

Draft May 7, 1998 - NEC staff draft

Proposal for a privacy "entity"

Why do we need a privacy "entity"?

- Clearly, new technologies have made it easier to create, manipulate, store, transmit, and link digital personally identifiable information. Many Americans believe that they have lost all control over how personal information about them is circulated and used by companies. We can expect that these issues will become more important and prominent with the advent of new technologies such as the Internet, electronic commerce, and data mining.
- However, privacy concerns often have to be balanced against other competing values - such as prevention of crime, prosecution of criminals, cracking down on "deadbeat dads," free expression, an investigatory press, and the economic and commercial benefits that come from the free flow of information.
- Attempting to centralize privacy policy development within the Administration would not make any sense. Inevitably, many agencies will have to deal with some aspect of privacy policy -- Education on student records, HHS on medical records, Transportation on Intelligent Transportation Systems, etc.
- There is, however, an increased need for coordination across agency lines, precisely because privacy is a cross-cutting issue. This would be particularly helpful in the following four areas:
 - **Representational:** Better explain and promote the Administration's privacy policy domestically and internationally. Currently, the United States is not represented in many important international fora on privacy.
 - **Consumer Information:** Increase public awareness of privacy issues and the rights and responsibilities of consumers, industry, and government. Use the "bully pulpit" to encourage best practices and criticize bad actors.
 - **Advisory:** Provide/coordinate advice on privacy policy questions to government agencies and the private sector.
 - **Coordination:** Ensure that agencies are addressing emerging privacy issues, and ensure greater consistency of Administration positions and policies.

What kind of privacy entity do we need?

- It should be somewhere within the Executive Office of the President. There are advantages and disadvantages to putting it in OMB, making it a new White House office, or putting it under one of the existing White House policy councils.
- Since shaping privacy policy requires balancing competing interests, it would be better if it were located in an agency that had other responsibilities. Having an office that saw itself exclusively as a “privacy advocate” would be counter-productive.
- It should have a small staff -- since the intent is to have it play a coordinating role as opposed to an operational role.

- **profiling**

Profilers compile information about individuals and then sell that information. Last December, fourteen such services agreed to abide by principles governing disclosure of nonpublic information. [Note that FTC agreed not to seek legislation in order to allow time to assess this self-regulatory venture.]

- propose legislation requiring that all persons engaged in profiling participate in a self-regulatory system with standards along the lines of the FTC's look-up services agreement.
- give FTC authority to tighten look-up service standards based upon a determination that the existing standards do not strike an appropriate balance between protection of personal privacy and other interests
- propose specific regulatory regime tougher than current agreement

- **marketing**

Marketers purchase various lists to identify targets for mail order/telephone/internet sales pitches. The Direct Marketing Association has adopted a number of principles governing the activities of its members, including a right to opt-out of such solicitations.

- propose legislation requiring that all persons engaged in marketing participate in a self-regulatory system with standards along the lines of the DMA principles
- give FTC authority to tighten standards based upon a determination that the existing standards do not strike an appropriate balance between protection of personal privacy and other interests
- propose specific regulatory regime tougher than current DMA principles

- **children**

- propose legislation prohibiting collection of personal information from children under 13 without prior parental consent

- **credit reporting**

The Fair Credit Reporting Act governs activities of credit reporting agencies that furnish reports to third parties. Act was amended in 1996. As more databases are available directly to companies, and companies themselves share information directly, there is some concern that the Act may become outdated because companies no longer will

DRAFT

purchase credit reports from a central bureau, but rather will obtain information directly from the individual sources. Also, FTC is concerned that provision of the Act permitting sharing of information between "affiliates" may lead to abuses.

- Announce study to determine whether FCRA contains the protections needed in the electronic age. This study could be broadened to cover all federal laws/regulations governing private sector treatment of personal information.
- **state government data releases**

Federal law prohibits the disclosure of personal information by the Federal government. States are one of the main sources of personal information entering the public domain, because most States do not have privacy laws. Many State FOI/public record laws were created prior to the ease of access to information in the technology era and, in addition, many States sell personal information. Federal laws in some circumstances require States to collect social security numbers and other personal information.

- announce plans to initiate a "privacy dialogue" with the States regarding the privacy of personal information collected by governments. *NCA*
- analyze the State laws that require the collection of social security numbers and personal information and Federal laws that require States to collect social security numbers and personal information. *have a study*
- discussions leading up to a privacy summit at which one or more of the following could be discussed and/or agreed to

Suggest that States develop privacy laws similar to the Privacy Act to protect personal information gathered by States

Extend the Privacy Act to social security numbers collected by States.

Ask States to reevaluate and redefine the meaning of "public records" in light of new technology.

Propose that States develop a policy of redacting social security numbers from documents before they are put into the public domain.

Issue a memorandum to public schools reiterating obligations imposed by the Family Educational Rights and Privacy Act of 1974 ("FERPA"). (Under FERPA, public schools that accept federal funds are prohibited from disclosing a student's social security number and personal information without the student's consent.)

DRAFT

- **social security numbers**

The use of the social security number by the private sector in connection with a variety of transactions allows profilers, marketers and others to combine discrete bits of information to create a portrait of an individual. These portraits have legitimate uses -- law enforcement, credit assessments, debt collection, etc. -- and we therefore must tread cautiously to avoid upsetting an information structure that is fairly well established. Also, the FTC recently has indicated to Congress that "the cat may be out of the bag" with respect to private sector use of social security numbers.

- Announce study of private sector use of social security numbers [state governmental use will be addressed through prior initiative]. Study would assess when and why the numbers are requested, whether the purpose is legitimate, whether privacy is considered, if the information is being sold without the individual's consent, the effect of prohibiting collection of social security number, and whether there is an alternative to the collection of social security numbers. It also would assess the availability and possible use of alternative identifiers, such as biometric information.

- **public service ad campaign**

Our privacy policy relies in large part on choice -- an individual has the option to protect his or her privacy. We should look for private sector partners to develop an advertising campaign to inform individuals of this choice and how to effectuate it. Part of the campaign would be the creation of an electronic one-stop opt out service.

- **identity theft**

[DOJ]

enc file



SOCIAL SECURITY ADMINISTRATION

Office of the Deputy Commissioner
for Legislation and Congressional Affairs

May 13, 1998

The Honorable Jerry Kleezka
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Kleezka:

This letter responds to your request for Social Security Administration (SSA) comments on your bill, H.R. 1813, the Personal Information Privacy Act of 1997. The central focus of the bill appears intended to prevent commercial uses of the Social Security number (SSN) without the number holder's consent.

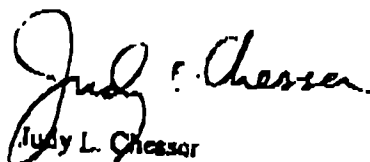
Although the bill would address valid concerns about the use of the SSN for non-Social Security purposes, the effect of the bill could cause two major problems. The bill would restrict data exchanges which benefit the public; that is, desirable uses of SSNs may extend beyond those exempted from the requirements of the bill. SSA uses these data exchanges to ensure accurate payment of benefits and to reduce fraud. Limitations or foreclosure of such data exchanges could work at cross purposes to SSA program integrity initiatives.

Secondly, the bill is very restrictive considering the extent to which the SSN is already being used in the private sector. Any expense caused by necessary disruptions would likely be borne by consumers.

500 E Street, SW - Suite 800 - Washington, DC 20254-1001
(202) 358-6024 - Fax: (202) 358-6074

The bill's intended limitations on commercial uses of SSN's will contribute to public privacy interests; however, the bill could limit useful governmental exchanges of information for the public benefit and would disrupt the normal flow of business exchanges. My staff would be happy to meet with your staff to discuss our comments.

Sincerely,



Judy L. Chesser
Deputy Commissioner for
Legislation and Congressional Affairs



UNITED STATES OF AMERICA
FEDERAL TRADE COMMISSION
WASHINGTON, D.C. 20580

May 20, 1998

The Honorable Jerry Kleczka
United States House of Representatives
2301 Rayburn Building
Washington, D.C. 20515

Dear Representative Kleczka:

Your letter of April 3, 1998 requested the Federal Trade Commission's comments and possible endorsement of the bill you introduced last year: H.R. 1813, titled the "Personal Information Privacy Act of 1997." The Commission has experience with consumer privacy issues and appreciates the opportunity to review and comment on the proposed legislation. We share your concerns about protecting consumers' privacy, reducing the risk of identity theft, and restricting access to Social Security numbers, and support certain portions of the proposed bill. In light of the Commission's experience and findings in this area, however, the Commission has determined that certain parts of the bill are problematic and prevent our full endorsement of the proposed legislation at this time.

FTC Activities Related to Identity Theft

Identity theft, the focus of your legislation, occurs when an individual misappropriates another's name, address, Social Security number, or other identifying information to commit fraud. Even though federal credit card liability protections prevent substantial immediate financial injury, individual victims endure harm that can be severe and long-lasting. Until victims can cleanse their credit reports of the perpetrator's bad acts (a time-consuming and often-difficult process), they may lose the ability to borrow money for houses and cars, and may lose job opportunities.

The Commission is aware of the problems posed by identity theft and has responded in three ways. First, the Commission hosted two public workshops on identity theft to facilitate dialogue among representatives of credit bureaus, credit grantors, law enforcement agencies, consumer and privacy advocates, and consumer victims concerning this crime.¹ Second, as

¹ The transcript of the Commission's first Meeting on Consumer Identity Fraud, held in Washington, D.C., August 20, 1996, is available on the Commission's Web site at *Federal Trade Commission, Conferences* (last modified Mar. 14, 1998) <<http://www.ftc.gov/ftc/conferences.htm>>. There is no transcript of the second meeting, held in November 1996. Attendees split into working groups with FTC staff as facilitators for each group. The

The Honorable Jerry Kleczka — Page 2

discussed in more detail below, the Commission conducted a study of issues arising from computerized database services that make available personal identifying information about consumers, also known as "individual reference services" or "look-up services." Commission staff has also worked with members of that industry to encourage them to develop and adopt meaningful self-regulation. Finally, the Commission is engaged in ongoing efforts to educate consumers and business about these important issues.²

The Commission began to focus on identity theft in the fall of 1996, as computerized database services were drawing considerable public and media attention. At issue was the sensitivity of the information these services gather about consumers and the ease with which this information could be accessed. In connection with pending amendments to the Fair Credit Reporting Act ("FCRA"), Senator Bryan solicited the Commission's views on the sale by credit bureaus of the personal identifying information found in look-up services. As your letter notes, the Commission responded on September 23, 1996, recommending additional amendments to the FCRA that would limit release of certain identifying information, including Social Security numbers, only to those credit bureau subscribers who would otherwise have a "permissible purpose" under the FCRA to receive a full credit report.

Rather than incorporate this suggestion into the pending legislation, Congress directed the Federal Reserve Board to study the impact of the misuse of this sensitive information on insured depository institutions.³ In addition, Senators Pressler, Bryan, and Hollings requested that the Commission conduct a study of these computerized database services.⁴ Because the study would examine the potential risks posed by the sale of personal identifying information by credit bureaus, the Commission withdrew its earlier legislative recommendation to Senator Bryan until there had been an opportunity to analyze the results of the study.

In March 1997, the Commission announced its plan to conduct a study of look-up services.⁵ The Commission gathered information regarding the look-up services industry

groups discussed prevention, detection, and correction issues as well as consumer and business education.

² See, e.g., *Federal Trade Commission, Identity Thieves Can Ruin Your Good Name*, (last modified May 11, 1998) <www.ftc.gov/bcp/online/pubs/credit/identity>.

³ Federal Reserve Board Report to the Congress Concerning the Availability of Consumer Identifying Information and Financial Fraud (March 1997).

⁴ Letter from Senators Larry Pressler, Richard H. Bryan, and Ernest F. Hollings to Commission (October 8, 1996). They requested that the study encompass the collection, compilation, sale, and use of computerized databases that contain consumers' identifying information, without their knowledge. *Id.*

⁵ 62 Fed. Reg. 10,271 (March 6, 1997).

The Honorable Jerry Kleczka -- Page 3

primarily by soliciting public comment and holding a workshop in June 1997. The Commission learned that look-up services, if not adequately controlled, pose certain risks. Consumers may be adversely affected in three ways: (1) by a privacy infringement, including uses of their information inconsistent with the purpose for which they initially provided it; (2) by the reliance of others on inaccurate information contained in the databases; and (3) by the wrongful use of their information to commit fraud, such as identity theft. At the same time, the Commission found that look-up services confer benefits on legitimate users. For example, access to identifying information through look-up services helps banks and creditors prevent fraud, including identity theft; helps private investigators track down witnesses; and helps public interest groups search for missing children and non-custodial parents owing child support. In addition, the Commission learned that news reporters as well as federal, state, and local law enforcement agencies rely on information obtained through commercial look-up services to assist their investigations.

The IRSG Principles

At the June workshop, industry members announced that they had formed the Individual Reference Services Group, or "IRSG," and presented an initial self-regulatory proposal intended to address public concerns about their databases. Over the next five months, Commission staff worked with members of the group to encourage them to adopt a more effective self-regulatory program. On December 15, 1997, the group signed and released the Individual Reference Services Group ("IRSG") Principles -- a comprehensive set of self-regulatory guidelines agreed to by most of the industry. In a December 1997 report to Congress on look-up services,⁶ the Commission recommended that additional legislation not be introduced until the effectiveness of the IRSG Principles has been evaluated.⁷

Although the IRSG Principles will not become effective until December of this year, they represent an important attempt to regulate access to identifying information that is obtained from non-public sources and is not otherwise publicly available. To the extent information obtained from a non-public source is publicly available, such as a home address that appears in a "credit header" but also is listed in the phone book, that information is *not* treated as non-public and therefore not restricted under the IRSG principles.

⁶ *Individual Reference Services: a Report to Congress* (December 1997). The report can be found online at *Federal Trade Commission, Privacy, Reports, Guides, Letters, and Policy Statements* (last modified May 11, 1998) <<http://www.ftc.gov/privacy/reports.htm>>.

⁷ We note that at the time your bill was proposed, the industry had not yet agreed to self-regulation addressing certain concerns in this area.

The Honorable Jerry Kleczka -- Page 4

Restrictions on access to information vary according to the following three categories of customers:

- The general public may not access, over the Internet or in any other context, sensitive, non-public information (a concern expressed in your letter). This prohibition covers Social Security numbers, date of birth, mother's maiden name, and unlisted telephone numbers, to the extent such information is not otherwise publicly available.
- Entities who are legitimate commercial firms but who do not have a demonstrable need for sensitive information (like full Social Security numbers) may access only truncated Social Security numbers.
- Only firms who have been screened by IRSG signatories and who can demonstrate a legitimate need for the information sought may access non-public, sensitive identifying information, such as Social Security numbers, date of birth, and mother's maiden name obtained from credit bureaus.

The approach incorporated in the IRSG Principles shows particular promise because all three major credit bureaus are signatories. These credit bureaus are the principal source of potentially sensitive, non-public information for the look-up industry. By signing the Principles, they have agreed to refrain from selling such information to firms that fail to comply with the IRSG Principles, regardless of whether those firms are signatories to the Principles. We believe the IRSG Principles, while not perfect, have the potential to accommodate the legitimate uses of look-up services while addressing many concerns about consumer privacy and identity theft.

Discussion of Relevant Sections of Proposed Personal Information Privacy Act of 1997

The bill has three principal sections: Section 2 would amend the FCRA to treat certain identifying information essentially as part of a consumer or credit report. Section 3 would prohibit the purchase, sale, and commercial use of Social Security numbers without consumers' consent. Finally, Section 4 would restrict use of Social Security numbers by state departments of motor vehicles.

Section 2: Confidential Treatment of Credit Header Information

Section 2 seeks to extend coverage of the FCRA to Social Security numbers, date of birth, and mother's maiden name contained in credit headers.⁸ Access to this identifying

⁸ A credit header is the portion of a credit report containing identifying information, typically including name, aliases, current and former addresses, phone number, Social Security number, date of birth, and mother's maiden name.

information would be provided only to those entities who qualify as having one of the limited "permissible purposes" defined by the FCRA. However, the FCRA definition does not include law enforcement, fraud prevention, news reporting, the search for missing children, or many other legitimate uses of identifying information and thus would prevent private and public investigators seeking to accomplish these tasks from accessing complete credit header information.⁹

As discussed previously, by the end of this year the signatories to the IRSG Principles will begin self-regulating the commercial sale of non-public personal identifying information collected by them. Last year, the Commission concluded that the IRSG Principles showed promise for effectively regulating the availability of non-public personal identifying information, including credit header information, and recommended that legislation be postponed until the viability of the IRSG self-regulatory scheme has been evaluated.

Section 3: Prohibiting Purchase, Sale, and Commercial Use of the Social Security Number without Consent

The Commission has several concerns about prohibiting the purchase, sale, and commercial use of Social Security numbers without the consent of the individual. The Commission learned through its study of look-up services that many non-profit organizations, government, and other non-commercial entities such as news reporters, private investigators, and attorneys purchase Social Security numbers from look-up services in connection with law enforcement and, for example, searches for missing children, witnesses, or parents owing child support. These entities informed the Commission that they require the most inclusive information possible. If individuals could choose not to be included in the databases, over time the databases might become limited to identifying information about only the most law-abiding citizens. The Commission also learned that some commercial uses of Social Security numbers have important societal benefits. The financial industry, for example, accesses Social Security numbers to verify the identity of loan applicants and account holders, and thereby to prevent fraud, including identity theft.

In addition, Social Security numbers, as personal and unique identifiers, help entities like hospitals, banks, universities, and credit bureaus link the right persons to their records, and thereby avoid matching data to the wrong persons. In the credit reporting industry, for example, correct attribution of credit information is necessary for accurate credit bureau files. Credit bureaus have files on over 200 million people. Every month, credit grantors supply new and

⁹ The FCRA does permit government agencies to obtain limited information (name, addresses, and employment), 15 U.S.C. § 1681f, but access to full credit header information would be permitted only by court order if this bill were enacted. In addition, state or local government child support enforcement agencies can obtain a full consumer report for certain purposes. 15 U.S.C. § 1681b.

The Honorable Jerry Kleczka – Page 6

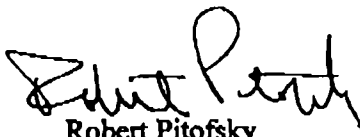
updated information to those credit bureaus. Often, a Social Security number is the key to matching the new data to the old file, especially for consumers who have moved, changed names, or have names similar to those of their children or parents. Prohibiting the nonconsensual use of Social Security numbers, without some substitute form of identification, could affect the accuracy of credit bureau files, and in turn, consumers' ability to get credit, employment, and insurance.

Section 4: Restriction on Social Security Number Use by Motor Vehicles Departments

The Commission, in its study of look-up services, found that easy access to sensitive, unique information (e.g. Social Security number) listed on certain public records increases the risk of serious harm to consumers, including identity theft and stalking. Amending the Driver's Privacy Protection Act to further limit the distribution of Social Security numbers by state departments of motor vehicles, to the extent it does not interfere with beneficial uses of Social Security numbers by government, is a positive step toward addressing that concern. Government agencies may not have considered these risks in formulating their public records collection and dissemination practices. Thus, it is possible that certain government agencies may require and/or make available unique personal identifiers, even though the collection and public dissemination of that information is not essential to advance their intended purpose in collecting the information in the first place. The Commission has encouraged public agencies to consider the potential consequences associated with the increasing accessibility of public records when formulating or reviewing their public records collection and dissemination practices.

The Commission shares your concerns about the improper use of Social Security numbers, particularly when misappropriated to commit identity theft. Government and industry must acknowledge that the extensive commercial dissemination and use of Social Security numbers pose serious concerns and merit continued attention. Nonetheless, the broad prohibitions set forth in the proposed bill may have unintended, negative consequences. It might be beneficial at this time to monitor and even encourage the development of alternative methods of identification that might pose fewer risks. For example, participants at Commission workshops have reported on-going progress with biometrics and digital signatures.

By direction of the Commission.


Robert Pitofsky
Chairman

Attachment:

February 28, 1997 letter from Chairman Pitofsky to Senator McCain

FINAL — DECEMBER 15, 1997

**INDIVIDUAL REFERENCE SERVICES
INDUSTRY PRINCIPLES**

PREAMBLE:

The following principles were developed by members of the individual reference services industry to respond, as an industry, to heightened interest in the industry's practices. The principles represent good practices that the undersigned companies agree to support as part of their operating practices. While it may take up to a year for some principles to be implemented fully, other principles are already part of the operating practices of the undersigned companies.

SCOPE:

These principles apply to individual reference services, which are commercial services that directly or as suppliers to others provide information that assists users in identifying individuals, verifying identities and locating individuals for various purposes.

DEFINITIONS:

- *Public Record Information:* Information about or related to an individual which has been obtained originally from the records of a federal, state, or local governmental entity that are open for public inspection.
- *Publicly Available Information:* Information about an individual that is available to the general public from non-governmental sources such as telephone directories, classified ads, newspaper reports, publications, or other forms of information.
- *Non-Public Information:* Information about an individual that is of a private nature and neither available to the general public nor obtained from a public record.
- *Appropriate or Appropriately:* Describes actions or uses that are reasonable under the circumstances reflecting a balance between the interests of individual privacy and legitimate business, governmental, and personal uses of information, including prevention and detection of fraud.

43 **PRINCIPLES:**

44
45 I. *Education*: Individual reference services shall individually and through their industry groups
46 make reasonable efforts to educate users and the public about privacy issues associated with their
47 services, the types of services they offer, these principles, and the benefits of the responsible flow
48 of information.

49
50 II. *Reputable Sources*: Individually identifiable information shall be acquired from only sources
51 known as reputable in the government and private sectors.

52
53 A. Reasonable measures shall be employed to understand an information source's data
54 collection practices and policies before accepting information from that source.

55
56 B. Individually identifiable information that is collected for marketing purposes shall not
57 knowingly be purchased, sold or retained for creating or inclusion in individual
58 reference services, unless it is PUBLIC RECORD INFORMATION or PUBLICLY AVAILABLE
59 INFORMATION; its use is specifically permitted by law; or it is collected with notice to
60 the individual that such information will be used for inclusion in individual reference
61 service products.

62
63 III. *Accuracy*: Reasonable steps shall be taken to help assure the accuracy of the information in
64 individual reference services. The goal of individual reference service products is to furnish
65 customers with accurate reproductions of information.

66
67 A. When contacted by an individual concerning an alleged inaccuracy about that
68 individual, the individual reference service, as APPROPRIATE, shall either correct any
69 inaccuracy or inform the individual of the source of the information and, if reasonably
70 available, where a request for correction may be directed.

71
72 B. The individual reference service's commitment to furnish users with reasonably
73 accurate reproduction of information in PUBLIC RECORD INFORMATION systems does not
74 permit alteration of the substantive content of PUBLIC RECORD INFORMATION products or
75 services.

76
77 IV. *Public Record and Publicly Available Information*: PUBLIC RECORD INFORMATION and
78 PUBLICLY AVAILABLE INFORMATION shall be usable without restriction unless legally prohibited.

79
80 V. *Distribution of Non-Public Information*: Except as provided in section IX, NON-PUBLIC
81 INFORMATION will be distributed only according to the criteria set forth below. The nature of
82 NON-PUBLIC INFORMATION being requested and the intended uses of such information shall
83 determine the level of review of the subscriber. Companies who supply information covered by
84 this section to individual reference services shall provide such information only to individual
85 reference services that adopt or comply with these principles.

