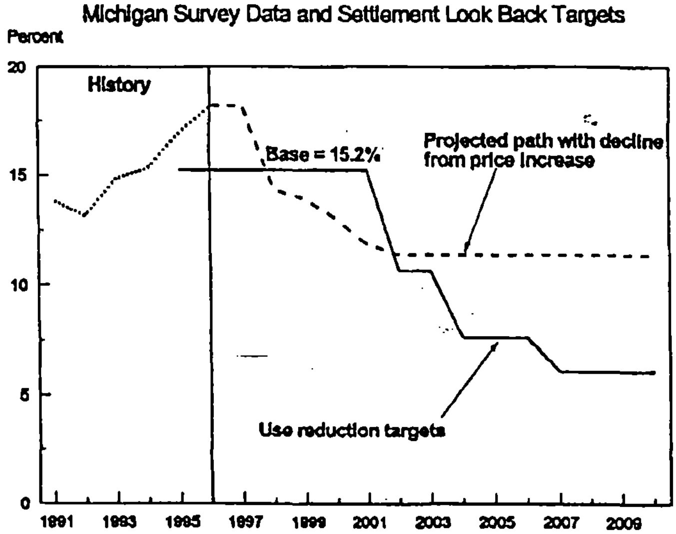
The settlement attempts to provide economic incentives to promote "dramatic and immediate reductions in the number of underage consumers of tobacco products." Manufacturers would face a surcharge if the tobacco-use reduction targets are not met. The surcharge will be imposed on the basis of a "look back" 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.

<u>Will the surcharge be effective? Probably not.</u>

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.

Underage Daily Tobacco Use Percentages and Targets

Michigan Survey Data and Settlement Look Back Targets



- 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.

  - *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% 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 about 11-1/2 percent (see chart).

- Under that estimate, 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 nearly *2 times higher* at $98 million.
- In the seventh year (50% reduction target) the surcharge would be about $230 million and the present value of profits would be nearly *2 times higher* at $445 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 $315 million, again nearly twice as large.

<u>Surcharge abatement procedures</u>

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.

<u>Assumptions used:</u>

Discount rate:	10 %
Profit per pack:	$0.33
Intensity of use:	1/2 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 all smokers in SR; -0.63 LR

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

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

[2]The 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 study[3] 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.

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[3]Preliminary 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