86
87 A. *Selective and Limited Distribution of Non-Public Information:* Individual reference
88 services may distribute NON-PUBLIC INFORMATION without restriction of its contents
89 only to qualified subscribers.
90

91 1. Qualified subscribers for the selective and limited distribution of NON-PUBLIC
92 INFORMATION must satisfy the following conditions:
93

- 94 a. The subscribers must state their APPROPRIATE uses for such information.
95
96 b. The subscribers must agree to limit their use and redissemination of such
97 information to such APPROPRIATE uses.
98
99 c. The subscribers shall be reasonably identified and meet qualification
100 requirements that establish them as APPROPRIATE users of the
101 information and agree to terms and conditions consistent with these
102 principles prior to accessing the information.
103

104 2. Each individual reference service shall take reasonable steps to protect against
105 misuse of NON-PUBLIC INFORMATION distributed pursuant to this subsection
106 which will include:
107

- 108 a. Each individual reference service shall make available upon request an
109 explanation of what uses of its information are APPROPRIATE and to
110 which types of qualified subscribers such information is available.
111
112 b. Individual reference services shall conduct a reasonable review of the
113 subscriber and its intended uses of the information prior to making NON-
114 PUBLIC INFORMATION available to the subscriber.
115
116 c. Individual reference services shall maintain a record of the identity of
117 subscribers, the types of uses, and the terms and conditions agreed to by
118 the subscriber for three years after termination of each subscriber's
119 relationship with the individual reference service.
120
121 d. Reasonable measures shall be employed to help assure that qualified
122 subscribers use NON-PUBLIC INFORMATION APPROPRIATELY.
123
124 e. Individual reference services shall implement reasonable mechanisms to
125 remedy subscriber abuses of the information.
126

127 B. *Commercial and Professional Distribution of Non-Public Information:* Individual
128 reference services, when they limit the NON-PUBLIC INFORMATION content of their

products or services as set forth below, may distribute such products or services only to established professional and commercial users who use the information in the normal course and scope of their business or profession and the use is APPROPRIATE for such activities.

1. NON-PUBLIC INFORMATION products or services distributed pursuant to this subsection shall not include:

- a. Information that reflects credit history, financial history, medical records, mother's maiden name identified as such, or similar information;

- b. Certain information like social security number and birth information unless truncated in an APPROPRIATE and industry consistent manner.

2. Users shall agree to terms and conditions consistent with these principles prior to accessing the NON-PUBLIC INFORMATION, shall agree to use such information solely in the normal course and scope of their business or profession and that the use is APPROPRIATE for such activities and that they shall limit their use and dissemination of such information to such uses and in accordance with these principles.

3. Individual reference services shall take reasonable steps to protect against misuse of the NON-PUBLIC INFORMATION distributed pursuant to this subsection which will include:

- a. If not previously established, the individual reference service shall take reasonable steps to identify the user and to establish the user as an established professional or commercial entity.

- b. Reasonable measures shall be employed to help assure that commercial and professional customers use NON-PUBLIC INFORMATION APPROPRIATELY.

- c. Individual reference services shall implement reasonable mechanisms to remedy subscriber abuses of the information.

- d. Individual reference services shall maintain a record of the identity of subscribers and the terms and conditions agreed to by the subscriber for three years after termination of each subscriber's relationship with the individual reference service.

171 C. *General Distribution of Non-Public Information:* Individual reference services, when
172 they limit the NON-PUBLIC INFORMATION content of their products or services as set
173 forth in this subparagraph, may distribute such products or services to any person.

174
175 1. NON-PUBLIC INFORMATION distributed pursuant to this subparagraph shall not
176 knowingly include information that reflects social security number, mother's
177 maiden name identified as such, non-published telephone number, or non-
178 published address information obtained from telephone companies, birth
179 information, credit history, financial history, medical records, or similar
180 information, nor will the service be retrievable by a social security number.

181
182 2. The individual reference service shall take reasonable steps to protect against
183 the misuse of NON-PUBLIC INFORMATION.

184
185 VI. *Security:* Individual reference services shall maintain facilities and systems to protect
186 information from unauthorized access and persons who may exceed their authorization. In
187 addition to physical and electronic security, individual reference services shall reasonably
188 implement:

189
190 A. Employee and contractor supervision—Employees and contractors shall be required to
191 sign confidentiality agreements and be subject to supervision.

192
193 B. Reviews—System reviews shall be made at APPROPRIATE intervals to assure that
194 employees are complying with policies.

195
196 VII. *Openness:* Each individual reference service shall have an information practices policy
197 statement that describes what types of information it has, from what types of sources, how it is
198 collected, the type of entities to whom it may be disclosed and the type of uses to which it is put,
199 and shall make its policy statement available upon request. Consumers shall be notified about
200 these practices in various ways such as:

201
202 1. Web sites;

203
204 2. Advertisements; or

205
206 3. Company or industry-initiated educational efforts.

207
208 VIII. *Choice:* Each individual reference service shall upon request inform individuals of the
209 choices, if any, available to limit access or use of information about them in its data base,
210 provided, however, that in the case of NON-PUBLIC INFORMATION distributed to the general
211 public (section V.C of these principles), an individual reference service shall provide an
212 opportunity for an individual to limit the general public's access or use of such NON-PUBLIC
213 INFORMATION.

IX. *Access:* Upon request and reasonable terms, an individual reference service shall:

- A. Inform an individual about the nature of PUBLIC RECORD and PUBLICLY AVAILABLE INFORMATION that it makes available in its products and services and the sources of such information;
- B. Provide individuals with NON-PUBLIC INFORMATION contained in products and services that specifically identifies them and that are distributed as part of an individual reference service to users under section V. of these Principles unless the information was obtained on a limited use basis from a governmental agency or if its disclosure is limited by law or legally recognized privilege; and
- C. Direct individuals to a consumer reporting agency regulated by the Fair Credit Reporting Act where such agency is the source of the information about the individual.

X. *Children:* Where an individual is identified in the product or service as being under the age of 18, no NON-PUBLIC INFORMATION about that individual shall be provided for other than selective and limited distribution purposes or for the purposes of locating missing children.

XI. *Assurance of Compliance:* The signers of these principles shall have completed within 15 months of the effective date of these principles, and on a periodic basis thereafter, at least once every year, an assurance review done by a reasonably qualified independent professional service. The independent professional service shall apply assurance criteria consistent with these principles and approved by the signers as a group. Individual referenceservices shall have a reasonable opportunity to respond to any concerns expressed in such assurance review. A summary reflecting both the report and any subsequent actions taken or response made by the company shall be publicly available.

243 **PLEDGE:**

244

245 The undersigned companies pledge to introduce and follow the above industry principles at the
246 earliest practicable opportunity or by December 31, 1998, whichever is sooner.

247

248

249

250

251

252

253

254

255

256

257

258

259

260

261

Acxiom Corporation
CDB Infotek, a ChoicePoint Company
DCS Information Systems
Database Technologies, Inc.
Equifax Credit Information Services, Inc.
Experian
First Data Solutions Inc.
Information America, Inc.
IRSC, Inc.
LEXIS-NEXIS
Metromail Corporation
National Fraud Center
Online Professional Electronic Network
Trans Union Corporation

Pineda

FEDERAL TRADE COMMISSION

OFFICE OF CONGRESSIONAL RELATIONS

Sixth and Pennsylvania Ave, NW

Washington, DC 20580

(202) 326-2195

Carol Ann Kando Pineda
Legislative Counsel
326-3152

May 7, 1998

Thomas Freedman
Special Assistant to the President/
Senior Director for Policy Planning
Domestic Policy Council
The White House
Washington, DC

Dear Tom:

It was a pleasure seeing you the other day - all in all a very productive meeting. Enclosed are the materials we discussed:

TOBACCO

- (1) what we call the "BE report" which includes:
 - FTC Bureau of Economics Staff Report on the Settlement (*Competition and the Financial Impact of the Proposed Tobacco Industry Settlement*) 9/97;
 - tobacco industry's criticism of the FTC report; and
 - FTC's staff evaluation of the industry's critique (*Evaluation of the Tobacco Industry Analysis Submitted to Congress on October 8, 1977*) 11/10/97;

PRIVACY

- (2) FTC's *Report to Congress on Individual Reference Services*, 12/97 -- a more limited topic but pretty recent report;
- (3) FTC staff report on *Public Workshop on Consumer Privacy on the Global Information Infrastructure* - 12/96 (This report is pretty out of date at this point but it is helpful background.)
- (4) Commission testimony on Internet Privacy before the House Committee on the Judiciary, Subcommittee on Courts and Intellectual Property, 3/26/98.

We'll be in touch about the impending report, etc. Please feel free to call me anytime at 326-3152. Again, thanks for your time.

Yours truly,

Carol

Carol Kando Pineda

FOR RELEASE: NOVEMBER 12, 1997

FTC STAFF STANDS BY ITS ANALYSIS

Agency Says Tobacco Industry Critique of its Report on the Proposed Tobacco Settlement Is Unfounded

The staff of the Federal Trade Commission today said that tobacco industry criticism of its report on the proposed tobacco settlement is unfounded. According to the FTC staff, the industry critique of its report did not uncover any significant errors and the findings of the original report remain: that the antitrust exemption contained in the proposed settlement, as well as other features of the agreement, could permit the cigarette companies to coordinate more effectively, and that such coordination would be expected to generate dramatic increases in industry profits.

On September 22, the FTC released the staff report, titled "Competition and the Financial Impact of the Proposed Tobacco Industry Settlement." The report provides an overview of the U.S. cigarette industry and analyzes the effects of the proposed tobacco settlement on competition, prices, profits and public sector revenues. It demonstrates that industry profits could rise substantially, in part because of the antitrust exemption. Approximately two-thirds of any additional revenues generated as a result of increased coordination among the industry would go to the cigarette manufacturers as excess profits, the report says.

The evaluation of the tobacco industry analysis, as well as the report itself, were prepared by the staff of the FTC in response to several congressional requests. The evaluation of the industry's critique points out that "[t]he industry analysis does not address several key conclusions of the FTC Staff Report: that the antitrust exemption and other features of the proposed settlement could lead to enhanced industry coordination, that more effective coordination would allow the industry to increase prices more than necessary to simply 'pass through' to consumers the amount of the annual settlement payments, and that these price increases would lead to a substantial increase in industry profits."

According to the evaluation, the tobacco industry, however, does posit that the staff report figures for future cigarette prices are too low and that the figures for future industry profits are too high. In response, the FTC staff said that "[t]he industry's projections of future cigarette prices are much closer to [our] projections . . . than they appear" because the industry estimate of a \$1.52 per pack price increase by the year 2007 "is given in nominal terms, which means that the effects of anticipated inflation are included in the estimate. Since the FTC staff analysis was conducted in real terms (i.e., in constant 1997 dollars), it is necessary to convert the industry estimate into real terms to compare it with the FTC staff estimate" of a \$0.72 per pack price rise. When that conversion is done, "the industry's estimated \$1.52 nominal price increase is equivalent to a real price increase of only \$0.67 to \$0.79." Use of real terms is important, the staff evaluation points out, because "[u]se of nominal prices would lead to an overestimate of the reduction in cigarette consumption. Since only real changes in price affect consumers' purchasing decisions, estimates of future demand must be calculated in real (i.e., constant-dollar) terms to control for the effects of inflation." If the settlement in fact achieved a "real" price increase of \$1.52 per pack, the windfall from the approximate \$0.70-\$0.80 per pack increase would disproportionately favor industry according to the earlier staff report.

The staff evaluation also observes that when analyzing profits the "industry report adjusts some figures for inflation but not others, in effect mixing apples and oranges and leading to wrong conclusions." If the industry had used a consistent basis, it would support the staff conclusion that "manufacturers' profits would rise substantially under the FTC

staff's scenario reflecting substantially more effective industry coordination."

Finally, the staff evaluation points out that the industry probably overstates the magnitude of the decline in future cigarette consumption. According to the evaluation, the industry uses estimates of the elasticity of demand that are higher than most published estimates and it assumes that even in the absence of price increases there will be a substantial (2.5%) annual decline in cigarette sales. The Commission's vote to authorize the release of the staff evaluation was 3-0 with Commissioner Sheila F. Anthony not participating.

Copies of the staff evaluation, the staff report and Commission testimony on the proposed tobacco settlement are available from the FTC's World Wide Web site at: <http://www.ftc.gov> and from the FTC's Public Reference Branch, Room 130, 6th Street and Pennsylvania Avenue, N.W., Washington, D.C. 20580; 202-326-2222; TTY for the hearing impaired 202-326-2502. To find out the latest news as it is announced, call the FTC's NewsPhone at 202-326-2710.

MEDIA CONTACT:

Victoria Streitfeld
Office of Public Affairs
202-326-2718

STAFF CONTACT:

Jonathan Baker
Bureau of Economics
202-326-2930

(FTC File No. P859 912)

(tobeval)

Evaluation of the Tobacco Industry Analysis Submitted to Congress on October 8, 1997

Staff of the Federal Trade Commission¹
November 10, 1997

I. Introduction

This evaluation has been prepared by the staff of the Federal Trade Commission in response to several congressional requests.² In September, the FTC staff prepared a report analyzing the financial impact of the proposed tobacco industry settlement in response to a request by the Congressional Task Force on Tobacco and Health.³ After the FTC Staff Report was submitted to the Task Force, the tobacco industry responded to a congressional request by providing the industry's estimates of the potential impact of the settlement on cigarette consumption and tobacco company stock prices.⁴ This industry analysis challenges many aspects of the FTC Staff Report. The FTC staff has reviewed the industry analysis and, as discussed below, concludes that the analysis has not identified any significant errors or omissions that would undermine the findings presented in the FTC Staff Report.

The industry's projections of future cigarette prices are much closer to the projections of the FTC staff than they appear. The industry predicts that the proposed settlement will increase the retail price of a pack of cigarettes by \$1.52 in the year 2007. The industry estimate is given in nominal terms, which means that the effects of anticipated inflation are included in the estimate. Since the FTC staff analysis was conducted in real terms (*i.e.*, in constant 1997 dollars), it is necessary to convert the industry estimate into real terms to compare it with the

industry estimates are in nominal terms - inflation included

FTC - real terms

¹ This evaluation has been prepared by staff members of the Bureau of Economics. The views expressed do not necessarily reflect those of the Commission or any individual Commissioner.

² The Senate Subcommittee on Antitrust, Business Rights and Competition of the Committee on the Judiciary, the Congressional Task Force on Tobacco and Health, and the Senate Democratic Task Force on the Tobacco Settlement have requested this evaluation.

³ "Competition and the Financial Impact of the Proposed Tobacco Industry Settlement," Report prepared by the staff of the Bureaus of Economics, Competition, and Consumer Protection of the Federal Trade Commission, requested by the Congressional Task Force on Tobacco and Health, September 1997 ("FTC Staff Report").

⁴ Lorillard Tobacco Company, Philip Morris Companies Inc., R.J. Reynolds Tobacco Company, and UST, Inc., "Impact of the Proposed Resolution on the U.S. Cigarette Industry," submitted to the Senate Democratic Task Force on the Tobacco Settlement, October 8, 1997.

FTC staff estimate. When this is done, the industry estimate converts to at most a 79 cent increase, as compared to the FTC staff's baseline estimate of 72 cents.⁵

The industry's projections of the decline in cigarette consumption, while within the range of possibilities explored in the FTC Staff Report, probably overstate the likely magnitude of the decline. The industry uses estimates of the elasticity of demand that are higher than most published estimates, and it assumes that even in the absence of price increases there will be a substantial (2.5%) annual decline in cigarette sales. The industry does not say, however, what assumed price increase was used in its estimation, nor does it specify the exact form of the demand function used. The industry's projections of the decline in cigarette consumption are discussed below in sections III and IV of this evaluation. *elasticity of demand*

The industry's analysis of industry profits is inaccurate due to the inconsistent use of adjustments for inflation. As discussed below in section V of this evaluation, Table 3 of the industry report adjusts some figures for inflation but not others, in effect mixing apples and oranges and leading to wrong conclusions. If the analysis were done on a consistent basis, it would support the FTC staff conclusion that manufacturers' profits would rise substantially under the FTC staff's scenario reflecting substantially more effective industry coordination (the 200% price-increase ratio scenario).

The industry analysis does not address several key conclusions of the FTC Staff Report: that the antitrust exemption and other features of the proposed settlement could lead to enhanced industry coordination, that more effective coordination would allow the industry to increase prices more than necessary to simply "pass through" to consumers the amount of the annual settlement payments, and that these price increases would lead to a substantial increase in industry profits. These conclusions remain valid even using the industry's assumptions of a greater elasticity of demand and a greater underlying rate of decline in cigarette consumption.⁶

⁵ In a letter dated October 31, 1997 from Meyer G. Koplow (representing Philip Morris) to Senator Orrin G. Hatch, Philip Morris states that the \$1.52 nominal increase is equivalent to a real increase of \$1.19. This calculation appears to be erroneous, as explained in note 22, *infra*.

⁶ Under the industry assumptions about demand, the industry would receive windfall profits of \$40 billion (in present value) from more effective coordination of the magnitude considered in the FTC Staff Report. In particular, when the FTC staff estimates are calculated using the industry demand elasticity of -0.75 and the downward trend of 2.5%, the present value of industry after-tax profits in the substantially more effective coordination case (200% price-increase ratio) is \$76.7 billion, compared to \$36.3 billion in the baseline case (100% price-increase ratio). In contrast, public sector revenues are nearly the same in the two price-increase ratio cases, because the additional taxes on corporate profits are largely offset by the reduction in excise tax payments due to the decline in cigarette sales.

II. The FTC Staff Report

The FTC Staff Report examined the history of the cigarette industry, the economic literature discussing industry characteristics, and the terms of the proposed tobacco industry settlement. The Report concluded that the broad antitrust exemption and other features included in the proposed settlement could lead to a lessening of competition that would result in substantial increases in cigarette prices and industry profits.

The report provided several illustrations of the potential effect of the settlement on prices, profits, and public sector revenues if coordination is enhanced and the industry raises prices by more than necessary to simply "pass through" to consumers the amount of the annual payments. In the scenario illustrating the effects of a substantial increase in industry coordination, the additional after-tax operating profits from enhanced coordination amounted to \$123 billion over the next 25 years (\$56 billion in present value).⁷ Although the report acknowledged that it is difficult to predict prices and profits 25 years in the future because the settlement may substantially alter the nature of competition in the industry, it also emphasized that a wide range of plausible scenarios involving increased industry coordination would lead to substantial windfall profits for the cigarette industry.

Higher prices from increased coordination would result in greater revenues for the public sector as well as increased operating profits for the cigarette manufacturers. The public sector would benefit through greater excess profit penalties under the terms of the settlement and greater revenues from federal corporate income taxes.⁸ In general, the examples suggested that the industry would retain about two-thirds of the financial benefits of increased coordination, leaving one-third for the public sector.

The FTC Staff Report also concluded that even without increasing coordination, the proposed settlement would lead to higher prices. Under the FTC staff's "baseline" scenario, in which the degree of industry coordination is presumed not to increase, cigarette prices would rise by roughly the per-pack payment required by the settlement. Even without the windfall profits generated by increased coordination, the cigarette industry could obtain the civil liability protections of the settlement, giving up as little as \$10 billion (present value) in after-tax operating profits -- a reduction in the present value of the profit stream of about 17%.⁹ With the increased profits from increased coordination, the industry could receive both the liability protections and substantial additional operating profits.

⁷ See FTC Staff Report at 36 and Table 12.

⁸ FTC Staff Report at 30 and 35, note 78.

⁹ FTC Staff Report at 33 and Table 9.

III. The Tobacco Industry's Analysis

The tobacco industry's analysis of cigarette prices and industry profits under the proposed settlement posits that the FTC Staff Report's estimates of future cigarette prices are too low and that the estimates of future industry profits are too high. The industry estimates that by the tenth year of the settlement, the increase in retail cigarette prices will reach the \$1.50 level sought by the President, without any increase in the proposed settlement payments. The industry also submits that while prices will increase much more than suggested by the FTC Staff Report, industry profits will be much lower than estimated in the FTC staff's baseline scenario because the revenues from the price increase will be needed to cover additional costs that the FTC Staff Report did not consider.

The industry analysis also differs from the FTC Staff Report in at least two of the assumptions employed in estimating future cigarette consumption. First, the FTC Staff Report assumed a demand elasticity of -0.4 in its baseline scenario and elasticities of -0.2 and -0.8 in other scenarios. The industry analysis employs demand elasticities of -0.5 and -0.75. The elasticity of demand is a measure of the responsiveness of demand to changes in price. For example, an elasticity of -0.4 means that a price increase of 1% will cause a fall in the quantity of cigarettes demanded of 0.4%.

Second, in its baseline scenario the FTC Staff Report assumed that the secular decline in cigarette consumption would be 0.6% per year, and in other scenarios assumed that the secular decline rate would increase to 2.0% per year under the settlement.¹⁰ The industry analysis assumes a decline rate under the settlement of 2.5%. As discussed in the FTC Staff Report, differences in assumptions of these magnitudes for both the demand elasticity and the secular rate of decline do not significantly alter the conclusion reached by the FTC Staff Report, *i.e.*, that the broad antitrust exemption and other features included in the proposed settlement could lead to a lessening of competition that could allow the industry to coordinate more effectively, resulting in substantial increases in industry profits.¹¹ Differences in these assumptions, however, will affect estimates of future cigarette consumption.

Section IV of this evaluation addresses the different approaches to estimating cigarette prices, and examines more closely the industry's estimates of future cigarette consumption. Section V examines the different approaches to predicting industry profits. As noted above, the industry analysis does not address the anticipated impact of the antitrust exemption and other features of the settlement on industry coordination, which might cause industry prices and profits to rise. Therefore, no further consideration of this issue is presented in this evaluation.

¹⁰ The "secular decline" rate refers to the rate of decline that would be expected independent of reductions due to changes in the price of cigarettes.

¹¹ See FTC Staff Report at 37-39.

IV. The Industry's Analysis of Retail Prices and Cigarette Consumption Under the Proposed Settlement

The industry concludes that the nominal price of cigarettes will increase by \$1.52 per pack, which includes the effect of inflation, by the year 2007. The FTC staff estimate that the real price, which does not include inflation, will increase by \$0.72 per pack (if price increases due to increased industry coordination are not included).¹² Other analysts have predicted a similar increase.¹³

It is important to emphasize that the industry's estimate of a \$1.52 price increase is in nominal terms, meaning that it includes price increases due solely to inflation. Table 5 in the industry analysis presents the various components of the industry's estimated price increase. The table shows that the industry inflates the \$0.62 per pack settlement payment to \$0.829 to reflect inflation.¹⁴ Additional increases due to inflation appear to be included under the heading

¹² The annual payment under the proposed settlement from the year 2002 onward is \$0.62 per pack, which the settlement anticipates will be passed through to consumers in the form of higher prices. The FTC Staff Report also assumed that the settlement would lead to advertising and legal cost savings of \$0.05 per pack that the industry would pass through to consumers. If so, and assuming no additional price increase as a result of more effective coordination (as in the FTC Staff Report's 100% price-increase ratio baseline scenario), the price per pack would increase by \$0.57 after five years as a result of the settlement. Adding the recently passed \$0.15 increase in the federal excise tax yields an estimated total price increase of \$0.72 beginning in 2002. (The FTC Staff Report gave a figure of \$0.42 as the estimated price increase due to the settlement in the baseline scenario. The \$0.42 figure is less than the \$0.57 figure noted above because the Staff Report deducted \$0.15 from the settlement payments to reflect the credit for the new excise taxes specified in the current law. Since it now appears likely that the credit will be removed, the \$0.15 should be added back to the settlement payments, yielding the \$0.57 figure given above for the estimated price increase due to the settlement.)

¹³ Professor Jeffrey Harris, for example, has predicted that by the year 2007 the real price of cigarettes will increase by \$0.71 over the 1996 price. J. Harris, Prepared Statement before the Senate Democratic Task Force on Tobacco, October 21, 1997.

¹⁴ While the proposed settlement specifies that the annual payment will be adjusted each year by the rate of inflation or by 3%, whichever is greater, the adjustment is likely to have no noticeable effect on the real value of the payments. If the inflation rate is greater than 3%, the payments will be adjusted by the rate of inflation, leaving the real value unchanged. If the inflation rate is less than 3%, the 3% minimum adjustment will increase the real value of the

(continued...)

“industry price.”¹⁵ Finally, increases due to inflation are included in the increased trade margin and sales tax figures because they were calculated based on the other inflated figures noted above.¹⁶

Because the industry’s \$1.52 estimate is in nominal terms, it cannot be used to address the question of how changes in the price of cigarettes will deter smoking in general and youth smoking in particular. Increases in price due solely to inflation will not affect consumers’ decisions to purchase cigarettes, since inflation also raises consumers’ money incomes and the prices of all other goods as well as the price of cigarettes. Consumers will not buy less gasoline or ice cream in 2007 simply because the price of those goods has increased at the general rate of inflation; likewise, inflationary increases in the price of cigarettes will not lower the number of cigarettes sold. Use of nominal prices would lead to an overestimate of the reduction in cigarette consumption. Since only real changes in price affect consumers’ purchasing decisions, estimates of future demand must be calculated in real (*i.e.*, constant-dollar) terms to control for the effects of inflation.¹⁷

¹⁴(...continued)

payments, but this effect will be small unless inflation is significantly less than 3% for a sustained period of time. Such an inflation rate, however, would be at odds with recent economic history. Over the past 5 years, the inflation rate has averaged 2.9%, and this average is far below the average rate over the past 30 years. If the 2.9% average continues in the future, the 3% minimum adjustment would increase the real value of the settlement payments by only six-tenths of a cent per pack by the year 2007. (Inflation rate figures from Economic Report of the President 1997, Table B-61, “Changes in special consumer price indexes, 1958-96,” Year-to-Year Change, All Items (CPI-U), percent change.)

¹⁵ The footnote to the “Industry Price” heading in Table 5 of the industry analysis states that the “industry price” figure “[o]nly reflects adjustment for inflation of 2.5%.” The industry analysis does not provide any explanation of what is included in “industry price” or what calculation is made to derive the figures under this heading in Table 5, but the footnote indicates that the figures either partially or wholly represent price increases due to inflation.

¹⁶ Inclusion of real increases in the trade margin and sales tax is also questionable. As the FTC Staff Report notes, the trade margin of distributors and retailers is unlikely to rise in proportion to the increase in cigarette prices because the competitiveness of the cigarette distribution and retailing sectors is unlikely to be affected by the proposed settlement. In the absence of any increase in the costs of distribution or retailing, there would be no reason for the aggregate trade margin to rise in real dollar terms. (See FTC Staff Report at 27, note 72.) Including increases in sales taxes is also inappropriate unless the 1997 price used in the industry analysis similarly included sales taxes, which is not made clear in the industry paper.

¹⁷ The industry appears to recognize this point, stating on the first page of its analysis that
(continued...)

Before one can assess the effect of the industry's estimated price increase on cigarette consumption, therefore, the industry's nominal price increase must be converted to a real value by removing the effects of inflation. The industry estimates that the nominal price of cigarettes will be \$3.34 per pack by the year 2007.¹⁸ If the annual inflation rate is assumed to be 3%, the industry's \$3.34 nominal price corresponds to a real price of \$2.49, implying a real price increase of only \$0.67 by the year 2007.¹⁹ Alternatively, if the annual inflation rate is assumed to be 2.5%, the industry's \$3.34 nominal price corresponds to a real price of \$2.61, implying a real price increase of \$0.79 by the year 2007.²⁰ Thus, the industry's estimated \$1.52 nominal price increase is equivalent to a real price increase of only \$0.67 to \$0.79.²¹ This range is substantially the same as the FTC staff's \$0.72 estimate.²²

¹⁷(...continued)

"[e]conomists measure the impact of real price movements on the purchase of any product through econometric modelling which yields a price elasticity ratio." (Emphasis added.)

¹⁸ The \$3.34 nominal price in the year 2007 is obtained by adding the industry's estimated nominal increase of \$1.52 to the industry's assumed 1997 price of \$1.82. The industry presents this calculation in Table 5 of its analysis.

¹⁹ The \$2.49 real price is obtained by adjusting the industry's \$3.34 nominal price for a 3% inflation rate using the formula: $\$3.34/(1+0.03)^{10}$. The \$0.67 real price increase is obtained by subtracting the industry's \$1.82 figure for the 1997 price from the \$2.49 estimate of the real price in 2007.

²⁰ The \$2.61 real price is obtained by adjusting the industry's \$3.34 nominal price for a 2.5% inflation rate using the formula: $\$3.34/(1+0.025)^{10}$. The \$0.79 real price increase is obtained by subtracting the industry's \$1.82 figure for the 1997 price from the \$2.61 estimate of the real price in 2007. (The industry employed an annual inflation rate of 2.5% for at least some purposes, as indicated in note 15, *supra*.)

²¹ The range would extend higher than the \$0.79 figure only if the annual inflation rate was assumed to be less than 2.5%. This is unlikely, however, because a sustained inflation rate of less than 2.5% is contrary to recent economic history, as discussed in note 14, *supra*.

²² Philip Morris has recently stated that the industry's estimated \$1.52 nominal price is equivalent to a real price increase of \$1.19. See note 5, *supra*. Although Philip Morris does not explicitly say how this figure was calculated, it appears to have discounted the increase of \$1.52 at a rate of 2.5% over a period of 10 years to obtain the result. This method would be incorrect, because the entire nominal price of \$3.34 in 2007, not just the part of the price that represents an increase, must be discounted back to 1997 dollars.

To gain a better appreciation of why such a calculation would be wrong, consider a
(continued...)

In examining the effect of the industry's estimated price increase on future cigarette consumption, one must therefore use the real price increase of \$0.67 to \$0.79 and not the nominal price increase of \$1.52 highlighted in the industry analysis. The industry analysis, however, does not explain what price increase was used to calculate the consumption estimates presented in Table 1 of its analysis. Neither a \$1.52 nominal increase nor the \$0.67 to \$0.79 real increase appears to be consistent with the estimates presented in Table 1 and the other assumptions made by the industry in its analysis. It appears instead that the industry may have been using a real price increase of approximately \$0.95.²³ Unless the industry further explains its calculation method and the real price increase assumed, the consumption estimates presented in

²²(...continued)

different example. Suppose the price of bread increased by 4% in one year from \$1.00 a loaf to \$1.04, while the overall rate of inflation was 10%. The real price of bread has actually decreased by approximately 6%. (More precisely, the real price in the second year is $\$1.04/\$1.10 = \$0.945$, a decrease of 5.5%.) But by the type of calculation apparently employed by Philip Morris, the real price of bread would incorrectly appear to have risen. In particular, under the erroneous calculation, the nominal price increase of 4 cents would be discounted by 10% to yield an alleged 3.6 cent real increase. But it would be incorrect to say that the real price of bread went up by 3.6 cents, or 3.6%, when the price of bread rose less than the general rate of inflation.

²³ The additional assumption required to deduce the price increase used is the specific functional form of the demand function used by the industry. If a constant elasticity demand function is used, it can be calculated that in order to reach the results reported in Table 1, the industry must have used a real price increase of approximately \$0.95 in the year 2007. Specifically, Table 1 presents a consumption estimate for the year 2007 of 269.3 billion cigarettes when a demand elasticity of -0.75 is assumed. The industry analysis indicates that the industry calculations also assumed a secular downward trend in demand of 2.5% per year, a 1997 price of \$1.82, and a 1997 consumption level of 477 billion cigarettes. The 269.3 billion consumption estimate for the year 2007 is consistent with these assumptions only if a real price increase of \$0.963 is used in the calculation, using the formula: $269.3 = 477 \times ((1.82 + 0.963)/1.82)^{-0.75} \times (1 - 0.025)^{10}$. The implied price increase is similar but slightly lower (\$0.933) for the year 2007 estimate using the -0.5 demand elasticity.

Alternatively, the use of a linear or semi-log demand function would be consistent with lower real price increases. However, a property of these demand functions is that the elasticity of demand increases as real price rises, which may not be true in the cigarette industry. See FTC Staff Report at 37.

the industry's Table 1 and the industry's analysis of the effect of the proposed settlement on cigarette consumption cannot be fully evaluated.²⁴

In sum, although the industry appears to forecast a much larger price increase by the year 2007 than do the FTC staff and other analysts, the difference arises almost entirely from the fact that the industry presents its price increase estimate in nominal terms (which includes inflation) rather than in real terms (as do the FTC staff and other analysts). The industry's estimate of a nominal price increase of \$1.52 corresponds to a real price increase of only \$0.67 to \$0.79. This range is substantially the same as the \$0.72 estimate of the FTC staff. The industry's analysis of future cigarette consumption is harder to evaluate because the industry's assumptions are not fully specified. Nevertheless, it appears that the assumptions used tend to exaggerate the likely future decline in consumption, unless the real price of cigarettes to the consumer rises by substantially more than the amount necessary to pass on the cost of the annual payments and the scheduled increases in excise taxes.

V. The Industry's Analysis of Industry Profits Under the Proposed Settlement

The industry also challenges the FTC staff's view that an increase in retail cigarette prices beyond what is necessary to pass through to consumers the per-pack payments required by the proposed settlement will confer windfall profits on the cigarette manufacturers. In the discussion concerning the industry's Table 3, the industry indicates that the additional revenue derived from higher retail prices will go to parties other than the manufacturers. In addition, the industry submits that the FTC Staff Report ignores various factors that would diminish industry profits. These criticisms are unpersuasive.

Table 3 of the industry analysis reworks the "200% price-increase ratio" scenario contained in the FTC Staff Report.²⁵ According to the industry (but not the FTC Staff Report), the wholesale price corresponding to the FTC staff's estimated retail price (\$3.04) is \$1.42 per pack. The industry claims, however, that if the cost components of this retail price are estimated correctly, the corresponding wholesale price is actually much lower (\$0.77 per pack). This latter

²⁴ If the industry assumed a real price increase of \$0.95 in its consumption analysis, and did not intend to incorporate a price rise reflecting the greater exercise of market power, this high increase (compared to the \$0.72 projected by the FTC staff) would likely cause the decline in consumption to be overstated.

²⁵ See FTC Staff Report at 34, note 92.

estimate of the wholesale price is lower than the per-pack figure (\$0.80) that the industry claims as the actual 1996 wholesale price.²⁶

The analysis reflected in the industry's Table 3 errs in two fundamental ways. First, the analysis incorrectly mixes real and nominal prices.²⁷ When considering payments the tobacco industry will make, the industry includes nominal cost increases due solely to inflation. For example, the FTC Staff Report's value of \$0.62 for the settlement payment is the correct value of the payment in real terms, while the industry value of \$0.83 incorporates increases due to inflation.²⁸ Yet the industry does not simultaneously include inflation in the retail price figure (which would increase it beyond the \$3.04 real level). Because the industry analysis treats inflation inconsistently -- inflating its costs but not its revenues -- it creates the fictitious appearance that manufacturers' prices and profits would be significantly lower than the FTC Staff Report suggests.

Second, the industry misconstrues the FTC Staff Report's analysis. The retail price of \$3.04 was not assumed, but rather was derived from the current price of \$1.90 by adding a hypothesized price increase reflecting increased industry coordination, adding the cost of the annual payments, and subtracting anticipated savings in advertising and legal costs. If the settlement were to impose costs on the industry in addition to the annual payments, as the industry supposes, the FTC staff analysis would treat these costs in the same way as the annual payments: they would be passed through to consumers. Thus, if the costs imposed by the settlement are higher than assumed in the FTC staff's scenario, as the industry claims, then they would push the retail price up higher rather than reduce the manufacturers' price (the wholesale price).²⁹ The industry's table creates the misleading impression that profit margins would shrink; instead, the primary distributional effect that would arise if the settlement imposes additional

²⁶ The FTC staff did not derive the \$1.42 figure provided in the industry table and has never attempted to estimate manufacturers' prices. Instead, the FTC staff analyzed industry profit margins, based upon data from the firms' SEC 10-K submissions.

²⁷ The FTC staff analysis, in contrast, consistently uses real prices in constant 1997 dollars.

²⁸ Similarly, the industry figures for the trade margin include increases due solely to inflation. The industry has not explained why trade margins would increase in real terms in the competitive cigarette distribution sector. See discussion at note 16, *supra*. Finally, the FTC staff's retail price of \$3.04 was the retail price before sales tax. Since sales tax was not included to begin with, it is not appropriate for the industry to subtract it.

²⁹ Indeed, the FTC Staff Report recognized that if the law crediting the \$0.10 to \$0.15 per-pack excise tax against the settlement payments is rescinded, as now seems likely, the result will be to raise cigarette prices with little effect on industry operating profits. See FTC Staff Report at 33, note 90.

costs on the tobacco industry is that these costs will be shifted to cigarette consumers (with little effect on industry profits).

The tobacco industry paper also submits that the FTC Staff Report failed to consider, or gave insufficient weight to, various factors that would diminish future industry profits. Each factor is addressed below.

1. Current Profit Margins

The analysis in the FTC Staff Report assumed that the average domestic cigarette firm earns a \$0.32 operating profit per pack. The industry indicates that this assumption exaggerates company profits and that the correct figure (including Brown & Williamson in the calculation) is \$0.30. If the industry is correct, this adjustment does not materially affect the conclusions of the FTC Staff Report. The level of profits would fall slightly in scenarios that assume a settlement as well as in those that do not.³⁰ Such an adjustment would not materially affect the analysis of the settlement's effect on industry profits, because that effect is derived from the difference in profits between two scenarios and not from the specific level of profits in those scenarios.

2. Fixed Costs

According to the industry, the FTC Staff Report incorrectly assumes that all industry costs are variable, and that therefore proportionate declines in revenues are matched by a similar rate of decline in costs. The industry claims (at p. 6) that under the Staff Report's assumption that all costs in the industry are variable, "a sales volume loss of one billion cigarette packs would erode industry profits by \$300 million," when the loss would actually approximate \$640 million (because \$340 million in fixed costs would remain).³¹ The industry's analysis implicitly assumes that domestic factories would reduce their output and would be forced to sell idle plant and equipment at liquidation prices. The industry's assumption is questionable and would represent a departure from recent history: domestic cigarette output has risen even as domestic consumption has declined, because exports have increased.^{32, 33}

³⁰ For example, adding two cents per pack to industry costs would result in a reduction of less than 7% in industry profits in the baseline scenario over the 25-year time span (\$97 billion versus \$104 billion).

³¹ Fixed costs are those costs that are independent of the quantity of goods produced in a short period of time, such as a year. Variable costs vary according to the quantity of goods produced. Even so-called "fixed costs" can vary over longer periods of time.

³² For example, total output from domestic plants increased from 714 billion units in 1990 to 760 billion units in 1996 -- despite a reduction of 40.2 billion units of output sold in the U.S.

(continued...)

3. Shift Toward Discount Brands

The examples in the FTC Staff Report assumed that the settlement would not alter the mix of industry sales between premium and discount brands. The industry submits that this assumption fails to recognize that smokers are likely to shift away from premium brands and prefer discount brands in the wake of the settlement, thereby reducing industry profits. The industry analysis, however, does not explain why this shift would occur. In fact, various market forces that come into play under the proposed settlement appear to point in opposite directions. On the one hand, the settlement's limitation on advertising could reduce the attraction of premium brands, and thus reduce their sales relative to discount and generic brands. Alternatively, the significant increase in the price of all brands would reduce the percentage difference in price between premium brands and discount brands, possibly making the former more attractive to consumers. Historically, the price gap between premium and discount brands, rather than the absolute level of cigarette prices, has been an important variable influencing the mix of products sold.³⁴ Accordingly, there appears to be no compelling reason to anticipate a shift away from premium brands.

4. Legal Costs

The industry posits that the FTC Staff Report incorrectly assumes that industry marketing and legal costs will decline under the settlement. The industry argues that legal costs may not fall in view of the industry's continued exposure to individual trials and its additional burden of complying with new regulatory schemes, notwithstanding the provisions of the settlement that will prohibit or deter some lawsuits. Even if the industry correctly forecasts higher legal costs of a few cents per pack, the effects on industry profits will be small.

³²(...continued)

during this period. Accordingly, even an increase in the rate of decline in domestic consumption would not necessarily result in a reduction in total domestic production, due to the increasing demand for U.S. cigarettes abroad. Exports of U.S.-made cigarettes rose almost 50% over the 1990-96 period. See the following Internet site:
<http://usda.mannlib.cornell.edu/data-sets/specialty/94012/>.

³³ Moreover, the FTC Staff Report's assumption that all costs become variable over time recognizes, as the industry's criticism does not, that firms may have the opportunity to save on fixed expenditures by choosing not to replace depreciating plant and equipment as demand declines.

³⁴ This price effect has been observed in state markets: the higher the average price of all cigarettes in a state, the greater the share of the market accounted for by premium brands. R. Sobel & T. Garrett, Taxation and Product Quality: New Evidence from Generic Cigarettes, 105 J. Pol. Econ. 880 (1997).

5. Interest Costs Associated with the Up-Front Payment

The FTC Staff Report recognized the up-front settlement payment of \$10 billion as a cost imposed on the industry. The industry suggests (at page 6) that the Staff Report also should have included the "interest costs" of financing that payment. That suggestion is inappropriate: to include both the \$10 billion and the interest charges that would arise if the cigarette companies borrowed the \$10 billion would count the same cost twice.³⁵

6. Post-Settlement Increases in State and Federal Taxes

Because the FTC Staff Report's analysis was conducted in real (constant 1997 dollar) terms, increases in federal and state taxes at the rate of inflation were implicitly incorporated. There is no support for the industry's claim that the Staff Report ignores the likelihood that state and federal excise taxes will continue to rise after the settlement.³⁶

7. Youth Surcharge

The examples in the FTC Staff Report do not take into account the possible payment of "look-back" surcharges if youth smoking is not reduced to target levels. The Staff Report explains that the magnitude of the surcharge is hard to gauge because up to 75% of the surcharge could be abated if the industry complies with the terms of the settlement. The industry analysis implies that this exclusion leads the Staff Report to overstate industry profits. But a substantial overstatement is unlikely even if the youth smoking targets were not met and the FDA did not rebate the penalty: the maximum penalty amounts to \$0.08 to \$0.10 per pack at expected output levels and likely would be passed on to consumers.³⁷

³⁵ If the \$10 billion is borrowed at market rates, the stream of loan payments would have a present value of \$10 billion.

³⁶ The examples in the Staff Report do not account for the possibility that tax increases would occur at a rate greater than the inflation rate. Yet even in this event, the overall impact on the Staff Report's estimates of changes in profits under the settlement would be minimal under the baseline assumption that manufacturers completely pass taxes through to consumers.

³⁷ The penalties likely would be passed on to consumers because they are tied to the output of the firms in much the same manner as the annual payments are tied to output. In particular, they are allocated among manufacturers in proportion to their market shares in any given year for all domestic sales, not just youth sales. See Appendix V.B.3, p. 54 of the proposed settlement. Thus, the penalties are a cost of selling more cigarettes, just as the cost of tobacco is a cost of selling more cigarettes, and they would be passed on to consumers for the same reasons that other variable costs are passed on to consumers.

VI. Conclusion

Although any estimates of industry prices and profits for 25 years into the future are subject to much uncertainty, the industry critique of the FTC staff analysis did not uncover any significant biases in the analysis. The FTC staff remains of the view that the antitrust exemption and other features of the proposed settlement could permit firms to fix prices or otherwise increase coordination, and that such coordination would be expected to generate dramatic increases in industry profits.

FOR IMMEDIATE RELEASE
Thursday, October 9, 1997

Contact: Scott Williams
202-739-0225

TOBACCO COMPANIES RELEASE FINANCIAL ANALYSIS
OF IMPACT OF NATIONAL TOBACCO RESOLUTION

WASHINGTON, D.C. — Philip Morris Incorporated, R.J. Reynolds Tobacco Company, the Lorillard Tobacco Company, and U.S. Tobacco today released a financial analysis of the impact on the industry of the proposed national resolution. Brown & Williamson Tobacco Corporation will provide a supplement to the task force shortly. The report was prepared at the request of the Senate Democratic task force on tobacco, headed by Senator Kent Conrad (D-ND).

The report outlines the major economic factors that will be affected by the substantial changes brought about by the provisions contained in the proposed resolution, including a dramatic transformation on how cigarettes are manufactured, marketed, and sold in the United States. The key conclusions of the report include:

- The price of a pack of cigarettes would rise by a minimum of \$1.50 over the next ten years as a result of the proposed resolution. This projection reflects conservative assumptions about adjustments in trade margins, sales taxes, as well as the inflation adjustment for the annual payment. By 2007 the industry projects the price of a pack of cigarettes will have risen by \$1.52.
- Cigarette consumption would decline by up to 43 percent in the next decade. The industry projects that cigarette consumption will decline from 477 billion cigarettes in 1997 to 269.3 billion in 2007. The industry has used conservative assumptions, and believes the decline in consumption could be greater.
- Despite claims that the possibility of a national tobacco resolution has driven tobacco company stock prices higher, the stock price of each tobacco company has trailed the S&P 500 since year-end 1995 and 1996.

The report also criticizes a recent Federal Trade Commission (FTC) analysis as "seriously flawed" and cites a series of underlying methodological errors within the FTC report.

Copies of the economic analysis can be obtained by calling Bozell Sawyer Miller Group at 202-739-0223.

Impact of the Proposed Resolution on the U.S. Cigarette Industry

The Conrad Senatorial Task Force has requested the industry to estimate the impact of the proposed resolution on cigarette consumption in the U.S. and its potential effect on individual tobacco company stock prices. This paper attempts to respond to this request despite the significant uncertainties associated with these topics.

Cigarette Consumption

There has been much speculation on the impact of the proposed resolution on the level and nature of future cigarette consumption in the U.S. Any projection is a perilous exercise, but in this specific instance, it is particularly difficult to predict with any degree of confidence the proposed resolution's effect on cigarette consumption. This inherent uncertainty arises from the unprecedented magnitude and scope of the combined impact of the numerous economic and non-economic measures contained in the proposed resolution.

Cigarette consumption in the U.S. is estimated to have reached a level of 482.7 billion units in 1996 reflecting an annual average decline of 1.3 percent since 1990.¹

Cigarette consumption levels are a function of numerous parameters and their interrelationships. These parameters include price, price gaps, the availability of substitute products, demographics, inflation, consumer disposable income, social attitudes towards smoking, smoking restrictions, etc. Many of these parameters are subject to considerable uncertainty and will be significantly impacted by the proposed resolution.

Economists measure the impact of real price movements on the purchase of any product through econometric modelling which yields a price elasticity ratio. For example, a price elasticity ratio of -0.5 means that a real price increase of 10 percent generates a reduction in demand of 5 percent. Numerous studies have been conducted that estimate the price elasticity of demand for cigarettes in the U.S. market. The vast majority

¹ Industry estimates of consumption derived from industry shipments adjusted for trade inventory movements.

suggest that elasticity falls between -0.40 and -0.45.² These studies rely on historical data to measure elasticity and generally derive estimates based on "short run" or immediate impacts. Some studies have attempted to measure the "long run" elasticity of demand for cigarettes. A study by Economics Nobel Prize laureate, Gary Becker, estimated that the long run response to a permanent change in price falls between -0.73 and -0.79 with an average elasticity factor of -0.75.³ The Becker study implies that a 10 percent increase in real prices will cause a short run decrease in cigarette sales of approximately 4 percent and a long run decrease in cigarette demand of 7.5 percent.

A March 1994 analysis by Gravelle and Zimmerman of the Congressional Research Service⁴ also highlights the fact that the expected long run reduction in demand for cigarettes will be much greater than in the short run. The study implies that the long run elasticity could be as high as -1.2. Thus, under this measure, a 10 percent price increase would result in a long run decline in cigarette sales of 12 percent.

Price elasticity of demand is not independent of real price movements. When consumer prices reach unprecedented levels, sensitivity to price also rises and thus elasticity ratios become more pronounced. Accordingly, the industry conservatively estimates that as a result of the real retail price increases that will result from the implementation of the proposed resolution, price elasticity is likely to fall between -0.5 and -0.75.

U.S. cigarette consumption is estimated to have a negative annual underlying trend, independent of real price movements, of between 1 percent and 2 percent.⁵ The proposed resolution incorporates a wide array of measures which will clearly impact this underlying trend in demand. These measures include access restrictions, well funded public education campaigns and billions of dollars earmarked for cessation programs. While it is difficult to predict in an accurate manner the extent to which the underlying negative trend will accelerate, it can safely be assumed that at a very minimum it will increase to a range of between 2 percent and 3 percent.

² 1989 Surgeon General Report, Table 12 on Page 535.

³ Becker et al, Analysis of Cigarette Addiction, the American Economic Review, June 1994, Volume 84, No. 3, Page 407, Table 4.

⁴ Gravelle and Zimmerman, Cigarette Taxes to Fund Health Care Reform: An Economic Analysis, March 8, 1994. Congressional Research Service, The Library of Congress.