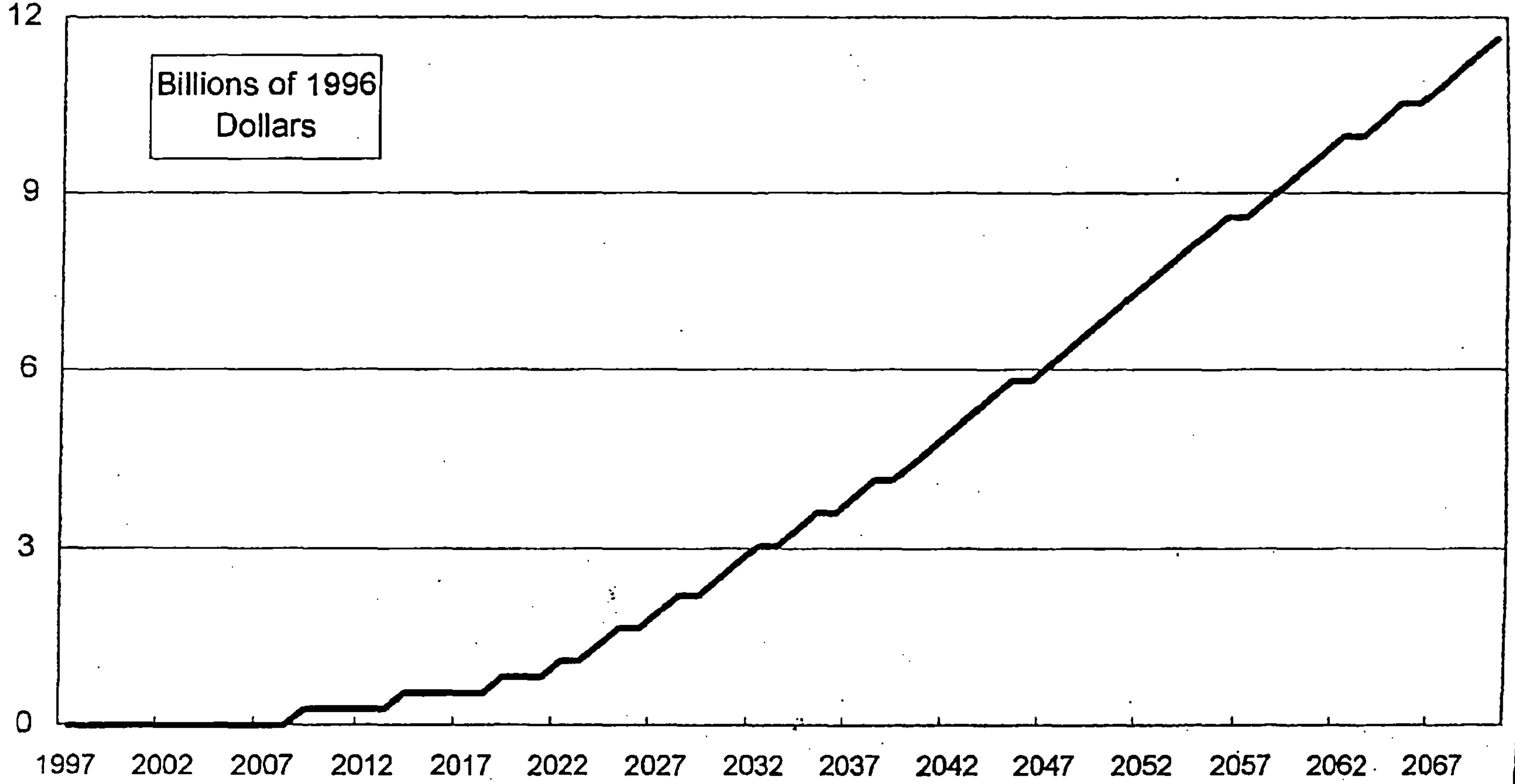
Questions have arisen about the agreement's impact on the financial viability of two of the smaller producers and the potential affect of their bankruptcy on the PBGC pension guarantee. PBGC analysts indicate that neither a Liggett nor a Lorillard bankruptcy would have a significant effect PBGC's future 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 Settlement[1]
July 9, 1997

I. Incidence of payments

highlight significance of the effect of the settlement on industry competition

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

3. industry supply function relatively elastic

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[1]Prepared 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.

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 [see table]

- 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 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

	Year 1		Year 5	
New payment	35¢/pack	35¢/pack	62¢/pack	62¢/pack
Elasticity	-0.4	-0.4	-0.[illegible]7	-0.[illegible]7
Pass through	125%	200%	125%	200%
Price [1]	+24%	+38%	+42%	+67%
($1.85/pack today)	$2.29	$2.55	$2.63	$3.09
Quantity [2]	-9%	-15%	-29%	-47%
(24.2 bill. pack/yr)	21.5	20.2	15.7	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	$9.1	$7.3
Total govt. revenue ($ bill)[6]	$9.0	$6.8	$8.7	$1.4
Incremental industry profits [7]	$2.4	$7.1	$1.5	$5.1
Incrm. profits as % of incrm. surplus [8]	21%	51%	15%	78%

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 of 5¢/pack on current advt + legal (approx 50%, $1 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] Does not include possible excess profits adjustment or possible surcharge in settlement

[6] Old tax revenue + new govt. revenue less old tax revenue in but-for world of no settlement. (But-for world assumes constant real prices, quantity declining at current trend rate.)

[7] Profits less profits in but-for world of no settlement

[8] Incremental surplus = incremental govt. revenue + incremental profits

Preliminary Observations on Proposed Tobacco Settlement[1]
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

[1]Prepared 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
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]	+19%	+34%
($1.85/pack today)	$2.20	$2.47
Quantity [2]	-8%	-23%
(24.2 bill. pack/yr)	22.0	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
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Incrm. profits as % of incrm. surplus [8]	8%	-7%

6/27/97 John Gruber - Treasury
Chad Stone - CEA

Issues for Tobacco Group on Industry Analysis - Domestic Issues

I) Background on the economics of the tobacco industry - Fact Sheet - FTC help

- 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 Costs born by industry (stockholders) v. Consumers.

- 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
- 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
- Particular focus on farmers
- 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
  - Social Security
  - Medicare
  - Medicaid

V) Evaluating "lookback" provisions for teen smoking

- 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?