⁵ Patrick Fleener, Tax Foundation - The Effect of Excise Tax Differentials on the Interstate Smuggling and Cross-Border Sales of Cig. articles in the U.S., October 1996, as well as industry estimates.

In recent weeks the public health community and numerous officials have stated that retail prices will increase by 62 cents per pack by the fifth year of implementation of the proposed resolution. This number is grossly underestimated. For example, it totally ignores the multipliers inherent in the retail price structure of cigarettes, e.g., trade margins and state and local general sales taxes. The industry conservatively estimates that retail prices will increase by an absolute minimum of \$1.20 per pack by the fifth year and by an absolute minimum of \$1.50 per pack by the tenth year of implementation of the proposed resolution.⁶ Accordingly, retail prices will rise at least to the levels that are being advocated by the public health community and the President without the imposition of any additional Federal or State excise taxes.⁷

The following table highlights cigarette demand levels that are derived from price elasticity factors of -0.5 and -0.75 and a downward underlying trend in demand of 2.5 percent:

Table 1

<u>Projected Cigarette Consumption</u> <u>1997 - 2007</u>					
(Billion Cigarettes)				<u>% Variance</u>	
<u>Elasticity</u>	<u>1997</u>	<u>2002</u>	<u>2007</u>	<u>2002 vs.</u> <u>1997</u>	<u>2007 vs.</u> <u>1997</u>
-0.50	477.0	337.8	301.1	(29.2)%	(36.9)%
-0.75	477.0	300.6	269.3	(37.0)%	(43.5)%

Over a ten year period it is estimated that cigarette consumption would fall by between 175.9 billion cigarettes and 207.7 billion cigarettes versus 1997 estimated consumption of 477 billion cigarettes.

Table 2 highlights the above-mentioned projections versus cigarette consumption levels that would otherwise have materialized as a result of the secular downward trend of approximately 1.5 percent

⁶ See detailed retail price projections on Table 5, Page 9.

⁷ Over and above the prevailing average State Excise tax of \$0.33/pack and the \$0.39/pack Federal Excise tax as of 2002.

Table 2

<u>Projected Cigarette Consumption</u> <u>1997 - 2007</u>			
(Billion Cigarettes)			
	<u>1997</u>	<u>2002</u>	<u>2007</u>
Base	477.0	442.3	410.1
Scenario 1	477.0	337.8	301.1
Scenario 2	477.0	300.6	269.3
% Variance			
Versus Base:			
Scenario 1	-	(23.6)%	(26.6)%
Scenario 2	-	(32.0)%	(34.3)%

Such volume declines will have a significant adverse impact on the entire cigarette supply chain. Industry pretax earnings will suffer even if unit margins rise to offset the higher burden of unit fixed costs in the face of declining sales volumes.

The Federal Trade Commission has recently issued a report that alleges that the industry could reap substantial benefits from the proposed resolution.⁸ Indeed, the FTC report claims that the industry could raise prices with impunity and thereby generate huge windfall profits. The report also claims that the industry would retain two thirds of incremental revenues to the detriment of the public sector. The report's analysis and conclusions are seriously flawed for the following reasons:

- (i) The report erroneously assumes that increases in the retail price of cigarettes beyond the level required to pass through the settlement payments will accrue solely to the manufacturers. For example, under the FTC report's "200% scenario" which entails a retail price of \$3.04/pack, the FTC report assumes that

⁸ Federal Trade Commission, *Competition and the Financial Impact of the Proposed Tobacco Industry Settlement*, September, 1997.

the manufacturers' price⁹ net of taxes and settlement payments will be \$1.42/pack. As highlighted on Table 3, had the FTC used more accurate assumptions in its projections, it would have concluded that the manufacturers' price would be significantly lower than its study suggests under its retail price assumptions.

Table 3

(\$ / pack)	<u>200% Price Increase</u>	
	<u>FTC Projection</u>	<u>2007 Amended FTC Projection¹⁰</u>
Retail Price	\$3.04	\$3.04
Federal Excise Tax ^(a)	(0.24)	(0.39)
State Excise Tax	(0.32)	(0.33) ^(b)
Settlement Payment ^(c)	(0.62)	(0.83)
Trade Margin	(0.44) ^(d)	(0.58) ^(c)
Sales Tax at 4.7%	--	(0.14)
Manufacturers' Price	<u>\$1.42</u>	<u>\$0.77</u>

(a) After the publication of the report, the FTC stated that the \$0.15/pack excise tax credit (\$0.10/pack in 2000 and \$0.05/pack in 2002) should not have been factored into its assumptions.

(b) The weighted average state excise tax prevailing in July 1997 was \$0.3362/pack reflecting increases in New Hampshire, Utah and Rhode Island.

(c) The minimum 3 percent per annum escalator is omitted by the FTC.

(d) The FTC report does not explicitly divulge the trade margin assumption. The trade margin is derived from the FTC report by deduction and is consistent with the theory expounded in the report that any increase in retail price accrues solely to the manufacturers.

(e) This conservatively assumes that the trade will earn a margin of only 12 percent on any increase in retail price beyond the \$1.90/pack.

For perspective, it should be highlighted that the average manufacturers' net selling price in 1996 was \$0.80/pack.

⁹ Manufacturers' price to wholesalers.

¹⁰ It follows from this analysis that the retail price would have to be \$3.81/pack to yield a manufacturers' price of \$1.42/pack.

- (ii) The assumptions pertaining to industry profitability are simplistic at best.

The FTC report uses a weighted average operating profit of \$0.32/pack. The Brown and Williamson Tobacco Corporation (B&W) which accounted for 17.2 percent of industry sales volume in 1996 is omitted from this calculation. Had the FTC report included B&W's operating profits in the weighting, the average operating profit would decline to \$0.30/pack, a difference of \$500 million dollars in annual industry pretax earnings.

The report fails to specify that a significant proportion of the industry's cost base is composed of fixed costs, i.e., costs that are independent of throughput along the entire supply chain. The report simply assumes that all industry costs are variable. In other words, the FTC assumes that all fixed costs will decline in line with projected volume declines. Under the FTC's premise, a sales volume loss of one billion cigarette packs would erode industry profits by \$300 million dollars. In fact the loss would be more than double this level, as fixed costs will remain and the industry would lose the full marginal contribution generated by this volume, i.e., approximately \$640 million dollars.

The report admits that in order to "simplify the analysis" it ignores the potential impact of a change in mix, i.e., a potential shift in demand from premium priced brands to either discount or generic products. Premium brands currently account for approximately 72 percent of total sales. For purposes of illustration, should this segment decline to a level of 60 percent with a corresponding increase in the discount segment, the net cost to the industry would be in excess of \$600 million in operating profits at prevailing unit margin levels.¹¹

The FTC report estimates potential marketing and legal expenditure savings that ostensibly would be derived from the implementation of the proposed resolution. It is by no means certain that the industry will in fact generate savings in its legal expenditures. The FTC fails to take account of the industry's continued exposure to individual litigation and to its obligations in terms of attorneys' fees. Moreover, the FTC fails to account for any cost increases associated with the proposed resolution. It notably omits from its assumptions:

- the interest costs related to the industry up-front payment of \$10 billion.

¹¹ A shift in consumption to the discount segment will result in a lower average retail price than otherwise would be the case and hence volume would be marginally higher. The resulting higher volume would only partially offset the significant margin erosion resulting from an adverse change in mix.

- the significant expenditures required to fully comply with the broad array of regulatory measures that are contained in the proposed resolution.
 - the implications of the proposed resolution on the cost of tobacco. Future legislation will in all likelihood contain provisions designed to protect domestic tobacco growers and their communities from the impact of declining volumes. These provisions are likely to increase the direct or indirect cost of tobacco.
 - any potential surcharge that would be imposed on the industry in the event that underage smoking incidence would fail to meet the reduction targets that are specified in the proposed resolution.
- (iii) The report chooses to neglect the historical pattern of state excise tax increases which have risen at an annual average rate of approximately 5 percent since 1990. It is simply unrealistic to assume that both the Federal Excise Tax and State Excise Taxes will remain at current levels for the next 25 years if industry profitability should ever reach the unprecedented levels that are suggested by the FTC report.

Company Share Prices

The inherent uncertainty pertaining to the impact of the proposed resolution on the level and nature of future cigarette consumption and on industry profitability also clearly applies to the reaction of the stock market.

It is an indisputable fact that the stock prices of tobacco companies historically have been volatile and that the relative Price/Earnings ratios of these companies have been adversely impacted by the threat of litigation, despite the fact that the industry has consistently prevailed in the courts.

There are those on Wall Street who believe that the elimination of substantial event risk provides predictability and thus should be a net positive for the tobacco companies. They claim that these companies are all highly diversified and thus the market discount afforded to these non-tobacco assets would be removed.

Conversely, there are others on Wall Street who believe that the proposed resolution will be a net negative for the tobacco companies. They believe that the terms of the resolution are too onerous and that these companies can sustain their successful track record in the courts. Moreover, they argue that any potential expansion in their respective Price/Earnings ratios would be fully offset by the erosion in profitability that these companies will incur as a result of the resolution.

The fact of the matter is that no one is in a position to predict what may happen to individual stock prices.

Table 4 highlights the performance of individual stock prices versus the S&P 500 at market close on September 25, 1997:

Table 4

<u>September 25, 1997 Stock Prices</u>			
	<u>Year-End 1995</u>	<u>Year-End 1996</u>	<u>P/E Ratio</u>
BAT Industries	(7.7)%	8.2%	11
Loews	42.8%	18.8%	14
Philip Morris Companies	38.0%	10.2%	15
RJR Nabisco	8.3%	(2.0)%	13
S&P 500	53.4%	21.7%	24

Table 4 clearly highlights that the stock market's reaction to date to the terms of the proposed resolution has been negative as every single company has trailed the S&P 500 since both year-end 1995 and year-end 1996 despite solid profit growth and attractive dividend yields.

Wall Street is oriented towards the short term, and the bulk of the projections emanating from Wall Street focus on a period of only 3 years and, in some rare instances, 5 years. In addition, in a bull market everything is viewed optimistically. The long term impact remains uncertain and will depend on each individual company's ability to generate earnings growth through its other businesses.

->

Dick Riel
 11.

Table 5

Minimum Retail Price Projectionsⁿⁿ
 (\$ / pack of 20 Cigarettes)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
On-going Settlement Payments ⁿⁿ	-	0.360	0.414	0.517	0.647	0.715	0.737	0.759	0.782	0.805	0.829
Industry Price ⁿ¹	-	0.027	0.054	0.082	0.111	0.145	0.171	0.202	0.234	0.267	0.300
Federal Excise Tax	-	-	-	0.100	0.100	0.150	0.150	0.150	0.150	0.150	0.150
Trade Margin ⁿ¹	-	0.053	0.064	0.095	0.117	0.137	0.144	0.152	0.159	0.167	0.174
Sales Tax ⁿ²	-	0.021	0.025	0.037	0.046	0.054	0.055	0.059	0.062	0.065	0.068
Total Increase	-	0.481	0.557	0.831	1.021	1.197	1.256	1.322	1.387	1.454	1.521
Retail Price	1.82 ⁿ³	2.28	2.35	2.65	2.84	3.02	3.08	3.14	3.21	3.27	3.34

ⁿ¹ Reflects on-going settlement payments adjusted for volume and indexed at minimum annual rate of 3%.

ⁿ² Only reflects adjustment for inflation of 2.5%.

ⁿ³ Assumes a combined 12% rate for both wholesalers and retailers. Current average trade margin, expressed as a percentage of retail price, exceeds 20% and thus this assumption is extremely conservative.

ⁿ⁴ Reflects national average tax of 4.7%.

ⁿ⁵ Average weighted net price to consumer.

ⁿⁿ These projections exclude any additional federal or state excise taxes and any additional payments that may be required under the terms of the proposed resolution, e.g., surcharges pertaining to the lookback provision.

- 9 -
 10/10/97

Competition and the Financial Impact of the Proposed Tobacco Industry Settlement



Requested by the
Congressional Task Force
on Tobacco and Health.

Prepared by the
staff of the
Federal Trade Commission.

September 1997

This report has been prepared by staff members of the Bureaus of Economics, Competition, and Consumer Protection. The views expressed do not necessarily reflect those of the Commission or any individual Commissioner.

Competition and the Financial Impact of the Proposed Tobacco Industry Settlement

This report has been prepared by staff members of the Bureaus of Economics, Competition, and Consumer Protection. The views expressed do not necessarily reflect those of the Commission or any individual Commissioner.

The information contained in this report is taken from public sources. References to trial exhibits reflect information made public in the *FTC v. B.A.T Industries* 94 Civ 7849 (filed October 31, 1994, S.D.N.Y.)

Any questions about this report should be directed to Jonathan B. Baker, Director of the Bureau of Economics, at (202) 326-2930.

Executive Summary	i
I. Overview of the U.S. Cigarette Industry	1
A. Brief History of the Cigarette Industry	1
B. Structural Features Encouraging Industry Coordination	3
C. Evidence of Market Power from Industry Conduct	7
D. Imperfect Coordination and Divergent Firm Incentives	9
E. Current Limits on Coordination	11
II. Competition and the Expected Effects of the Proposed Settlement	21
A. Selected Settlement Terms and Their Potential Effect on Competition	21
1. Annual Payment Structure	21
2. Broad Antitrust Immunity.	23
3. Advertising and Marketing Restrictions.	23
4. Non-Participating Companies Could Face Added Costs	24
5. R&D Incentives.	24
B. The Pass-Through of Tax Increases to Prices	25
III. Examples of the Effect of the Settlement on Prices, Profits, and Public Sector	
Revenues	28
A. Description of the Baseline Scenario and the Calculation Method	29
B. Prices, Industry Profits, and Public Sector Revenues in the Baseline	
Scenario	32
C. The Effect of Increased Industry Coordination	34
D. Issues Not Addressed in the Example	36
Appendix:	
An Analysis of the Proposed Antitrust Immunity	
For Tobacco Product Manufacturers	A-1

Executive Summary

This report has been prepared by staff of the Federal Trade Commission in response to the August 1, 1997 request from Representatives Martin T. Meehan, Henry Waxman, and James Hansen on behalf of the members of the Congressional Task Force on Tobacco and Health for an analysis of the potential economic impact of the proposed settlement with the tobacco industry on cigarette prices, industry profits, and government revenues. The report represents the work of the Bureau of Economics, Competition, and Consumer Protection. As a staff report, it does not necessarily reflect the views of the Commission or any individual Commissioner.

Expertise of the Commission

The staff of the Commission has extensive experience, collected over decades, examining the competitive structure of the tobacco industry as well as its advertising and marketing practices. Pursuant to the Federal Cigarette Labeling and Advertising Act, 15 U.S.C. § 1331, the Commission annually reports to Congress on sales volume and advertising expenditures by the major domestic cigarette manufacturers. The Commission has additional responsibilities under the Cigarette Labeling and Advertising Act, and has investigated and periodically challenged cigarette advertising under Section 5 of the FTC Act, 15 U.S.C. § 45, which prohibits unfair or deceptive acts or practices. In addition, the Commission has investigated competitive practices of the cigarette firms and challenged the 1994 merger between the American Tobacco Company and Brown & Williamson.

Summary

One primary goal of the settlement is to reduce overall use of tobacco products, and in particular to reduce youth smoking. That goal is intended to be achieved by advertising and marketing restrictions, by raising the price of cigarettes and by a provision imposing financial penalties on cigarette manufacturers if certain goals for youth smoking reduction are not met. The price increase is realized by requiring manufacturers to make annual industry payments that will, among other things, fund various federal and state programs relating to tobacco usage. The proposed settlement contemplates that these industry payments will be "passed through" to consumers, which will result in higher cigarette prices, and presumably in turn, a reduction in youth smoking.

From an antitrust and economic perspective, a proposal that Congress enact a statute enabling private firms to agree to raise prices to pay past liabilities should be viewed with caution. This report does not directly address the policy choice between traditional antitrust and economic concerns and other important public policy and public health concerns. Rather, it is limited to the question posed by the Task Force -- the potential *economic* impact of the settlement on the industry and the public sector. Cigarette prices will rise if the settlement is enacted. This report addresses how much prices will rise and who will benefit from the anticipated increased revenues that flow from the price increases.

One critical aspect of the proposed settlement is a provision that confers on the tobacco companies a broad degree of immunity from the antitrust laws. A narrowly focused exemption, permitting the firms to collaborate with respect to certain conduct that would curtail advertising to underage smokers, might be appropriate to advance the stated goals of the settlement. But as currently drafted, the antitrust exemption would permit these firms to "jointly confer, coordinate, or act in concert" to achieve all the goals of the settlement. Such sweeping antitrust immunity appears to be unnecessary for implementation of the settlement. Moreover, broadly drafted immunity might permit a variety of activities that would enable the firms to raise prices of cigarettes beyond the level needed to satisfy industry payments under the settlement.

The important conclusions of the report are:

- The major cigarette manufacturers may profit from the proposed settlement by increasing the price of cigarettes substantially above the amount of the annual payments that are to be paid to the public sector. Based on the history of the industry and its current structure, the companies likely would raise prices by at least the per-pack payments they would be required to pay to the public sector under the settlement, even in the absence of an explicit requirement to "pass through" the cost of the payments. Moreover, certain features of the proposed settlement, particularly the antitrust exemption, have the potential to reduce competition and enhance the ability of the cigarette companies to "coordinate" price increases. If so, the industry may be able to increase prices and generate substantial profits.
- Even assuming that prices increase by no more than the annual payments, the major cigarette firms may profit substantially from the proposed settlement through limitations on liability and reductions in advertising and litigation costs. Thus, the industry may be able to achieve significant civil liability limitations for as little as \$15 billion (\$10 billion in present value, *i.e.*, in current dollars) in reduced operating profits net of income tax. If coordination is enhanced, then they may gain both the liability limits and a significant increase in profits.
- The report provides several possible but uncertain illustrations of the potential effect of the settlement on prices, profits, and public sector revenues, if coordination is enhanced and the firms raise price by more than necessary to simply "pass through" to consumers the amount of the annual payments. Under one scenario, for example, the additional operating profits net of income tax due to enhanced industry coordination could amount to \$36 billion over the next 25 years (\$16 billion present value). Under another scenario, reflecting substantially more effective coordination than at present, possible additional operating profits net of income tax may be \$123 billion over the next 25 years (\$56 billion present value).

- Higher prices from more effective coordination would result in larger revenues for the public sector as well as increased operating profits to the cigarette manufacturers. The public sector would benefit through greater excess profit penalties under the terms of the settlement and greater revenues from federal corporate income taxes. In general, the examples suggest that the companies would keep about two-thirds of the financial benefits of more effective industry coordination, leaving one-third for the public sector.
- The public sector would gain financially from the settlement proposal, although the annual payments made by the cigarette companies will most likely be considerably less than the \$368.5 billion "face value" of the proposed settlement. After taking into account the anticipated decrease in the volume of cigarettes sold (resulting from the likely increase in cigarette prices and a general decline in smoking in the U.S.), the public sector could realize revenues from taxes and the settlement payments of about \$207 billion (\$100 billion present value), assuming the settlement does not make coordination more effective.
- It is difficult to predict with confidence the price of cigarettes or profits to the cigarette manufacturers over 25 years because the nature of competition may be significantly affected by the proposed settlement. This report concludes that prices and profits could increase substantially, over and above what prices and profits would be in absence of any agreement -- particularly because of the present unduly broad scope of the antitrust exemption.

The report has three sections and an appendix. The first section describes the history and structure of the industry. The second describes certain provisions of the tobacco settlement, highlighting those (such as the antitrust exemption) that might contribute to a lessening of competition. To provide a tangible view of the potential economic effect of the settlement, the third section provides examples of what might happen to prices, profits, and public sector revenues if the settlement is adopted. Although the examples are illustrations rather than predictions, they help to indicate the kinds of effects and the possible magnitude of the effects that may occur if competition is reduced. The Appendix provides a legal analysis of the proposed antitrust immunity for tobacco product manufacturers.

Industry History and Structure

The cigarette industry has been characterized as an oligopoly in which the firms clearly recognize their mutual interdependence. Although no evidence of explicit collusion has been uncovered, economic histories indicate that the cigarette firms have, for long periods, been able

to price cigarettes above competitive levels, notwithstanding infrequent episodes of more intense price competition and product innovation.¹

Several structural factors support the industry's ability to raise prices above competitive levels. First, there are relatively few firms. Currently, there are only five significant firms and three (Philip Morris, R.J. Reynolds, and Brown & Williamson) account for about 90 percent of the market. Second, overall demand by adults for cigarettes is relatively insensitive to changes in price. Third, the industry is well insulated from entry by new firms. There has been some entry by extremely small firms but none of these firms has garnered a significant competitive presence. Finally, the opportunity for firms tacitly to coordinate price increases is enhanced because changes in price can be quickly matched by rival firms, making price-cutting an unprofitable short-run strategy.

The industry, however, while not an example of perfect competition, is pricing cigarettes today below the price that would be chosen by the industry if the companies were behaving as a perfect cartel. Firms that prefer a relatively low price, for example, may effectively limit the ability of their rivals to increase prices in a coordinated fashion.

The settlement could have an important effect on competition in this market. It has the potential to enhance the ability of these firms to coordinate their actions. In particular, as currently drafted, the antitrust exemption may allow explicit discussions of pricing and may also allow the firms to find means to tacitly collude or to induce reluctant firms to raise prices.

More effective coordination could have significant consequences. Any factors that enhance the firms' ability to coordinate likely would result in much larger price increases than would be associated with a simple pass-through of the settlement payments. While a substantial price increase in cigarettes may be contemplated as one immediate goal of the proposed settlement, the amount of the resulting price increase could be higher than the cost to industry of the settlement payments, resulting in higher industry operating profits.

¹ As the Supreme Court observed recently when commenting on the pre-1980s industry: "The cigarette industry . . . has long been one of America's most profitable, in part because for many years there was no significant price competition among the rival firms. . . . List prices for cigarettes increased in lock-step twice a year, for a number of years, irrespective of the rate of inflation, changes in the cost of production, or shifts in consumer demand." Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 213 (1993)(citation omitted).

Analysis of Specific Terms of the Settlement

The report analyzes the effects of various aspects of the settlement on prices and competition. One of the most important aspects of the settlement is an annual payment structure which specifies certain levels of payments, beginning at \$8.5 billion in 1998, increasing to \$15 billion in 2002, and remaining stable thereafter. The precise amount of the annual payments is linked to the volume of cigarettes sold each year and industry profits.

The report observes that there is reason to believe that cigarette prices will increase by more than is necessary simply to "pass through" the annual payments to consumers. First, many economic studies have demonstrated that the industry has effectively passed through to consumers the full amount of federal and state excise tax increases in the past. Based on this history, the report observes that at least 100 percent of the annual payments will likely be passed through. Second, the settlement has the potential to make future coordination between the firms simpler and this, in turn, would better facilitate the achievement of opportunities for price increases. These two factors suggest that the firms could raise price substantially more than the minimum necessary to pass through the settlement payments to consumers, and thus the overall "price-increase ratio" could be much higher than 100 percent.

Three aspects of the settlement have the potential to enhance the ability of firms to coordinate price levels, and thus to facilitate price increases. First, the settlement contains a broad antitrust exemption. Although this exemption is intended to enable the firms to coordinate activities to reduce youth smoking, it may also permit the industry members to discuss pricing arrangements or other agreements that will have the effect of increasing prices. While probably not the intent of the parties to the settlement, the exemption, as written, may increase the likelihood that prices will move closer to what a monopolist would charge. An appendix to the report provides more specific analysis of the exemption.

Second, the settlement imposes important restrictions on advertising and marketing intended to reduce the access and appeal of cigarettes to youth. The settlement imposes these and other restrictions as a means to achieve public health goals. Nevertheless, it should be recognized that advertising and marketing are important competitive tools. Advertising and promotion make it easier for new entrants or maverick firms with new products, lower priced products, or new brands to gain market share from the other firms in the market. As a result, restrictions on marketing could raise barriers to entry and expansion and ultimately lead to higher prices.

Third, the settlement could have a disproportionate effect on the small firms at the fringe of the market as well as potential entrants. For example, the settlement envisions that the non-participating firms will pay almost 50 percent higher annual payments over the life of the settlement than would be required if they had decided to participate in the settlement. These payments would be placed in an escrow account and could be reclaimed, with interest, 35 years later if not paid out in liability payments. Because of the difficulty of predicting the amount of

future liability payments and the long delay before any money could be reclaimed, these payments will likely be viewed as non-refundable costs of doing business. As a result, they could substantially raise the marginal costs borne by small firms and potential entrants, and may make it less likely they can effectively compete in the market.

Impact of the Settlement

To gauge the economic impact of the settlement on cigarette prices, quantity sold, retail sales revenues, cigarette manufacturing industry profits, and public sector revenues, the report provides several examples of possible outcomes. The report looks at several variables including (1) the extent to which cost increases have historically been "passed through" to consumers, (2) the level of competition and any change in that level of competition as a result of the settlement, (3) the reduction in advertising expenses and the reduction in litigation expenses, and (4) the consumer responsiveness to price increases. The examples are reported in Section III of the report.

The most critical factor is the ability of the firms to coordinate their actions as a result of the settlement. This factor is captured by the price-increase ratio. In the hypothetical examples analyzed below, industry operating profits decline if the firms are simply able to pass through 100 percent of the implicit tax increase, without achieving higher prices through a lessening of competition among the firms. Under such circumstances the price-increase ratio would be 100 percent. Operating profits increase, however, if coordination is made more effective and if, in consequence, the price-increase ratio is 125 or 200 percent. Assuming a 200 percent price-increase ratio, a possible but uncertain event, operating profit levels are over \$123 billion higher (\$56 billion in present value) than in the 100 percent price-increase ratio case. A 200 percent price-increase ratio augments public sector revenues by \$73 billion (\$33 billion in present value) in the example relative to the case in which the ratio is only 100 percent, reflecting the historical rate at which the industry passes through cost increases to consumers without any additional price increase resulting from improved coordination.

The hypothetical examples emphasize that as coordination is enhanced and the price-increase ratio rises, significant incremental profits and revenues are generated for industry and the public sector, respectively. The allocation of those additional monies between industry and the public sector, however, is quite unequal: about 2/3 of the resulting additional profits would be retained by the firms and 1/3 would go to the public sector in corporate taxes.

Finally, it is unlikely that the proposed settlement will generate the \$368.5 billion "face value" that has been posited as the public sector's gain from the annual payments. After taking into account the anticipated decrease in the volume of cigarettes sold resulting from the likely increase in cigarette prices and a general decline in smoking in the U.S., the examples indicate that public sector revenues, including taxes along with the new payments proposed by the settlement, could increase by about \$207 billion (\$100 billion present value) even if the settlement does not make coordination more effective.

Further Information

Questions about this report should be directed to Jonathan B. Baker, Director of the Bureau of Economics, at (202) 326-2930.

Competition and the Financial Impact of the Proposed Tobacco Settlement

I. Overview of the U.S. Cigarette Industry

Since the early years of the 20th century, the U.S. cigarette industry has comprised four to six major firms. Currently, five major firms -- Philip Morris, Inc., R.J. Reynolds Tobacco Company, Brown & Williamson Tobacco Corporation (B.A.T Industries), Lorillard, Inc. (Loews), and Liggett Group, Inc. -- produce over 99 percent of cigarettes sold in the U.S.¹ Overviews of the industry indicate that U.S. cigarette firms may have been able to set price above the level consistent with fully competitive behavior. Nonetheless, the history of the industry reveals instances of relatively more intense price or product competition. The inability of the industry to achieve full coordination that would lead to pricing approaching the monopoly level is probably attributable primarily to the inability of the firms to harmonize fully their divergent interests.

A. Brief History of the Cigarette Industry

Since its beginnings in the early 1900s, the U.S. cigarette industry has exhibited the characteristics of an oligopoly -- an industry comprising relatively few firms, each of which recognizes the interdependence of its actions with those of other firms. When such an industry is largely free from the threat of new competition by entrants, economic theory predicts that prices likely will exceed competitive levels. These supracompetitive prices could reflect coordinated behavior among industry participants,² although -- given the small number of competitors in this market -- supracompetitive prices also could emerge even absent coordinated behavior among

¹ The remainder of the market is divided among over 100 smaller manufacturers and importers.

² Coordination as discussed here does not require explicit agreements, and thus does not necessarily constitute a violation of the antitrust laws. As the Horizontal Merger Guidelines note (sec. 2.1, p. 18), "coordinated interaction includes tacit or express collusion, and may or may not be lawful in and of itself." U.S. Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines 18 (Apr. 2, 1992). Economic theory indicates that even without explicit coordination, the pricing that emerges from repeated oligopoly interaction can readily exceed the prices that firms would charge in settings where repeated interaction does not occur. See, e.g., J. Tirole, The Theory of Industrial Organization 239-276 (1988).

the members.^{3,4} In many periods including the 1950s through the 1970s, prices were generally stable or rising, with few outbreaks of more intense competition.

During other periods, however, prices and product innovation were less predictable. For example, lower-priced "ten-cent" brands were introduced at the start of the Great Depression as firms saw an opportunity to serve price-sensitive customers after the major cigarette makers had raised prices.⁵ Another period of competitive instability, involving new products and unstable prices, occurred when filter cigarettes were introduced in 1953-55. Price variation also increased in the early 1980s, with the introduction of discount cigarette brands.⁶ In 1980, Liggett introduced generic cigarettes that were sold with simple, plain labels and were priced 25 to 40 percent below the traditional full-priced premium cigarettes. This action was followed in 1984 by the introduction of branded discount cigarettes by Reynolds. These brands were priced between the generic and premium segments, packaged traditionally, and given greater marketing support than generics. Five years later, in 1989, Liggett introduced yet another category of discounted cigarettes, the deep-discount brands, that were priced below generics.⁷

Notwithstanding the price competition from discount brands during the period from 1980 to 1992, average cigarette prices appeared to rise faster than costs, and the price gap between the premium and discount brands grew through 1992.⁸ A major alteration in that pattern of price

³ See, e.g., J Tirole, supra note 2, ch. 5.

⁴ Histories of the cigarette industry tend to support the possibility of supracompetitive pricing. D. Greer, Industrial Organization and Public Policy 278-279 (3rd ed., 1992); R. Kluger, Ashes to Ashes 43-53 (1996). The success of the Tobacco Trust was short circuited by an antitrust challenge and its subsequent dissolution into four separate firms. See F. M. Scherer and D. Ross, Industrial Market Structure and Economic Performance 250-251 (3rd ed., 1990) and R. Schmalensee, The Economics of Advertising 125-133 (1972).

⁵ Various discount brands were introduced to undercut the major brands. "Battle Ax" and other colorful "fighting" brands introduced by the majors were successful in curbing the new entries. Scherer and Ross, supra note 4, at 250-251; Schmalensee, supra note 4, at 125-133.

⁶ Scherer and Ross, supra note 4, at 250-251.

⁷ The advent of the various discount cigarette brands and the resulting reactions of the other cigarette producers led to the litigation that culminated in the Supreme Court's Brooke Group predatory pricing decision in 1993. Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 213 (1993). For analysis and discussion, see J. Baker, Predatory Pricing After Brooke Group: An Economic Perspective, 62 Antitrust L.J. 585-606 (1994).

⁸ C. F. Howell et al., Pricing Practices for Tobacco Products, 1980-94, 117 Monthly Lab. Rev. (continued...)

increases occurred on “Marlboro Friday,” April 2, 1993, when Philip Morris led a price move to narrow the gap between pricing tiers by decreasing prices for its premium brands about 20 percent and increasing prices for its discount brands. Just prior to that event, discount brands accounted for over 40 percent of the overall cigarette market. After that time, the share of discount brands quickly eroded to less than 30 percent as consumers shifted back toward the now relatively less expensive premium brands. The previous pattern may be returning, however, as Philip Morris appeared to lead the most recent industry-wide price increase.⁹

Today, sales are concentrated in a small number of firms controlling 99 percent of a \$45 billion U.S. market. As indicated in Table 1, owing largely to its Marlboro brand, which grew rapidly since the late 1960s, Philip Morris is the largest firm with a domestic share of forty-eight percent of cigarettes sold. Reynolds, with twenty-five percent of the market, and Brown & Williamson, with seventeen percent, follow.¹⁰ Lorillard has about eight percent of the market. A fifth firm, the Liggett group, has a share of about two percent. Numerous other smaller firms also sell in the U.S. cigarette market. Although these smaller companies have a combined market share of less than one-tenth of a percent, the entry that has occurred in the industry has come in this small-firm segment.

B. Structural Features Encouraging Industry Coordination

As described above, the industry has historically experienced periods of both stability and instability in pricing. Prices appear frequently to have been less than fully competitive, although episodes of more competitive pricing have also been observed. This section examines some

⁸(...continued)

3-16 (1994). BAT’s economic expert in the 1994 BAT/American Tobacco Co. merger case accepted that the industry was appropriately characterized as a tightly coordinated oligopoly prior to 1980 and that prices and profits apparently rose during the 1980s as the industry became further concentrated. (Testimony of Dennis Carlton concerning industry history, FTC v. B.A.T Industries p.l.c., 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.), Tr. 01086-01087, Dec. 1994.)

⁹ See Glenn Collins, Cigarette Makers Are Increasing Prices by Record Amount, New York Times, Sept. 3, 1997.

¹⁰ The most recent significant change in industry structure occurred in 1994, when B.A.T Industries (the owner of Brown & Williamson) proposed to acquire American Tobacco. The FTC challenged the acquisition on antitrust grounds. A settlement was reached in April 1995, while the case was in trial. Under the settlement, BAT agreed to divest certain assets including brand names (Montclair, among others) and production facilities. That divestiture was completed in October 1996. FTC v. B.A.T Industries p.l.c., 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.).

structural features of the cigarette market that might influence the firms' incentives and ability to reach and maintain a coordinated outcome, leading to less than fully competitive prices.

Several factors contribute to the ability of firms in the cigarette industry to reach and maintain an implicit consensus from which they tend not to deviate. First, most economic models of oligopoly behavior conclude that price-cost margins will be higher as the number of firms decreases. This relationship might arise, for example, if fewer firms tend to have similar interests and incentives and consequently are better able to orchestrate coordinated behavior. As noted above, the same few firms have dominated the cigarette industry for decades,¹¹ and, as indicated in Table 2, concentration has been high and rising for many years.¹²

Second, the overall demand by adults for cigarettes is inelastic, or relatively insensitive to changes in price. Most adult consumers will continue to smoke notwithstanding a significant increase in price. As a result, an industry-wide price increase would be profitable for the cigarette companies, even though some smokers would react to the higher prices by smoking less or quitting altogether. Even substantial price increases are likely to be profitable, as long as they are made on a coordinated basis.

Estimates of the elasticity of demand for cigarettes, a measure of price sensitivity, are commonly reported to be in the vicinity of -0.4.¹³ A demand elasticity of -0.4 indicates that a 1 percent increase in the price of cigarettes will be associated with a 0.4 percent decrease in the number of cigarettes sold. The -0.4 adult demand elasticity estimate is consistent with estimates derived from a variety of studies. Studies of per capita consumption report elasticity estimates in the range of -0.2 to -0.8.¹⁴ This figure also represents the midpoint of the consensus range of

¹¹ One long-time industry participant, American Tobacco, was acquired by BAT, the owner of Brown & Williamson, in 1994.

¹² See generally Horizontal Merger Guidelines, supra note 2, at 15-25. The Merger Guidelines define highly concentrated markets as those with a Hirfindahl-Hershman index ("HHI") of 1800 or above. As Table 2 indicates, the five major firms account for almost 100 percent of cigarette sales in the United States, with a HHI of 3260 in 1996.

¹³ Record evidence in the FTC's 1994 challenge of BAT's acquisition of American Tobacco was also consistent with a relatively low demand elasticity. (FTC v. B.A.T Industries p.l.c., 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.), testimony of Lewis Tatem, economic expert for the FTC, Tr. 543-544.)

¹⁴ For reviews of cigarette demand studies see F. Chaloupka and M. Grossman, Price, Tobacco Control Policies and Youth Smoking, (National Bureau of Economic Research, Working Paper No. 5740, 1996); and Surgeon General of the United States, U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Preventing Tobacco Use (continued...)

elasticity estimates arrived at by a gathering of economists and other experts convened by the National Cancer Institute (-0.3 to -0.5).¹⁵ Other studies allow for the possibility that smokers consider the future costs of developing a smoking habit when making current decisions to buy cigarettes.¹⁶ Studies based on this approach generally imply price elasticities that are higher over a relatively long period because consumer response to a permanent increase in the price of cigarettes grows over time, until it reaches a final equilibrium. These models, nonetheless, still find that demand is inelastic even in the long run.¹⁷ Applying this future-cost approach to state data, one study reports a short run price elasticity of -0.45 and a long run estimate of -0.75.¹⁸

Third, unlike in some other industries, changes in product or price are readily observed by all competitors. As a result, cigarette producers may not have effective means for increasing sales substantially before their competitors can respond to any strategic moves. Such marketplace visibility and responsiveness results from several factors. For example, restrictions on cigarette advertising in broadcast media make it difficult for firms to undertake major mass media campaigns, which would probably be the most effective way to launch new brands before

¹⁴(...continued)
Among Young People (1994).

¹⁵ National Cancer Institute, National Institutes of Health, The Impact of Cigarette Excise Taxes on Smoking Among Children and Adults: Summary Report of a National Cancer Institute Expert Panel, (1993).

¹⁶ See G. Becker and K. Murphy, A Theory of Rational Addiction, 96 J. Pol. Econ. 675-700 (1988). For skeptical assessments of this model, see J. Harris, A Working Model for Predicting the Consumption and Revenue Impacts of Large Increases in the U.S. Federal Cigarette Excise Tax, (July 1, 1994) (unpublished manuscript); and J. Gravell and D. Zimmerman, Congressional Research Service, Cigarette Taxes to Fund Health Care Reform: an Economic Analysis (1994).

¹⁷ One study indicated that the time period for full adjustment to a new equilibrium might be as long as 69 years, a length of time calculated to allow full adjustment in the age distribution of smokers. See J. Gravell and D. Zimmerman, supra note 16.

¹⁸ G. Becker et al., An Empirical Analysis of Cigarette Addiction, 84 Am. Econ. Rev. 396-418 (1994). Elasticity estimates based on survey data rather than observed consumption decisions tend to suggest demand is even more inelastic than these studies indicate. For example, in a study based on an economic model similar to that employed by Becker et al., using survey data, Chaloupka estimated long run price elasticities between -0.27 and -0.37. F. Chaloupka, Rational Addictive Behavior and Cigarette Smoking, 99 J. Pol. Econ. 722-42 (1991). Analysis of a similar database of survey respondents by Wasserman et al., resulted in a price elasticity estimate for adults of -0.28 for 1988. W. G. Wasserman et al., The Effects of Excise Taxes and Regulations on Cigarette Smoking, 10 J. Health Econ. 42-64 (1991).

their rivals could react.¹⁹ Marketing campaigns using less effective media are likely to be observed and responded to before they have a major impact on sales. Even the introduction of generic cigarettes, which was largely undertaken without traditional marketing support, was highly visible to competitors. In addition, price cutting to distributors likely would be observed directly (to the extent distributors are shared) or indirectly (in the form of lower prices to consumers).²⁰ In either case, rivals would be able to respond quickly to any price reductions, making “hit-and-run” price cuts unattractive as a strategy for increasing firm profits.²¹ Accordingly, short-term deviation from the terms of a coordinated understanding on price and other competitive dimensions can be expected to be quickly observed and quickly countered, and therefore to be unprofitable for the industry participants.²²

A fourth structural feature of the market is that entry does not significantly constrain market power. That is, entry of additional firms into the market (or its prospect) is unlikely to upset the stability of a coordinated pricing strategy. Despite increasing prices and increasing profit margins, as discussed below, the new firms that have recently entered the cigarette market have failed to garner significant shares to date. Although the absence of significant entry does not definitively demonstrate that incumbent pricing is unconstrained by new competition from entrants, characteristics of the cigarette market make entry difficult. For example, current restrictions on advertising may fall particularly hard on entrants or other firms seeking to expand rapidly. To the extent firms are less able to inform consumers about the availability and the attributes of their products or brands, they likely will be less able to be successful in the marketplace and likely will place less of a constraint on the behavior of the established firms.

¹⁹ Schmalensee, supra note 4, at 125-133.

²⁰ After Marlboro Friday, Philip Morris established a large scale “Master” program in which retailers submitted information to Philip Morris regarding other cigarette manufacturers’ discount offers and volume in return for discounts from Philip Morris. (*FTC v. B.A.T Industries p.l.c.*, 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.), testimony of Lewis Tatem, economic expert for the FTC, Tr. 548-49.)

²¹ Similarly, large buyers in some markets may be able to induce lower prices by reducing their own demand for a product, but this does not seem to be a factor in the U.S. cigarette industry. Retailing of cigarettes is extremely diverse with hundreds of thousands of outlets. With such ubiquitous distribution, it is unlikely that any buyers have large enough shares to make secret price-cutting profitable or otherwise exercise buyer power.

²² Given that deviations from an implicit consensus would likely be unprofitable, the main impediment to more effective coordination among cigarette producers is likely the difficulty in harmonizing divergent interests to reach such a consensus in the first instance, as discussed below. This is not to say that alterations in the consensus will not occur over time, for example in response to exogenous shocks to the market or the development of innovations that cannot be quickly copied and that alter the long-term strategies of individual firms in divergent ways.

Under the proposed settlement, restrictions on advertising will be substantially tightened, making entry still more difficult.

In addition, three decades of stagnant or declining industry demand have reduced the attractiveness of the cigarette industry to prospective entrants. Until the intensification of health concerns in the 1960s,²³ cigarette smoking was a ubiquitous and growing feature of American culture during the 20th century. Since that time, the market for cigarettes in the U.S. has decreased significantly. U.S. cigarette consumption per capita declined from a peak of 4,345 cigarettes in 1963 to 2,505 in 1996 (Table 3). The proportion of smokers among adults has also dropped from peak of 42.6 percent in 1966 to 25.5 percent in 1994.²⁴ Even in the face of some media marketing restrictions and generalized demand declines, however, small firms have continued to enter niches of the cigarette industry. Although none of these firms has grown to the point that its market share is significant, they appear to be a permanent feature of the market.²⁵

C. Evidence of Market Power from Industry Conduct

The Supreme Court has recognized a pattern of coordinated interaction in past cigarette industry practices.²⁶ Price and cost patterns during the post-1980 period also suggest that the cigarette oligopoly may not be performing competitively. The rise in prices during this period has been extensive, increasing at a much higher rate than the general price level. As shown in

²³ These concerns led to the report by the Surgeon General's advisory committee on January 11, 1964. Health concerns were also raised in the early 1950s. The introduction of filter cigarettes was closely related to these early expressions of concern about the health effects of cigarette smoking. Kluger, *supra* note 4, at 148-182, 258-262.

²⁴ Centers for Disease Control <www.cdc.gov/nccdphp/osh/prevail.htm>. The smoking rate among men reached 56.9 percent in the 1950s. The rate among women peaked at 33.9 percent in 1965 and 1966.

²⁵ However, as discussed below, some features of the settlement could harm this market segment, potentially causing it to disappear.

²⁶ The three major cases are Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993), American Tobacco Co. v. United States, 328 U.S. 781 (1946), and United States v. American Tobacco Co., 221 U.S. 106 (1911). Discussing the pre-1980 market for cigarettes, the Supreme Court in Brooke Group stated that "the cigarette industry . . . has long been one of America's most profitable, in part because for many years there was no significant price competition among the rival firms. . . . List prices for cigarettes increased in lock-step twice a year, for a number of years, irrespective of the rate of inflation, changes in the cost of production, or shifts in consumer demand." Brooke Group, 509 U.S. at 213 (citation omitted).

Table 4, inflation-adjusted prices rose from \$1.20 per pack in 1980 to \$1.85 per pack in 1996.²⁷ While some of this price rise is a product of rising costs (including state and federal taxes), it appears that a significant portion may not be cost related. Comparing the rise in cigarette prices to costs for the 1980-94 period, one analysis concludes that “escalating prices for cigarettes cannot be attributed to higher input costs.”²⁸ The tendency for price rises to consistently outpace cost increases is unlikely to be observed in a fully competitive market over a long-term period.²⁹

Consistent with the price and cost data, the publicly available evidence suggests that the cigarette industry has been relatively profitable.³⁰ Also, profit margins for the industry based on Census data show a rising trend over the 1980-94 period -- even in the face of declining demand.³¹ This upward trend in profit margins halted, however, due to price declines in the

²⁷ Since Marlboro became the clear leading brand in the late 1970s, Philip Morris has typically been the price leader for premium-priced cigarettes and Philip Morris led the most recent price increase. (Scherer and Ross, supra note 4, at 250-251; FTC v. B.A.T Industries p.l.c., 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.), testimony of Lewis Tatem, economic expert for the FTC, Tr. 544-545; and Glenn Collins, Cigarette Makers Are Increasing Prices by Record Amount, New York Times, Sept. 3, 1997.) While prices increased for all brands, price increases for the discount brands lagged behind those for established premium brands.

²⁸ C. Howell, F. Congelio, and R. Yatsko, Pricing Practices for Tobacco Products, 1980-94, 117:12 Monthly Lab. Rev. 3 (1994). The authors generated an input cost series from Census (material, labor and capital) and FTC (advertising and marketing) data. They did not specifically include state and federal taxes in their calculations, but the addition of these two components does not change the general result that prices rose at a much greater rate than costs. Thus on a per unit basis, input costs plus federal and state excise taxes rose 87 percent over the 1980-94 period compared to a corresponding increase of 179 percent in nominal prices.

²⁹ Scherer and Ross, supra note 4, at 339-347.

³⁰ Industry surveys based on SEC 10K submissions generally show the industry as displaying profit rates above the overall industry norm. See, e.g., the annual “Beverages and Tobacco” survey in Forbes Magazine. The exact translation between the concepts of accounting profits and economic profits is subject to considerable debate, however. Compare F. Fisher, and J. McGowan, On the Misuse of Accounting Rates of Return to Infer Monopoly Profits, 73 Am. Econ. Rev. 82-97 (1983) with W. Long and D. Ravenscraft, The Misuse of Accounting Rates of Return: Comment, 74 Am. Econ. Rev., 494-500 (1984).

³¹ In this analysis, profit margins are gross margins as a percentage of value of shipments. Data came from the following sources: Federal Trade Commission, Report to Congress for 1994 Pursuant to the Federal Cigarettes Labeling and Advertising Act 15-18 (1996); U.S. Department of Commerce, Bureau of the Census, Tobacco Products, in 1992 Census of Manufacturers 21A-7
(continued...)

aftermath of Marlboro Friday in 1993. In addition to the evidence on prices, costs and profits, econometric studies of pricing behavior in the cigarette industry have produced results consistent with the view that the cigarette industry is not fully competitive, though also consistent with the view that the level of market-sharing coordination is not high.³²

D. Imperfect Coordination and Divergent Firm Incentives

While the structural and behavioral evidence cited above is consistent with the possibility of coordination among the major cigarette producers, it is also clear that any such coordination is far from complete.³³ This is immediately evident from the econometric estimates of the industry demand elasticity, cited above, which suggest that adult demand is inelastic at prevailing prices. Because a monopolist facing inelastic demand would find it profitable to raise price until it reaches elastic portions of the industry demand curve and this has not occurred, we can infer that coordination is imperfect.³⁴ The occasional outbreaks of more intense price or product competition also suggest incomplete coordination.

Other evidence of incomplete coordination comes from the long-term shifts in market share that have occurred in the cigarette industry. If stability of market shares is important to facilitate continued cooperation, then instability in shares may be a sign of imperfect coordination. Market shares covering the period from 1947 to 1996 are displayed in Table 5. Philip Morris, now the leading firm with the leading brand, has gained share from less than 10

³¹(...continued)

(1995). The Census figures include the value of shipments and costs involved in the production of cigarettes in domestic plants destined for export, while the FTC advertising and marketing data relate only to domestic operations.

³² D. Sullivan, Testing Hypotheses about Firm Behavior in the Cigarette Industry, 93 J. Pol. Econ. 586 (1985); O. Ashenfelter and D. Sullivan, Nonparametric Tests of Market Structure: An Application to the Cigarette Industry, 35 J. Indus. Econ. 483-498 (1987); P. Barnett et al., Oligopoly Structure and the Incidence of Cigarette Excise Taxes, 57 J. Pub. Econ. 457-470 (1995).

³³ Incomplete coordination is discussed in the Horizontal Merger Guidelines, supra note 2, at section 2.11, p. 20. That section discusses the ability of firms to reach terms of coordination and factors that might make reaching a coordinated outcome more or less likely.

³⁴ That is, the fact that relatively low demand elasticity estimates are found even using prevailing prices is consistent with the view that cigarette firms are not pricing near the monopoly level. Scherer and Ross, supra note 4, at 250-251. In addition, one estimate of the full-blown monopoly price in cigarettes in 1995 was in the \$4.00 range. Prices of cigarettes today are at about half that level. See J. Harris, American Cigarette Manufacturers' Ability to Pay Damages: Overview and a Rough Calculation, 5 Tobacco Control 292-294 (1996).

percent to over 47 percent currently. Liggett and American both lost the vast majority of their initial shares over the period. Reynolds is the one major firm that maintained a fairly stable market share over the past 50 years.

The inability of the cigarette industry to achieve complete coordination is most likely attributable in large part to partially divergent interests among the firms. Firm interests may diverge for a number of reasons.

First, product innovation may affect some firms more than others. Product competition has historically taken the form of innovations in product design, such as the addition of filters during the 1950s.³⁵ More recently, low-tar cigarettes were developed during the early 1970s,³⁶ and unbranded generic cigarettes were reintroduced in the early 1980s.³⁷ These innovations generally favored some firms more than others, and in consequence tended to lead to a more competitive period during which the firms, in effect, identified a new oligopolistic consensus.³⁸

Second, as with most products that are not homogeneous, demand for some brands is more price sensitive than is demand for other brands.³⁹ Similarly, the sales of certain brands may be more sensitive than other brands to variations in the prices of specific rival brands. Moreover, industry participants recognize that the demand for individual brands often has a well-defined “life cycle” -- an initial period of growth in market acceptance, followed by a share plateau, followed by an extended period of share decline. The rise and fall of Lucky Strike, Pall Mall, and later Winston, as Marlboro became the largest brand in the late 1970s, provide examples. A firm with most of its brands in extended decline may have different views about industry pricing than a firm with more brands earlier in the life cycle.⁴⁰ As the end of a brand’s life cycle approaches, brand demand elasticity may increase above the norm, making a price increase more

³⁵ Kluger, supra note 4, at 141-182.

³⁶ Id. at 190, 273-275, 379-382

³⁷ Id. at 516.

³⁸ For example, the introduction of generic brands led to tiered pricing. Premium brands, both established and new, are typically priced well above the discount segment consisting of generic and private label cigarettes and branded discount cigarettes. The extent of the gap between discount and premium brands has varied over time.

³⁹ Differences in brand elasticities were an important consideration in the FTC’s challenge of the 1994 proposal of BAT to acquire American Tobacco.

⁴⁰ Differences in brand mix across the life cycle may be responsible, in part, for the major shifts in market share among three of the leading firms over the past forty years.

problematic for firms with declining brands.⁴¹ Since a general price increase will accelerate the decline of the “aged” brands, leading firms with predominantly “aged” brands will likely prefer a lower industry price. The current major brands and the shares of these brands grouped by the five major companies are presented in Table 6.

Third, the most important recent divergence of interest comes from differences in product mix across the firms. Premium brands are the mainstay of four of the five leading manufacturers. In contrast, generic and non-premium brands today account for a far greater fraction of Liggett’s sales and profits. Furthermore, there are significant differences among the major firms in their commitment to discount segments.

This commitment is indicated in Table 7, which quantifies the shares of each firm in the various pricing tiers. Philip Morris and Reynolds, the two largest firms in the industry, have approximately 16 percent and 37 percent respectively of their sales in the discount segment, and each does less than a quarter of that in private label and generics. Brown & Williamson, the third largest firm, ranks second in terms of its involvement in the discount segment. A little less than 60 percent of its sales are in the discount segment; however, only about 10 percent of that is due to generic or private label sales. Lorillard, the fourth largest firm, has approximately 5 percent of its sales in the discount segment and none of that is private label. Liggett, the smallest major U.S. cigarette manufacturer, is by far the most intensely involved in the discount segment and most of its discount business is in the low-end generic and private label components. No other major firm comes close to this degree of involvement in the discount segment and the generic/private label subcomponents. These product mix differences across the firms are likely to be an important factor causing divergence of interests among the firms.

E. Current Limits on Coordination

The divergence of interests among cigarette industry participants makes it likely that the firms will differ as to their preferred coordinated price. In particular, firms with a relatively low commitment to the market today (e.g., low share of current sales) but with a relatively high ability to expand (e.g., higher capacity share or other ability to expand output) can be expected to prefer an industry price well below the monopoly price.⁴²

⁴¹ The differences in pricing incentives based on differences in rates of decline in premium brands were a theme of the FTC presentation in its challenge of BAT’s acquisition of American Tobacco. FTC v. B.A.T Industries p.l.c., 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.), testimony of Lewis Tatem, economic expert for the FTC, Tr. 534-535.

⁴² See J. Baker, Two Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem, and Contemporary Economic Theory, 38 Antitrust Bull. 143, 202-207 (1993); and J. Baker, supra note 7, at 585-606, particularly at 599-602. The discussion in the text assumes that
(continued...)

In this setting, the seller with the lowest preferred price acts as a constraint on increases in the industry price (so long as that firm can significantly expand output if price exceeds its preferred level).⁴³ Its rivals recognize that efforts to raise prices above what the constraining firm prefers would not be successful.⁴⁴ If that constraining firm could obtain a larger commitment to the current market or could be induced to raise the price it prefers,⁴⁵ however, then the constraint on industry pricing would be relaxed and prices would rise. Industry instability -- as reflected in price wars or other episodes of apparently more intense competition -- occurs when shifts in buyer preferences, changes in seller costs, variation in public policies, new product developments, or other exogenous factors lead one of the industry firms to prefer a new, lower, industry-constraining price. Under such circumstances, factors that eliminate the seller with the lowest preferred price or encourage that firm to prefer a higher price level likely will lead to a higher industry price.⁴⁶

During the 1980s, for example, Liggett first and American (now part of Brown & Williamson) later came to prefer a lower industry price. Both firms' major brands increasingly were older, declining, and near the end of their life cycles. Market shares declined for both

⁴²(...continued)

side payments are unavailable, and adopts the view that the threat of a reversion to competition is sufficient punishment to support high prices.

⁴³ For decades the cigarette industry has contained many tiny firms, though none has grown to garner any noticeable market share. Currently the non-majors account for less than one-tenth of one percent of industry output. These firms may have an ability to expand output that is comparable to that of a de novo entrant.

⁴⁴ Such a firm has been called a "maverick." Horizontal Merger Guidelines, supra note 2, at 21-22. The use of the term "maverick" in the Merger Guidelines is broader than the way the term is often employed elsewhere, because the seller with the lowest preferred price need not necessarily engage in price-cutting behavior in order to constrain the prices charged by its competitors.

⁴⁵ Rivals might induce the constraining firm to prefer a higher price by developing a scheme to compensate the maverick or by finding a way to raise the maverick's marginal costs, for example.

⁴⁶ As discussed further in Section II, the antitrust immunity envisioned in the settlement might allow firms to devise compensation schemes and the extra payments required of non-participating firms might increase the marginal cost of the firms that now constrain industry pricing. The proposed tobacco settlement may contain provisions that will alter the price preferences of the firm that currently prefers the lowest price.

firms.⁴⁷ Each turned to discount and generic brands as a means of expanding sales.⁴⁸ Introducing new brands at a lower price point or switching old brands to a new, lower price point thus became an attractive strategy, first for Liggett and later for American.⁴⁹ In this way, Liggett and American became the constraints on industry pricing. The major firms responded initially by selling discount brands as well⁵⁰ and later by lowering the relative price of premium brands on "Marlboro Friday." Thus the industry came to recognize that the coordinated price could not be maintained above the level preferred by Liggett and American.⁵¹ With the acquisition of American Tobacco by BAT, Liggett remains the only firm of significant size that has an appreciably older brand portfolio in terms of premium-brand life cycles and a primary commitment to the discount segments of the cigarette market. This likely makes Liggett one of the most significant constraints on higher industry pricing today.

The success of industry efforts to attain and maintain a coordinated price in the future will depend upon the extent to which the incentives of the constraining firm or firms diverge from the individual incentives of the remaining major producers. As discussed in the next section, the tobacco settlement has the potential to allow the major firms to coordinate their actions more effectively.

⁴⁷ Liggett's older premium brands include L&M, Chesterfield, and Lark. American's older premium brands included Pall Mall and Raleigh.

⁴⁸ American, for example, developed its own unique and promising approach to product distribution in introducing discount brands in the late 1980s. *FTC v. B.A.T Industries p.l.c.*, 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.), testimony of Dennis Carlton, economic expert for BAT, Tr. 1052.

⁴⁹ Introducing new premium brands may have become problematic for these firms with various restrictions on advertising of cigarettes on television.

⁵⁰ This response led to the *Brooke Group* litigation, where Brown & Williamson was the primary defendant. At the time of the alleged predatory behavior, evidence suggested that Brown & Williamson was the only other cigarette manufacturer with a substantial presence in the discount segment. (J. Baker, *supra* note 7, at 595.)

⁵¹ Philip Morris led the "Marlboro Friday" pricing move. Within a short time, most of the other firms raised discount prices and lowered premium prices to narrow the gap between the pricing tiers, as Philip Morris had done. American failed to follow the leader for an extended period of time. R. Margulis, *The War of '93*, Apr. 1994 Tobacco Rep. 22-24. Liggett was already viewed as outside the cooperative group with respect to the generic segment.

Table 1
U.S. Cigarette Company
Domestic Shares and Volume, and Exports
1996

Firm	Domestic Share of Cigarettes Sold 1996	Domestic Volume in 1996 (billions of cigarettes)	Export Volume in 1996 (billions of cigarettes)
Philip Morris	47.8%	230.84	173.59
Reynolds	24.6%	119.08	43.90
Brown & Williamson	17.2%	83.35	41.79
Lorillard	8.4%	40.40	--
Liggett	1.9%	8.95	.48
Others	0.1%	.68	--
Industry Total	100.0%	483.30	269.76

Source: John C. Maxwell, Market Up, Apr. 1997 Tobacco Rep., 22.

Table 2
Concentration Trends

Year	HHI	Number of Major Firms
1930	2682	5
1950	2249	6
1970	2066	6
1980	2421	6
1990	2880	6
1993	2939	6
1994	2964	6
1995 (American + B&W)	3179	5
1996	3260	5

Sources and Notes: Data for 1930 to 1993 are taken from Exhibits PX345 and PX336-E used during the cross examination of Dr. Dennis Carlton in FTC v. B.A.T Industries p.l.c. et al., 94 Civ 7849 (filed Oct. 31, 1994, S.D.N.Y.), Tr. 1086-1087. BAT is now the owner of both Brown & Williamson Tobacco (B&W) and American Tobacco. Data for 1994 to 1996 are calculated from market share data in Maxwell, Market Up, Apr. 1997 Tobacco Rep., 22. HHI is an index of market concentration calculated by squaring the market share of each firm and adding the resulting products together across all firms. Market shares are measured in terms of units sold in the U.S. Markets with HHI statistics above 1800 are classified as highly concentrated under the April 1992 joint DOJ/FTC Horizontal Merger Guidelines.

Table 3
U.S. Per Capita
Cigarette Consumption
1935-1996

Year(s)	Number of Cigarettes Per Capita
1935-1939	1,779
1940-1944	2,558
1945	3,449
1950	3,522
1955	3,597
1960	4,171
1965	4,259*
1970	3,985
1975	4,123
1980	3,849
1985	3,370
1990	2,826
1994	2,524
1995	2,505
1996	2,482

Notes: Economic Research Service, U.S. Department of Agriculture, Tobacco Situation and Outlook Report, various issues.

* The peak year was 1963, with average per capita consumption of 4,345.

Table 4
Inflation-Adjusted Price
per Package of Cigarettes
1980 to 1996

Year	Price Per Pack in 1996 dollars
1980	\$1.20
1981	\$1.20
1982	\$1.33
1983	\$1.49
1984	\$1.48
1985	\$1.52
1986	\$1.58
1987	\$1.64
1988	\$1.72
1989	\$1.82
1990	\$1.84
1991	\$2.00
1992	\$2.05
1993	\$1.84
1994	\$1.86
1995	\$1.85
1996	\$1.85

Source: Tobacco Institute, The Tax Burden on Tobacco (1996).

Table 5
Cigarette Company
Market Shares
(percent)
1947-1996

Year	Philip Morris	Reynolds	Brown & Williamson	Lorillard	Liggett	American Brands
1947	7.0	29.7	3.2	4.3	21.3	34.5
1952	9.6	27.3	6.0	6.3	18.0	33.0
1957	9.3	28.7	10.7	7.7	14.5	29.1
1962	9.4	35.0	9.3	11.0	9.8	25.6
1967	12.7	32.5	14.3	10.2	8.1	22.2
1972	20.0	31.4	17.3	8.9	5.6	16.8
1977	26.7	33.1	15.8	8.7	3.4	12.3
1982	32.9	33.6	13.4	8.6	2.9	8.8
1987	38.4	32.1	10.9	8.2	3.5	6.9
1992	40.9	29.5	12.2	7.4	3.1	6.9
1993	40.5	31.5	11.3	7.3	2.5	6.9
1994	44.8	26.7	11.3	7.5	2.3	7.4
1995	46.1	25.7	18.0	8.0	2.2	*
1996	47.8	24.6	17.2	8.4	1.9	*

Source: Robert Porter, The Impact of Government Policy on the U.S. Cigarette Industry in Empirical Approaches to Consumer Protection Economics 463 (P. Ippolito and D. Scheffman, eds., Mar. 1986, Bureau of Economics Conference, Federal Trade Commission). Data for 1947-1982 is based upon data from Schmalensee, supra note 4 and various issues of Business Week. Data for 1987-1996 update Porter's statistics and are taken from J. Maxwell, 1995 Maxwell Tobacco Fact Book, and Tobacco Rep. various issues.

* American Brands was acquired by Brown & Williamson in late 1994.

Table 6
1996 U.S. Cigarette Industry: Leading Premium
Brand Sales by Firm

Firm	Leading Brand (share)	2nd Leading Brand (share)	3rd Leading Brand (share)	4th Leading Brand (share)
Philip Morris	Marlboro (32.3)	Virginia Slims (2.4)	Merit (2.3)	Benson & Hedges (2.3)
Reynolds	Winston (5.3)	Camel (4.6)	Salem (3.6)	Vantage (1.1)
Brown & Williamson	Kool (3.6)	Carlton (1.3)	Pall Mall (1.1)	Capri (.6)
Lorillard	Newport (6.1)	Kent (.8)	True (.4)	Style (.3)
Liggett	Eve (.2)	L&M (.1)	Chesterfield (.1)	Lark (.1)

Source: John C. Maxwell, Market Up, Apr. 1997 Tobacco Rep., 22-28.

Table 7
1996 U.S. Cigarette Industry: Participation
by Segment

Firm	Firm's Share of U.S. Cigarette Unit Sales	Proportion of Firm's Sales in the Premium Price Segment	Proportion of Firm's Sales in the Discount Price Segment	Proportion of Firm's Sales in the Discount Segment Due to Generic and Private Label Sales
Philip Morris	47.8%	84.4%	15.6%	12.2%
Reynolds	24.6%	63.0%	37.0%	22.9%
Brown & Williamson	17.2%	42.9%	57.1%	10.7%
Lorillard	8.4%	93.7%	6.3%	--
Liggett	1.9%	25.3%	74.7%	80.1%
Industry Totals	100%	71.5%	28.5%	

Source: John C. Maxwell, Market Up, Apr. 1997 Tobacco Rep., 22-28.

Note: Premium priced cigarettes are the traditional brands whose prices are similar. The discount segment includes all non-premium priced cigarettes. This includes the branded discount category, generic cigarettes, and private label brands. Private label brands are those produced for distribution and sale by other firms under their own label.

II. Competition and the Expected Effects of the Proposed Settlement

The proposed settlement has the potential to affect almost all aspects of cigarette industry behavior and performance. This section focuses on the provisions in the settlement with the greatest potential to affect competition in the industry and the effects that these competitive changes might be expected to have on market prices.⁵²

A. Selected Settlement Terms and Their Potential Effect on Competition

1. **Annual Payment Structure.** An important element of the settlement is the annual payment structure.⁵³ The settlement specifies "Annual Payments" that increase in face value to a maximum of \$15 billion in 2002 and following years (Title VI, pp. 34-35). Unlike the initial payment due at signing, these payments are not fixed in value, but instead vary according to the volume of cigarettes sold each year and industry profits.⁵⁴ Specifically, if the volume of cigarettes sold is less than the volume of sales in the base year, then the annual payment is reduced by the same proportion.^{55,56} For example, if sales decline by 20 percent in the year 2002

⁵² This report does not analyze the consequences of the proposed settlement for other domestic industries using tobacco products such as smokeless tobacco. Nor, does it examine the impact of the settlement on tobacco farming.

⁵³ The proposed settlement also requires a fixed \$10 billion payment from the industry due at signing (Title VI.A, pp. 34-35). The settlement does not specify how this payment will be apportioned among firms in the industry, but if it is shared by all, it could weaken the smallest or more marginal firms in the industry disproportionately. If, in consequence, the firms that help constrain the major producers are led to exit the industry, the result would be to relax the competitive constraints faced by the major firms. Alternatively, if the initial payment is paid entirely by the largest tobacco firms, then concerns about competitive effects from this provision would be mitigated.

⁵⁴ The payments are also adjusted for inflation.

⁵⁵ Similarly, if cigarette sales should rise relative to the base year, the annual payments will proportionately increase. This outcome is less likely to occur, however, since the settlement will cause cigarette prices to rise and demand is expected to fall.

⁵⁶ The settlement specifies that "adult" sales volumes will be used in calculating any proportional reductions in the payment and that total sales volumes, including both adult and youth volumes, will be used in calculating any proportional increases. This distinction is not empirically relevant since sales to adult smokers, defined as ages 18 and over, account for approximately 98 percent of all cigarettes sold domestically. J. Harris, Comments on Proposed

(continued...)

compared to the base year, then the payment is reduced by 20 percent, from \$15 billion to \$12 billion. However, if industry profits increase relative to the base year, then the industry will not be permitted to benefit by the full amount of this volume-related payment reduction. Rather, annual payments will be restored by an amount equal to 25 percent of the industry's enhanced profits. Thus, in the example, if industry profits in 2002 are \$4 billion greater than in the base year, then 25 percent of \$4 billion, or \$1 billion, of the annual payment will be restored, bringing it up to \$13 billion.

Because the actual size of the annual payment depends on the quantity of cigarettes sold each year, most of the payment can be treated conceptually as an excise tax per pack that will be passed on to smokers. The settlement, (Title VI.B.7, p. 35), envisions that the annual payments will be passed through to consumers in the form of higher prices for cigarettes. Assuming the settlement is enacted in 1997 as drafted, the implicit tax will be approximately 35 cents per pack in 1998, 39 cents in 1999, 48 cents in 2000, 58 cents in 2001, and 62 cents per pack from 2002 on.⁵⁷ However, under the Balanced Budget Act of 1997,⁵⁸ 10 cents per pack of the federal excise tax on cigarettes will be credited against the Annual Payments of the tobacco industry in the years 2000 and 2001, and this credit will be increased to 15 cents per pack in 2002 and subsequent years. Taking into account this credit, the implicit excise tax would be reduced to 38 cents per pack in 2000, 48 cents in 2001, and 47 cents in 2002.⁵⁹

As discussed below, the competitive conditions in the industry together with the low elasticity of cigarette demand are likely to enable cigarette companies to "pass through" to

(...continued)

Tobacco Industry-Wide Resolution, Commissioned by the American Cancer Society (unpublished manuscript), June 26, 1997, p. 5. For this and other reasons, the analysis *infra* does not address anticipated effects of the proposed settlement on youth smoking.

⁵⁷ For example, when the \$15 billion payment is divided by the approximately 24.2 billion packs of cigarettes sold in the base year, it amounts to about 62 cents per pack. Since the payment is volume adjusted, it remains at 62 cents per pack even if sales increase or decrease. However, the 62 cents per pack (and the other per pack figures above) do not include the profit-related adjustment that applies if sales decrease and profits increase. This adjustment can be viewed as a 25 percent tax on each firm's increase in profits assessed in addition to the excise tax of 62 cents per pack. The examples discussed in Section III account for both components of the payment.

⁵⁸ Pub. L. No. 105-33 (enacted Aug. 5, 1997).

⁵⁹ As of this writing, the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriations Act of 1998, S. 1061, 105th Cong. (1997), recently passed by the Senate, would rescind the credit against the Annual Payments. If this bill becomes law, the implicit excise tax will grow to 62 cents per pack as stated above.

consumers the full amount of this implicit tax. In addition, other aspects of the settlement have the potential to increase the ability of the major firms to coordinate their behavior, so that the ultimate increase in consumer prices could be substantially higher than that required by the annual payment itself. The additional revenue would be expected to increase both corporate profits and public sector revenues.

2. Broad Antitrust Immunity. The settlement gives antitrust immunity to the tobacco companies to coordinate their activities taken "in order to achieve the goals of this Agreement and the Act relating to tobacco use by children and adolescents." (App. IV.C.2, p. 50). The Department of Justice would have review rights subject to this standard. However, the breadth of this language, as currently drafted, may permit the industry members to discuss pricing arrangements that reach beyond the amount of a 100 percent "pass-through" to consumers of the cost of the annual payments.⁶⁰ Also, the current language may permit a range of anticompetitive conduct involving non-price restrictions. Thus, the exemption increases the likelihood that prices will move closer to what a monopolist would charge.

As discussed in the previous section, the ability of firms to charge monopoly level prices is constrained by their inability to meet to discuss differences in preferred prices and to put into place mechanisms to compensate those firms that would lose market share at a higher price.⁶¹ Such an agreement could make a firm like Liggett prefer a much higher industry price than it does today, loosening or removing a significant constraint on more effective coordination. In this way, antitrust immunity might allow the participating firms to agree to choose prices to maximize their total profits and then to allocate these profits in a manner that makes the agreement on prices acceptable even to the mavericks.

3. Advertising and Marketing Restrictions. The settlement includes a variety of advertising and marketing restrictions that are intended to reduce sales, especially to youth. These restrictions may also lead to reduced expenditures on advertising and other marketing activities, reducing industry costs and prices accordingly (Title I.A, pp. 8-11). The magnitude of these effects will depend in part upon the extent to which firms substitute toward the permitted non-price modes of marketing competition (such as direct mail advertising to smokers). In the opposite direction, the settlement would restrict advertising that can help new entrants or maverick firms with new products, lower priced products, or new brands to gain market share from the other firms in the market. As a result, restrictions on advertising could reduce competition in the industry and thus lead to higher prices.

⁶⁰ The ramifications of the proposed antitrust immunity are addressed in greater depth in an Appendix to this Report.

⁶¹ Compensation could take many forms, such as one firm making Annual Payments on behalf of another firm.

4. Non-Participating Companies Could Face Added Costs. Firms not signing the settlement (including Liggett and potential entrants not currently in the U.S. market) would be bound by the legislated regulatory rules envisioned by the agreement but not the other voluntary aspects of the agreement (Title III.C, p. 28). Thus, for instance, these firms would not receive the civil liability protections of the settlement. Similarly, wholesalers and retailers dealing with those firms would not receive protection.

Moreover, the legislation envisioned by the settlement would require the non-participating firms to pay higher annual payments than would be required if they had joined the agreement.⁶² These payments would be made into an escrow account and could be reclaimed, with interest, 35 years later if not paid out in liability payments. Due to the difficulty of predicting the amount of future liability payments and the long delay before any money could be reclaimed, these payments are likely to be viewed as non-refundable costs of doing business. Thus, from the year 2002 onward, non-participating firms would have a cost disadvantage of nearly 23.5 cents per pack (half of the 47 cent implicit "excise tax") relative to participating firms.⁶³

These provisions have the potential to raise the marginal costs borne by Liggett, which now appears to help constrain industry pricing. They may also discourage entry, another factor increasing the likelihood that the industry will move closer to a monopoly pricing level after the settlement. In addition, the provisions may force many of the current small firms out of business, eliminating the possibility that they could expand enough to affect pricing decisions by the major manufacturers.

5. R&D Incentives. The settlement requires that any safer cigarette technology developed by a firm in the agreement must be cross-licensed to all other firms in the industry at "reasonable" prices (Title I.E, pp. 14-15). This provision reduces each firm's incentive to develop safer cigarettes, since such R&D becomes less profitable to the firm, and thus helps to discourage the emergence of additional rivalry from a firm with a new product that is attractive to smokers.

⁶² The settlement specifies that a non-participating firm will pay an amount equal to 150 percent of its share of annual payments had it participated, other than the portion allocated to public health programs and law enforcement. The settlement does not discuss the terms under which non-participants might later join the agreement. If such membership is not limited, and if it entails no lump-sum up-front payments, then concerns about anticompetitive effects on non-participating firms would be mitigated because they would have the option of joining the agreement on non-discriminatory terms.

⁶³ This cost disadvantage would be nearly 31 cents if the excise tax credit discussed above is rescinded.

In sum, all of these settlement terms, particularly the broad antitrust exemption, have the potential to increase the ability of the major industry members to coordinate their behavior so as to raise prices. The settlement terms also tend to discourage entry and innovation, including the development of alternative products. The resulting competitive effects on the cigarette market could be substantial, because inelastic demand characterizes the adult market. Thus, even small changes in competitive conditions could have sizeable effects on consumer prices and industry profits.

B. The Pass-Through of Tax Increases to Prices

This section reviews the historical evidence on how the cigarette industry has responded to increased taxes. As examined below, research shows that the industry has commonly, in effect, "passed through" to consumers 100 percent or more of tax increases by raising prices. If, as suggested above, the terms of the agreement make coordination on the remaining dimensions of competition somewhat easier, then prices following the tobacco settlement could increase by even more than would be predicted by applying historical pass-through rates.

Pass-through rates are influenced by demand and supply conditions in an industry and by the extent of rivalry among industry members. Standard economic models of firm behavior predict that the pass-through rate in competitive markets will be no more than 100 percent, with the magnitude of the price increase depending upon supply and demand conditions.⁶⁴ Pass-through rates in monopolistic industries can be more or less than 100 percent, again depending on supply and demand conditions.⁶⁵

Several empirical studies have found pass-through rates of 100 percent or greater in the cigarette industry. Barnett, Keeler, and Hu estimate a pass-through rate from federal taxes to retail prices of about 102 percent over the 1955 to 1990 period.⁶⁶ Harris finds that the 1983

⁶⁴ The more elastic the supply and less elastic the demand, the greater the extent to which a tax increase will be borne by consumers in a competitive market. The limiting situation in which all the tax is shifted to consumers (100 percent pass-through) occurs in the case of either perfectly inelastic demand or perfectly elastic supply. See J. Stiglitz, The Economics of the Public Sector 346-67 (1986).

⁶⁵ Id. at 359; J. Bulow and P. Pfleiderer, A Note on the Effect of Cost Changes on Prices, 91 J. Pol. Econ. 182-185 (1983).

⁶⁶ P. Barnett et al., Oligopoly Structure and the Incidence of Cigarette Excise Taxes, 57 J. Public Econ. 457-470 (1995).

increase of eight cents in the federal excise tax on cigarettes led to a rise of sixteen cents in the retail price.⁶⁷

Analyses of state tax increases also find pass-through rates of 100 percent or more.⁶⁸ Using this approach, Sung et al. estimate a pass-through rate for state excise taxes of approximately 127 percent based on their analysis of 11 Western states for the 1967-90 period.⁶⁹ Similarly, examining differences in taxes and prices for the 1954-78 period for 50 states, Sumner reports pass-through rates ranging from 103 to 107 percent.⁷⁰ Using a later data set that included most states, Merriman estimates a pass-through rate of 106 percent.⁷¹

This literature on the pass-through of cigarette excise taxes examines the effect of a tax on retail prices regardless of the level in the distribution chain where the tax is legally imposed. The gains or losses from a pass-through different from 100 percent will accrue entirely to the manufacturing sector, so long as the wholesale and retail distribution of cigarettes is competitive,

⁶⁷ J. Harris, The 1983 Increase in the Federal Cigarette Excise Tax, in L. Summers, Ed., 1 Tax Policy and the Economy 87-111 (1987). Becker, Grossman, and Murphy suggest that a greater than 100 percent tax pass-through is consistent with their model: if smokers are addicted but take into account the future consequences of their current actions, then firms are induced to further increase prices now because of the tax's deflation of future demand. See G. Becker et al., supra note 18, at 413.

⁶⁸ Barnett, Keeler, and Hu, supra note 67, take a skeptical view of the literature focusing on state pass-through experiences, arguing that those studies are measuring pass-throughs by distributors rather than manufacturers because arbitrage prevents manufacturers from charging different wholesale prices in different states. Under such circumstances, an excise tax increase in a single state would not be expected to have much effect on the wholesale price, but simultaneous changes in excise taxes in many states would raise manufacturers' distribution costs, and these increases would be treated no differently than an increase in input costs by the manufacturing sector in determining the retail price.

⁶⁹ H. Sung et al., Cigarette Taxation and Demand: An Empirical Model 12 *Contemp. Econ. Pol.* 91-100 (1994).

⁷⁰ D. Sumner, A Measurement of Monopoly Behavior: An Application to the Cigarette Industry, 89 *J. Pol. Econ.* 1010-19 (1981).

⁷¹ D. Merriman, Do Cigarette Excise Tax Rates Maximize Revenue? 32 *Econ. Inquiry* 419-428 (1994). In both the Sumner and Merriman studies, the estimated pass-through rates are statistically above one.

with distributors obtaining no more than a competitive rate of return for providing their services.⁷²

The above evidence suggests that the cigarette companies are likely to raise prices by an amount equal to 100 percent or more of the implicit excise tax imposed by the settlement. Therefore, the examples in the next section assume as a lower bound baseline that prices will increase by an amount equal to the implicit excise tax imposed by the settlement.⁷³

As explained in the beginning of this section, the settlement will have various effects on competition in the cigarette industry that may result in substantial price increases beyond those that can be accounted for by changes in costs. For example, suppose that prices rise by 60 cents per pack due to the pass-through of costs, and that prices rise by an additional 60 cents per pack due to the enhanced coordination among industry members. Then prices will increase by \$1.20 in total, or 200 percent of the per-pack cost increase. In the next section, this possibility will be described as a "price-increase ratio" of 200 percent. For purposes of the illustrative examples, this ratio of 200 percent will be employed as an upper bound. Even this upper bound scenario would probably leave prices significantly below the monopoly price level.⁷⁴

⁷² In maximizing profits, manufacturers seek an efficient distribution system that passes forward to consumers no more costs than are necessary to obtain competitive distribution services. Any excess price passed through to the ultimate consumer only reduces potential manufacturer profits. Prior to the settlement, the cigarette producers, wholesalers, and retailers would have reached agreements on reimbursement terms that were acceptable to all parties and that provided a competitive return to the distributors. Only if the settlement raised the costs of wholesaling or retailing would one expect distributors to be able to increase the increments they receive for providing distribution services. The settlement does not, however, appear to raise distribution costs in any significant way. Without observing alterations in payments along the vertical chain that occur in reaction to excise tax increases (e.g., changes in promotional allowances, payments for shelving, wholesale price variations, etc.), it is impossible to verify empirically which level in the vertical chain retains any additional revenue associated with a tax change. The literature indicates that after a tax increase, retail prices may rise somewhat more than the tax. Because the wholesale and retail distribution sectors are competitive, any revenue increases that accrue after a tax increase must benefit the manufacturing sector, where, as discussed in section I, a fully competitive outcome is less likely.

⁷³ The baseline example also assumes a 100 percent pass-through of the excise tax that will be assessed beginning in the year 2000. In addition, the example assumes a 100 percent pass-through of cost savings due to anticipated reductions in advertising and legal costs.

⁷⁴ Under the 200 percent price-cost ratio assumption, prices rise to about \$3.04 per pack. Current prices in some European countries are substantially higher than this figure. Based on
(continued...)

III. Examples of the Effect of the Settlement on Prices, Profits, and Public Sector Revenues

This section presents hypothetical numerical examples illustrating the potential financial effects of the proposed settlement. The discussion highlights the potential effects of differing degrees of industry coordination on cigarette prices, cigarette manufacturing industry operating profits, and public sector revenues. The baseline scenario assumes that the cigarette industry cannot exercise more market power as a result of the settlement, and therefore that the industry will "pass through" to cigarette consumers the costs of the settlement at the approximate historical rate of 100 percent, without any additional price increase due to enhanced coordination. Such a situation will be said to exhibit a price-increase ratio of 100 percent. To evaluate the impact of the increased industry coordination, which may be facilitated by the terms of the settlement, the baseline scenario is modified by raising the price-increase ratio from 100 percent to the higher levels of 125 percent and 200 percent.⁷⁵

This comparison demonstrates that increased industry coordination could add to cigarette industry profits and to a lesser extent to public sector revenues. If coordination is improved only moderately, as modeled by an increase in the price-increase ratio from 100 percent to 125 percent, the present value of industry operating profits net of income tax over the first twenty-five years of the settlement potentially rises by about \$16 billion (in present value) and public sector revenues (mainly tax revenues) increase by nearly \$7 billion (in present value) relative to what these sectors might receive absent features of the settlement making coordination more effective. A substantial increase in the effectiveness of industry coordination, modeled by an increase in the price-increase ratio to 200 percent, could raise industry operating profits by about \$56 billion (in present value) and public sector revenues by around \$33 billion (in present value). In general, these calculations suggest that roughly two-thirds of the benefits of improved cigarette industry coordination would go to the firms.

The examples also show that regardless of the extent to which industry coordination increases, the cigarette industry and the public sector could benefit financially from the proposed settlement. The financial implications of the settlement for the cigarette industry depend upon the value of those features of the settlement calculated to limit civil liability in lawsuits, and also upon the direct effect of the provisions of the settlement on industry profits. In the baseline

⁷⁴(...continued)

1995 data, Harris estimates that the monopoly price for cigarettes in the U.S. is approximately \$4.08 per pack. See J. Harris, *supra* note 34, at 292-294.

⁷⁵ A price-increase ratio of 125 percent corresponds to a long-term increase in the price of cigarettes of about 14 cents in addition to increases accounted for by the pass-through of costs. A price-increase ratio of 200 percent corresponds to a similar long-term price increase of 57 cents.

scenario, the cigarette manufacturers effectively purchase the liability limitations in the settlement for roughly \$10 billion (in present value) in lost operating profits. Unless the liability limitations are worth less than \$10 billion to the industry, which is unlikely, the manufacturers would benefit financially on balance in the baseline case with the 100 percent price-increase ratio. Moreover, if coordination is enhanced substantially, as modeled by a price-increase ratio of 200 percent, the cigarette industry gains both the civil liability limitations and a potential increase in operating profits of \$56 billion in present value relative to the settlement with a 100 percent price-increase ratio. Public sector revenues, including existing taxes as well as the new payments proposed by the settlement, increase in present value by roughly \$100 billion in the baseline scenario and an additional \$33 billion in present value if enhanced coordination generates a price-increase ratio of 200 percent. Although these amounts are substantial, they are considerably less than the \$368.5 billion "face value" of the settlement's annual payments package.⁷⁶

The examples presented in this section are not intended to provide precise predictions of the absolute levels of future prices, sales, profits, or public sector revenues. Their purpose is instead to illustrate the potential incremental effects of the settlement that are likely to depend on (1) any change in the level of competition in the industry as a result of the settlement, and (2) the consumer responsiveness to price increases. The examples provide a rough guide to the possible magnitudes of the financial flows that could be generated by the settlement. The remainder of this section details the basis for the conclusions set forth above.

A. Description of the Baseline Scenario and the Calculation Method

The example illustrates the effect of the settlement in a baseline scenario that uses data on current prices, quantity, taxes and industry costs. The baseline scenario also incorporates estimates of the demand elasticity, the secular downward trend in demand,⁷⁷ the price-increase ratio, and the settlement-induced marketing and legal cost savings. The key assumption in the baseline scenario is that the price-increase ratio is 100 percent, reflecting the historical pass-through rate but not presuming improved industry coordination. Each assumption used in the baseline scenario is presented in Table 8.

⁷⁶ Public sector revenues from the settlement will not reach the "face value" levels due to reductions in cigarette unit sales as prices rise and the continuation of the current U.S. trend toward reduced smoking. In addition, adjusting for the fact that the payments are made over a long time period rather than up front by discounting the future payments results in a lower present value of the settlement.

⁷⁷ The pattern of demand for cigarettes in the U.S. has shown a steady downward time trend that is unrelated to price changes. This trend is referred to as the secular trend in cigarette demand.

To facilitate the analysis, the example views the volume-adjusted portion of the annual payment as the equivalent of a per-pack excise tax, and assumes that the per-pack amount will be passed through to consumers in the form of higher prices.⁷⁸ It also assumes that the profit-penalty portion of the annual payment and the initial "up-front commitment" of \$10 billion is not passed through in higher prices.

In the example, the price-increase ratio relates the increase in price from the baseline price to all net cost changes under the settlement. Therefore, price changes also reflect the settlement-induced advertising and legal cost savings, assumed to be five cents per pack.⁷⁹

The quantity of cigarettes sold in each year is calculated by adjusting the 1997 quantity for the secular downward trend in demand, assumed to be -0.6 percent per year,⁸⁰ and for the quantity effect arising from the price increases caused by the settlement. The quantity effect arising from the price increase is calculated using the appropriate constant elasticity demand

⁷⁸ As discussed in section II.A.1, the annual payment amount is determined by first proportionally adjusting the "face value" amount specified in the settlement by any changes in sales volume that have occurred since the base year of the settlement. If volume adjustment reduces the amount of the payment, the reduction will be reduced by 25 percent of any additional operating profits the industry earns in that year as compared to the base year. This latter adjustment is referred to here as the "profit penalty." The volume-adjusted portion of the annual payment can be viewed as the equivalent of a constant per-pack excise tax because the proportional adjustment will lower the total amount of the payment but will always result in same per-pack amount, as in an excise tax.

⁷⁹ Cigarette industry advertising expenditures in media such as magazines, newspapers, billboards, and point of sale promotion totals about \$1.5 to \$2 billion a year, or about 6 to 8 cents per pack of cigarettes sold. The industry also spends another \$3 to \$3.5 billion per year in cents-off coupons and other promotional expenditures that would not be directly restricted by the settlement. (See FTC Report to Congress for 1995 Pursuant to the Federal Cigarette Labeling and Advertising Act.) The industry will likely reduce overall advertising expenditures under the settlement but continue some advertising in permitted media such as direct mail, adult-only magazines, and point of sale promotion in adult-only establishments. Cigarette industry legal costs appear to be around 2.5 cents a pack. The assumption of a five cent per pack reduction in advertising and legal costs is consistent with a reduction of 50 percent to 60 percent in those cost categories. No reduction is assumed in the other cents-off coupons or other promotional categories.

⁸⁰ J. Harris, *supra* note 56, at 5.

function, which in the baseline scenario is assumed to have a constant price elasticity equal to -0.4.⁸¹ Total sales revenues are then calculated by multiplying the price and quantity figures.

The industry's operating profits are calculated by multiplying the estimated average profit margin times current quantity and subtracting the volume-adjusted amount of the annual payment.⁸² Operating profits before income tax are calculated by subtracting from operating profits the "up-front commitment" paid at the start of the settlement and any annual payment profit penalties. Operating profits net of income tax are calculated by subtracting corporate income taxes,⁸³ which are calculated by multiplying pre-tax operating profits by the current marginal corporate income tax rate of 35 percent. The calculations of industry profits do not include estimates of the value of the limitations on civil liability, although this likely constitutes a major component of the financial benefits of the settlement to the industry.⁸⁴

Federal and state excise tax revenues are calculated by multiplying the pre-existing excise tax rates by the quantity of cigarettes sold in each year. Settlement payments are the sum of the initial "up-front commitment" payment and the annual payment, including any adjustments of the annual payment for volume changes and excess profits. Public sector revenues are from federal and state excise taxes, settlement payments, and corporate income tax revenue. Corporate income tax revenues are calculated by multiplying pre-tax operating profits by the corporate income tax rate. And finally, present value calculations use a discount rate of 7 percent.⁸⁵

⁸¹ The consequences of alternative assumptions about the functional form of industry demand are considered in Section III. D below.

⁸² The profit levels are approximations at best and are used mainly to examine the potential incremental profits arising from an increase in the ability of the industry to coordinate pricing due to certain features of the settlement.

⁸³ The calculation assumes that payments under the settlement are tax-deductible.

⁸⁴ One Wall Street research firm has estimated that the value of a comprehensive tobacco settlement to Philip Morris is on the order of \$75 to \$100 billion. G. Black and J. Rooney, Tobacco: As Third Wave Draws to a Close, Revaluations Likely to Mirror 1987 4 (Bernstein Research, Aug. 6, 1997). Considering that Philip Morris is close to half of the cigarette industry, the liability reduction due to the settlement might be worth as much as \$150 to \$200 billion to the industry prior to consideration of any anticompetitive gains due to enhanced industry coordination fostered by the settlement.

⁸⁵ The Office of Management and Budget recommends a 7 percent real discount rate for present value calculations involving government programs. See Office of Management and Budget, Economic Analysis of Federal Regulations Under Executive Order 12866 9 (Jan. 11, 1996).

B. Prices, Industry Profits, and Public Sector Revenues in the Baseline Scenario

Table 9 presents the figures obtained for prices, quantities, sales revenues, and manufacturer operating profits in the baseline scenario. Table 10 presents the figures obtained for public sector revenues. In both Tables 9 and 10, the main comparison presented for each quantity is what it would be without and with the proposed settlement. In each “without settlement” case, the example assumes that the existing state and federal excise taxes (including the recently passed federal excise tax) are in effect. In each “with settlement” case, the example assumes that there are, in addition, the excise taxes needed to collect the settlement revenue and that the recently enacted excise tax credit is in effect.⁸⁶ All figures are adjusted for inflation.

In the year 2002 in the baseline scenario (see Table 9), the year in which the annual payment reaches its full face value amount, the price with the settlement will be forty-two cents above what the price would be in 2002 without the settlement. The higher prices reflect the settlement costs passed through to consumers in the form of price increases at the baseline price-increase ratio of 100 percent.⁸⁷ Retail sales revenues increase by \$5.5 billion, reflecting the inelasticity of demand. Before accounting for the value of civil liability limitations provided by the settlement, Table 9 shows that industry pre-tax operating profits decrease by \$0.5 billion and operating profits net of income tax decrease by \$0.3 billion. Table 10 shows public sector excise tax revenues decreasing by \$1.2 billion in the year 2002, reflecting the lower quantity of cigarettes sold. Combined excise tax and settlement payments increase by \$8.8 billion, reflecting the addition of the settlement payments. The public sector’s total gain from the settlement in 2002, including excise taxes, settlement payments, and corporate income tax revenues, is approximately \$8.6 billion.⁸⁸

⁸⁶ Under the Balanced Budget Act of 1997, Pub. L. No. 105-33, enacted Aug. 5, 1997, Federal excise taxes on cigarettes will rise 10 cents in the year 2000 and 5 cents more in 2002. Section 9302 of Pub. L. No. 105-33 provides that excise taxes collected under that law will be credited against payments to be made under Federal implementation of the tobacco industry settlement agreement of June 20, 1997.

⁸⁷ The forty-two cent price increase is less than the often cited sixty-two cent increase due to the existence of the recently passed settlement credit and the assumed advertising cost savings. In 2002, under the 100 percent pass-through assumption, the without settlement price per pack would be equal to $\$1.90 + \$0.15 = \$2.05$. The with settlement price would be increased by the \$0.62 settlement excise tax and reduced by the \$0.15 credit and the \$0.05 savings on advertising and legal expenses, resulting in a price of \$2.47. Therefore, the price difference would be \$0.42.

⁸⁸ Corporate income taxes fall significantly in the first year of the settlement due to the initial payment. After the initial year of the settlement, corporate income tax revenues fall slightly in the 100 percent price-increase ratio case because corporate profits decline modestly as consumers...

(continued...)

Table 9 also shows that in the baseline scenario, exclusive of the effect of the civil liability limitation, the sum of industry operating profits net of income tax over the first 25 years of the settlement is \$14.5 billion lower than it would be without the settlement, and that the discounted present value of operating profits net of income tax is \$10.2 billion lower over this period under the settlement.

Table 10 shows that public sector revenues solely from the settlement's "up-front commitment" and annual payments total \$241.8 billion over the first 25 years and have a discounted present value of \$118.1 billion in the baseline scenario. This is in contrast to the \$368.5 billion "face value" sum stated in the settlement. The sum of the settlement payments is reduced below the face value because of the decrease in smoking associated with the secular decline in cigarette demand and by the reduction in consumption that occurs due to the higher prices.

Table 10 also shows that under the baseline scenario the discounted present value of the sum of excise tax and settlement payments collected over the first 25 years is \$105.9 billion higher in the baseline scenario than the present value of the excise taxes that would be collected over this period in the absence of the settlement. With the settlement, the present value of the sum of excise tax revenues, settlement payments, and corporate income tax revenues is \$100.4 billion higher than without the settlement.^{89 90}

⁸⁸(...continued)

purchase fewer cigarettes at the new, higher prices.

⁸⁹ The increase in overall public sector revenues is smaller than the settlement payment figures noted in the preceding paragraph because the settlement payments (and the increased corporate income tax revenues) are partially offset by the decrease in excise tax revenues.

⁹⁰ If the law crediting the ten to fifteen cent per pack excise tax passed in August 1997 against the settlement payments is rescinded, the implicit settlement-related excise tax will increase by the amount of this credit. If, as in the baseline scenario, this increase is passed on to consumers, it will have little effect on industry operating profits but will increase public sector revenues. The resulting higher price of cigarettes would be expected to further reduce cigarette consumption.

C. The Effect of Increased Industry Coordination

As discussed earlier, the less-than-fully-competitive nature of the cigarette industry, the features of the settlement that may make industry coordination more effective, and the relatively inelastic demand for cigarettes may allow the industry to increase prices far in excess of the increased costs arising from the settlement. The effect of increased industry coordination on industry profits and public sector revenues can be illustrated by altering key assumptions and comparing the resulting scenarios to the baseline. It is not unreasonable to think that certain terms in the settlement, particularly the broad antitrust exemption, might make it easier for the cigarette producers to achieve a consensus on industry price and other dimensions of competition. Such enhanced coordination that might occur as a result of the settlement is captured in the examples as an increase in the price-increase ratio.

In the baseline scenario it is assumed that price increases by 100 percent of the volume-adjusted portion of the settlement payment. A price-increase ratio of 125 percent would represent somewhat more effective coordination. A price-increase ratio of 200 percent would represent substantially greater coordination, though still less than monopoly pricing. Table 11 presents the results of the example when figures of 100 percent, 125 percent, and 200 percent are alternatively used for the price-increase ratio.⁹¹ The baseline price-increase ratio of 100 percent corresponds to a price increase (after 5 years) of \$0.42 per pack to consumers from the baseline price of \$2.05. A price-increase ratio of 125% corresponds to a price increase of \$0.56 per pack and a price-increase ratio of 200 percent corresponds to a price increase of \$0.99.

The results in Table 11 examine the effect, under the settlement, of industry coordination under a variety of assumptions about the elasticity of demand and the secular annual decline rate of cigarette sales.⁹² The results show that increasing coordination has a dramatic impact on industry profits, for each demand elasticity assumption. Using the assumptions in the baseline scenario, where the price-increase ratio is 100 percent, the sum of industry operating profits net of income tax over the first 25 years of the settlement would total \$49 billion in present value terms. If the price-increase ratio is 125 percent, the sum of operating profits net of income tax over this period would total \$65 billion in present value. And if the price-increase ratio is 200 percent -- a figure suggestive of what could happen if the industry is given a broad antitrust

⁹¹ As noted in Section II, estimates of the monopoly price for cigarettes calculated by Harris imply that the pass-through rate could extend beyond the 200 percent level. See J. Harris, *supra* note 34, at 292-294.

⁹² An elasticity of demand of -0.2 represents a smaller consumer response to changes in cigarette prices than does the scenario presented in Tables 9 and 10, implying that the quantity of cigarettes sold would not fall as much as in the original baseline scenario. Conversely, an elasticity of demand of -0.8 represents a greater consumer response to changes in prices, which would result in a larger fall in quantity.

exemption -- the present value of the sum of operating profits net of income tax over this period could total \$105 billion, or roughly \$56 billion more than what the industry obtains in the baseline scenario.⁹³ These potential gains to the industry represent a market power premium that could accrue if the settlement leads to an enhanced ability to coordinate behavior among the firms.

This same pattern of results holds for the various assumptions about the elasticity of demand and the secular rate of decline in cigarette sales. Under all of the scenarios, industry profits under the settlement increase substantially if the industry is able to increase the price-increase ratio from the base level of 100 percent to the higher, and more uncertain, level of 200 percent. For example, as shown in Table 11, with a 100 percent price-increase ratio and a -0.2 elasticity level, the present value of industry operating profits net of income tax is \$51 billion compared to \$117 billion if the price-increase ratio is 200 percent. At the much larger elasticity of -0.8, the corresponding values are \$44 billion and \$90 billion. In both cases the change in profits net of income tax due to the change in price-increase ratio is substantial.

Changes in the price-increase ratio have a much smaller effect on public sector revenues. When consumer demand is inelastic, more effective industry coordination generally increases public sector revenues, because revenues from corporate income taxes and the profit-penalty portion of the annual payment increase as industry profits increase, and the inelastic consumer demand limits the quantity decrease and the resulting negative impact on excise tax revenues. In the baseline scenario, which uses the price-increase ratio of 100 percent, overall public sector revenues from the cigarette industry total a present value of \$324 billion over the first 25 years of the settlement. If the price-increase ratio is changed to 200 percent, public sector revenues would increase to \$355 billion in present value. The potential increase in public sector revenues resulting from the higher price-increase ratio is even larger when demand is more inelastic.⁹⁴

Table 12 illustrates how the increased revenue from improved industry coordination could be shared between the public sector and the tobacco industry under the proposed settlement. When increased industry coordination occurs, industry profits rise because prices rise and demand does not fall off enough to offset the price rise. Public sector revenues tend to rise

⁹³ As with all the industry profit figures discussed in this section, these profits would accrue mainly to the major cigarette companies, the firms with significant market shares.

⁹⁴ In contrast, when demand is more elastic, the consumer response to the price increase is larger and the resulting larger drop in quantity causes a larger drop in excise tax revenues, offsetting the income tax and profit-penalty gains and causing the higher price-increase ratio to generate a small decrease in public sector revenues. In all cases involving a change from a 100 percent to a 200 percent price-increase ratio, corporate income tax revenues rise because the government obtains a 35 percent share of the higher profits obtained by the firms as price increases much more than the cost of the excise tax increase.

because, under the assumed corporate income tax, the manufacturers pay 35 percent of their increased profits to the public sector. However, the increase in income tax revenues is offset somewhat by a reduction in revenues from excise taxes as the quantity demanded falls.

As the entries in Table 12 show, in the illustrative calculations the industry receives approximately two-thirds of the gains from the increases in industry coordination. These incremental gains represent a market power premium received by the industry due to the enhanced ability to coordinate. As the price-increase ratio changes from 100 percent to 125 percent, the industry could receive a present value of \$16 billion (or 70 percent) of the total of \$23 billion of additional surplus generated by the enhanced industry coordination.⁹⁵ And, the industry could receive a present value of \$56 billion (or 63 percent) of the \$89 billion in additional surplus generated by increasing the price-increase ratio from 100 percent to the more uncertain level of 200 percent. In the examples, the public sector receives approximately one-third of the total surplus generated by increasing the price-increase ratios.

These results suggest that industry coordination is not likely to have a large negative impact on public sector revenues and may even lead to increased revenues. The main effect of more effective coordination, however, is to increase cigarette prices and industry profits. Industry operating profits may increase substantially above pre-settlement levels if the settlement enables the industry to coordinate more effectively. The additional profits would be obtained primarily at the expense of smokers, whose inelastic demand for cigarettes allows the industry to increase prices substantially while causing only a proportionally smaller effect on sales. Also, these additional profits are separate and apart from whatever value the firms might gain from civil liability limitations.

D. Issues Not Addressed in the Example

A number of factors have not been explicitly incorporated into the example in order to simplify the analysis. These factors and their potential effect on the results are discussed here. While the example does not explicitly include all of the complexities discussed in this section, many of the issues are captured within the parameters of the sensitivity analysis, which varies the assumptions about the elasticity of demand and the secular decline in cigarette sales used in the example. Furthermore, as noted earlier, the example is not intended to provide precise predictions of the absolute levels of future prices, sales, profits, or public sector revenues, but rather mainly illustrates the potential incremental effect of the settlement and how that incremental effect depends upon the ability of the industry to coordinate effectively and the consumer demand response to price increases.

⁹⁵ In this context, the term “surplus” refers to the total of excise tax revenues, settlement payments, income tax revenues, and manufacturers’ operating profits net of income tax related to cigarette sales. The dollar amounts presented in Table 12 are the present discounted values of the 25-year streams of payments.

The example uses a constant elasticity of demand to estimate the demand effect of price increases. In alternative specifications of demand such as a linear demand curve, the elasticity will rise as price rises, implying that the reduction in quantity will be larger than that predicted under a constant elasticity assumption and that sales revenues, industry profits, and public sector revenues will be lower.⁹⁶ The possible effect of a changing elasticity is largely captured in the sensitivity analysis presented in the top half of Table 11, which varies the elasticity assumption from a low of -0.2 to a high of -0.8. For example, if the demand elasticity rises from -0.4 to -0.8 at the same time the price-increase ratio increases from 100 percent to 200 percent -- that is, if demand grows more elastic as price rises -- then, according to Table 11, the present value of industry operating profits net of income tax rises by \$41 billion (rather than \$56 billion in the constant elasticity case) and public sector revenues decline by \$22 billion (rather than rising by \$33 billion). Thus, under this alternative assumption about demand, only the industry benefits from more effective coordination; the public sector loses. These alternative specifications of demand may not, however, be appropriate for the cigarette industry, because in this industry it is possible that the demand elasticity will fall as price rises, as a higher price forces casual smokers with elastic demand out of the market and leaves only committed smokers with inelastic demand.⁹⁷ In this case, quantity will fall by a smaller amount than predicted under a constant elasticity assumption, and sales revenues, industry profits, and public sector revenues will be higher.

The example also applies the same elasticity of demand to all smokers. Some studies have suggested that teenage smokers have a higher elasticity of demand than adult smokers, reflecting the fact that they are not yet as "hooked" as long-time smokers and that they have a much tighter income constraint on their expenditures.⁹⁸ A higher elasticity would imply that the price increases caused by the settlement will lead to proportionally larger decreases in demand in the youth market than in the adult market. The youth access restrictions required by the settlement also may contribute to a larger impact on the youth market. While both of these factors are important in any analysis of the effect of the settlement on youth smoking, they do not have much of an effect on the overall sales, profits, and public sector revenue figures calculated in the example. Youth smoking has been estimated to account for only about 2.1 percent of total cigarette sales.⁹⁹ Even a relatively large reduction in demand in the youth market would thus have only a minor effect on overall market demand, at least in the short term.

⁹⁶ Another alternative specification of demand, a semi-log curve, also has the property that elasticity rises as price rises.

⁹⁷ G. Becker et al., supra note 18, at 412-413. Moreover, the international evidence is consistent with the assumption of constant elasticity. See M. Stewart, The Effect on Tobacco Consumption of Advertising Bans in OECD Countries, 12 Int'l J. Advertising 164 (1993).

⁹⁸ See, for example, F. Chaloupka and M. Grossman, supra note 14.

⁹⁹ J. Harris, supra note 56, at 4.

The impact of any reduction in youth smoking would have a larger impact on overall market demand in the long term, however, because fewer youth smokers would grow into adult smokers. If the settlement substantially reduces youth smoking, which in turn substantially reduces adult smoking in the future, then the long-term demand-reduction effect of the settlement would be larger than indicated in the example, and long-term sales revenues, industry profits, and public sector revenues would be lower.¹⁰⁰

The example also does not explicitly account for the potential reduction in demand caused by the advertising restrictions specified in the settlement. Any effect of the advertising restrictions is likely to be larger in the long term rather than short term. The biggest potential impact may be in the youth market of the future, where children may go through their teen and pre-teen years without seeing the number and variety of advertisements for cigarettes that exist today. The potential effect of the advertising restrictions is likely to be less on the current youth market because current teens have already been exposed to years of cigarette ads. The restrictions are also less likely to have a significant effect on adult smokers, who have already formed the smoking habit. An effect of advertising restrictions on the future youth market might be similar to the possible impact of higher prices and access restrictions on youth smoking noted above. With such an effect, the settlement likely would cause a larger decrease in cigarette sales than estimated in the example, and sales revenues, industry profits, and public sector revenues would be lower. The intended effects of the advertising restrictions on aggregate youth smoking are suggested by the sensitivity analysis presented in the bottom half of Table 11, which assumes a faster secular decline in demand with the settlement than in the baseline case.¹⁰¹

Several additional factors not incorporated in the example could result in lower public sector revenues. There is a possibility that the higher cigarette prices caused by the settlement

¹⁰⁰ If future industry sales and profits drop far enough, public sector revenues could actually fall below pre-settlement levels, because excise and corporate income tax revenues would fall and would not be offset by settlement payments, which could be substantially reduced due to the volume decrease.

¹⁰¹ The assumption of a 2 percent annual decline in the demand for cigarettes under the settlement is not intended to be an estimate of the likely effect of the settlement's advertising and marketing restrictions, but is used only to illustrate the effect of a larger annual decline in smoking on industry profits and government revenues. The financial effects on firms due to changes in the Food and Drug Administration jurisdiction or regulations or due to reductions in sales due to enhanced public health campaigns are also not included in the calculations provided here, but any negative effects on firm profits from such changes might be suggested by the scenario with the faster secular decline.

payments could lead to a larger black market in cigarettes.¹⁰² The black market may circumvent annual payments and excise taxes and act to reduce public sector revenues.¹⁰³ It is also possible that cigarette companies could adopt accounting strategies to reduce book profits, and so limit their payments of the profit-penalty and any increased corporate income taxes. This could also reduce public sector revenues below the levels estimated in the example. In addition, higher cigarette taxes could reduce the demand for other tobacco-related products and services and thereby indirectly affect public sector revenues derived from these related markets.¹⁰⁴

Public sector revenues also may be reduced by awards in private suits against the industry. While the settlement (if enacted into law) would prohibit class action suits and punitive damage awards in private suits, it allows compensatory damage awards in private suits. The settlement specifies that the annual amount of compensatory damage awards will be limited to 33 percent of that year's annual payment, and that any award payments will reduce that year's annual payment at an 80 percent rate.¹⁰⁵ Thus, any future private suit awards will reduce public sector revenues from the settlement. It is difficult to predict the size of any such effect.

Public sector revenues may be increased by the payment of "look-back" surcharges if youth smoking is not reduced to the target levels specified in the settlement. The surcharges could total up to \$2 billion per year, though up to 75 percent of the surcharge could be abated on a company-by-company basis if the FDA determines that the company has engaged in good faith efforts to reduce youth smoking. It is difficult to predict the likely amount of surcharges that will be paid by the industry, which will depend on the future levels of youth smoking and on the abatement decisions of FDA.

Another simplification in the example is that it treats the cigarette market on an aggregated basis rather than breaking down the market into component segments, such as premium brands, discount brands, and generics. If the settlement causes the price differential between premium cigarettes and discount brands to change or if an identical dollar increase affects segment consumption in different ways, however, then the market shares of the component segments could also change. The effect of any such changes on the demand for

¹⁰² The higher prices could induce the smuggling of cigarettes from foreign countries and the diversion of U.S. produced cigarettes to a black market.

¹⁰³ An extensive black market would also lower the price-increase ratio, since it would be the equivalent of additional competitors in the market.

¹⁰⁴ The example also does not take into account any indirect effects of the settlement on overall U.S. economic activity and public sector revenue derived from this activity.

¹⁰⁵ The 33 percent limit applies to the combined amount of judgments and settlements. Amounts in excess of the limit are carried over to be paid in the following year, or in the next year below the limit.

cigarettes, industry profits, and public sector revenues, would be largely reflected in the example through their effects on the average price of cigarettes.¹⁰⁶

Finally, while the volume-adjusted face value of the annual payment is passed on to consumers in the form of higher prices, the example treats the profit-penalty portion of the annual payment (should it be implicated in any year) and the \$10 billion “up-front commitment” payment as fixed costs that are not passed through to consumers. If these payments were passed through to consumers, industry profits would increase. Public sector revenues would likely increase in the relatively more inelastic demand scenarios and decrease slightly in the more elastic demand scenarios. The increase in industry profits would occur under all assumptions about the price-increase ratio, and industry profits would still increase substantially under more effective coordination.

While all of the factors discussed in this section add complexity to the analysis, none changes the basic pattern illustrated in Tables 11 and 12 and discussed above -- that increased industry coordination, possibly facilitated by terms of the settlement, could lead to substantially increased profits under the settlement and that any additional surplus resulting from the increased coordination would likely disproportionately benefit industry, not the public sector.

¹⁰⁶ For instance, if the market share of generics grew, it would pull down the average price of cigarettes. This effect could be captured in the example by using a slightly lower price-increase ratio, which would result in slightly lower industry profits and public sector revenues. If the settlement led to increased industry coordination, however, the industry might be able to narrow the price gap between the segments and thus avoid growth of generic market share.

Table 8

Assumptions Used in the Baseline Scenario

1997 Price (per pack)						\$1.90
1997 Quantity (billions of packs)					24.2	
Current Excise Taxes (per pack):						
Federal						\$0.24
State (national average)						\$0.32
Manufacturer and Distributor Costs (per pack):						
Advertising and Marketing Costs					\$0.23	
Legal Costs					\$0.025	
Initial Average Profit Margin from Operations (per pack)					\$0.32	
Corporate Income Tax Rate on Incremental Industry Profits					35%	
Present Value Discount Rate					7%	
Cost Change Price-increase ratio					100%	
Demand Trend Growth Rate					-0.6%	
Demand Elasticity					-0.4	
Settlement Induced Advertising and Legal Cost Savings (per pack)					\$0.05	
New Budget Bill Excise Tax (per pack):						
Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002+</u>
	----	----	----	0.10	0.10	0.15
Settlement Payments (\$billion):						
Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002+</u>
Up Front Commitment	10.0	----	----	----	----	----
Annual Payment	----	8.5	9.5	11.5	14.0	15.0
Lookback Surcharge	----	----	----	----	----	0
Private Suit Award Credit	0	0	0	0	0	0
Annual Payment as Excise Tax per Pack (\$)	0	.352	.393	.476	.579	.621
New Budget Bill Tax Credit (per pack):						
Year:	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002+</u>
	----	----	----	0.10	0.10	0.15

Sources for assumptions: (listed on the following page)

NOTES TO TABLE 8: Sources for Assumptions

1. price:

Base price of \$1.85 per pack comes from Tobacco Institute, The Tax Burden on Tobacco, 1996, p. vii. This is the weighted average price of cigarettes for the U.S. as of November 1, 1996. This price was converted to a 1997 estimate by adjusting it by the rate of change in the BLS Tobacco and Smoking Products CPI index for the October 1996-July 1997 period.

2. output:

Total 1996 cigarette consumption of 24.4 billion packs is based on the USDA estimate. This was then adjusted downward by the assumed 0.6 percent decline rate to get an estimated consumption figure of 24.2 billion packs for 1997.

3. taxes:

1996 federal and state taxes from Tobacco Institute, The Tax Burden on Tobacco (1996).

4. profit margin:

Estimate of \$0.32 is based on weighted average of operating profits per pack from SEC 10K submissions of Philip Morris, R.J. Reynolds, Loews, and Liggett. The profits figures are based on domestic tobacco operations of the companies.

5. secular decline rate:

Estimate of assumed rate of decline in cigarette consumption of 0.6 percent from J. Harris, A Working Model for Prediction the Consumption and Revenue Impacts of Large Increases in the U.S. Federal Cigarette Excise Tax, (July 1, 1994)(unpublished manuscript).

6. advertising and promotion costs:

Unpublished estimate from FTC, based on various FTC reports to Congress pursuant to the Federal Cigarette Labeling and Advertising Act.

Table 9

**Prices, Quantities, Sales Revenues, and Profits
in the Baseline Scenario**

	(Year 0)	(Year 1)	(Year 5)	(Year 10)	(Year 25)	<u>Year 0 through 25</u>	
	<u>1997</u>	<u>1997</u>	<u>2002</u>	<u>2007</u>	<u>2022</u>	<u>Sum</u>	<u>Present Value</u>
<u>Price (\$ per pack):</u>							
Without Settlement	1.90	1.90	2.05	2.05	2.05	---	---
With Settlement	1.90	2.20	2.47	2.47	2.47	---	---
Change	0.00	0.30	0.42	0.42	0.42	---	---
<u>Quantity (billions of packs):</u>							
Without Settlement	24.2	24.1	22.8	22.1	20.2	569.3	---
With Settlement	24.2	22.7	21.1	20.5	18.7	531.0	---
Change	0.0	-1.4	-1.6	-1.6	-1.5	-38.4	---
<u>Retail Sales Revenues (\$billions):</u>							
Without Settlement	46.0	45.7	46.7	45.3	41.4	1154.0	570.7
With Settlement	46.0	49.9	52.2	50.7	46.3	1282.4	630.4
Change	0.0	4.2	5.5	5.4	4.9	128.4	59.7
<u>Manufacturer Profits, Exclusive of Value of Liability Limitations (\$billions):</u>							
<u>Operating Profits Before Income Tax:</u>							
Without Settlement	7.7	7.7	7.3	7.1	6.5	182.2	91.0
With Settlement	-2.3	7.3	6.8	6.6	6.0	159.9	75.2
Change	-10.0	-0.4	-0.5	-0.5	-0.5	-22.3	-15.8
<u>Operating Profits Net of Income Tax:</u>							
Without Settlement	5.0	5.0	4.7	4.6	4.2	118.4	59.1
With Settlement	-1.5	4.7	4.4	4.3	3.9	103.9	48.9
Change	-6.5	-0.3	-0.3	-0.3	-0.3	-14.5	-10.2

Note: All dollar figures are 1997 dollars.

Table 10

Public Sector Revenues in the Baseline Scenario

	(Year 0)	(Year 1)	(Year 5)	(Year 10)	(Year 25)	<u>Year 0 through 25</u>	
	<u>1997</u>	<u>1997</u>	<u>2002</u>	<u>2007</u>	<u>2022</u>	<u>Sum</u>	<u>Present Value</u>
<u>Federal & State Excise Tax (\$billions):</u>							
Without Settlement	13.6	13.5	16.2	15.7	14.3	391.1	189.8
With Settlement	13.6	12.7	15.0	14.6	13.3	364.4	177.6
Change	0.0	-0.8	-1.2	-1.1	-1.0	-26.7	-12.3
<u>Settlement Payments (\$billions):</u>							
Without Settlement	0.0	0.0	0.0	0.0	0.0	0.0	0.0
With Settlement	10.0	8.0	9.9	9.6	8.8	241.8	118.1
Change	10.0	8.0	9.9	9.6	8.8	241.8	118.1
<u>Corporate Income Tax (\$billions):</u>							
Without Settlement	2.7	2.7	2.6	2.5	2.3	63.8	31.8
With Settlement	-0.8	2.5	2.4	2.3	2.1	56.0	26.3
Change	-3.5	-0.2	-0.2	-0.2	-0.2	-7.8	-5.5
<u>Excise Tax + Settlement Payments (\$billions):</u>							
Without Settlement	13.6	13.5	16.2	15.7	14.3	391.1	189.8
With Settlement	23.6	20.7	24.9	24.2	22.1	606.2	295.7
Change	10.0	7.2	8.8	8.5	7.8	215.1	105.9
<u>Excise Tax + Settlement Payments + Income Tax (\$billions):</u>							
Without Settlement	16.3	16.2	18.7	18.2	16.6	454.8	221.7
With Settlement	22.8	23.2	27.3	26.5	24.2	662.2	322.0
Change	6.5	7.0	8.6	8.3	7.6	207.3	100.4

Note: All dollar figures are 1997 dollars.

Table 11

**The Effect of Increased Industry Coordination on Industry Profits and Public Sector Revenues
Under Various Assumptions About Demand Elasticity and Annual Decline Rate of Demand**

<u>Scenario Assumptions</u>		<u>The Present Value of Industry Profits and Gov't Revenues Over Years 0 Through 25 (\$billions)</u>					
		<u>Public Sector Revenues</u>					
		<u>Settlement Payments Years 0 through 25 (\$billions)</u>	<u>Industry Operating Profits Net of Income Tax</u>	<u>Excise Tax, Settlement Taxes and Pmts, and Corporate Income Tax</u>			
				<u>Excise</u>	<u>Settlement</u>	<u>Corporate</u>	
<u>Demand</u>	<u>Price-</u>	<u>Sum</u>	<u>Value</u>	<u>Taxes</u>	<u>Payments</u>	<u>Income Tax</u>	
<u>Elasticity</u>	<u>Increase</u>						
	<u>Ratio</u>						
<u>Secular Annual Rate of Decline in Demand Under the Settlement = 0.6%:</u>							
-0.2	100%	254	124	51	186	309	337
-0.2	125%	263	128	68	184	312	349
-0.2	200%	295	140	117	179	320	383
<u>-0.4</u>	<u>100%</u>	<u>242</u>	<u>118</u>	<u>49</u>	<u>178</u>	<u>296</u>	<u>322</u>
-0.4	125%	245	120	65	174	294	329
-0.4	200%	275	133	105	165	299	355
-0.8	100%	220	108	44	163	271	295
-0.8	125%	213	105	59	156	262	294
-0.8	200%	224	111	90	141	252	300
<u>Secular Annual Rate of Decline in Demand Under the Settlement = 2.0%:</u>							
-0.2	100%	214	109	45	164	274	298
-0.2	125%	216	111	61	163	274	307
-0.2	200%	247	125	102	159	284	339
-0.4	100%	204	105	43	157	262	285
-0.4	125%	202	104	58	154	259	290
-0.4	200%	224	116	93	147	262	312
-0.8	100%	186	96	39	144	240	261
-0.8	125%	178	93	52	139	232	260
-0.8	200%	182	96	80	126	221	264

Notes: (1) Baseline scenario underlined. (2) All dollar figures are 1997 dollars.

Table 12a

**Financial Flows Under Four Scenarios
(billions of 1997 dollars)**

<u>Scenario</u>	<u>Price-Increase Ratio</u>	<u>Operating Profits Net of Income Tax</u>		<u>Public Sector Revenue</u>	
		Sum	Present Value	Sum	Present Value
Without ----- Settlement		118	59	455	222
Settlement Baseline Scenario	100%	104	49	662	322
Settlement With More Effective Coordination	125%	140	65	677	329
	200%	227	105	735	355

Table 12b

**Financial Implications of More Effective Coordination
(billions of 1997 dollars)**

<u>Comparison of Settlement Scenarios</u>	<u>Additional Operating Profits Net of Income Tax</u>		<u>Additional Public Sector Revenue</u>		<u>Industry Share of Additional Surplus</u>
	Sum	Present Value	Sum	Present Value	
125% Price-Increase Ratio vs. Baseline (100%)	36	16	15	7	70%
200% Price-Increase Ratio vs. Baseline (100%)	123	56	73	33	63%

Notes: (1) The size of the Additional Industry Operating Profits Net of Income Tax can be viewed as the industry's market-power premium. (2) Industry share of additional surplus is calculated by dividing additional industry operating profits by the sum of additional profits and additional public sector revenues, using the present value amounts.