Measurement of U.S. Tobacco Liabilities: A Burning Issue or Just Smoke?

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MEASUREMENT OF U.S. TOBACCO LIABILITIES: A BURNING ISSUE OR JUST SMOKE?

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Abstract

The purpose of this paper is to provide background information about tobacco use, litigation and related diseases. It also provides a conceptual framework for developing an exposure-based model to estimate insurers' U.S. exposure to tobacco liability. A description of the model building process, the parameters required and sources of data that can be used in the analysis are included. The analysis focuses on modeling the underlying costs for individual smoker illness and death. Considerations for including other types of litigation amounts (e.g., health care reimbursement and class actions) are discussed less extensively. Issues affecting potential insurance coverage are addressed, as well as those surrounding the reflection of reserves in financial statements. The paper stops short of developing the specific model and values for its parameters.

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INTRODUCTION

> **"But with the slow menace of a glacier, depression came on. No one had any measure of its progress; no one had a plan for stopping it. Everyone tried to get out of its way."[1]**

The Centers for Disease Control (CDC) has identified cigarette smoking as "...the most important preventable cause of morbidity and premature mortality in the United States...."[2] The CDC estimates that each year over 400,000 deaths in the U.S. are attributable to cigarette smoking, and that in 1993 smoking-attributable direct medical care expenditures were $50 billion.[3]

Approximately 50 million Americans age 18 and older currently smoke, with about an equal number of former smokers. In November 1998, the attorneys general of the various states reached a $246 billion settlement of the health care reimbursement lawsuits.[4] That helped to set off a new wave of lawsuits in the sea of litigation against tobacco manufacturers. After dodging a bullet earlier in the Louisiana health care litigation,[5] insurers too became involved in coverage litigation in a suit filed by Liggett Group Inc. against 33 of its insurers in February 2000.[6]

Insurer involvement in coverage disputes is now a certainty. Less certain are the extent of their involvement and whether any coverage will be ruled applicable. Stakes have been placed in the ground on both sides of the issue. Considering the *magnitude of the dollars involved, it is an issue that must be taken seriously.*

But what, exactly, are the issues? How did we get here? And what can we do to estimate, plan and prepare?

Section I, Background, provides information about the history and evolution of tobacco usage, social acceptability and the economic importance of tobacco during the 20th century.

Section II, Tobacco-Related Diseases, discusses the degree of association between tobacco and various diseases and the absence of a true "signature disease." It will introduce the difficulty of proving the direct, specific causation of the injuries required to establish liability.

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[1] Perkins, Frances, U.S. educator, People at Work, Sec. IV, 1934.
[2] Centers for Disease Control, Morbidity and Mortality Weekly Report, July 8, 1994.
[3] CDC and Institute for Health and Aging, University of California analysis.
[4] Total of previous agreements with 5 states, $40 billion, and new agreement with remaining 46 states for $206 billion. Payable over a 25-year period. Payments vary by year, but are approximately $9 billion per year at 1998 unadjusted levels.
[5] Louisiana used its direct action statute to try to make insurers a party to the proceedings.
[6] *Liggett Group Inc, Brooke Group Holdings v. Affiliated FM Insurance Company, et al.*, February 4, 2000.

Section III, Litigation History, reviews the high degree of successful defense achieved by the tobacco industry over the last 50 years. Key defenses to liability are outlined.

Section IV, Insurer Involvement, reviews the extremely limited involvement of insurers in tobacco litigation and claims to date and discusses potential insurance coverage defenses.

Section V, Quantifying the Potential Liability, outlines the development of an exposure-based model as described above.

Section VI, The Potential Impact on Insurers, discusses reasons attributed to the limited number of claims against insurers to date, mounting pressure being placed on manufacturers to file insurance claims and events that could influence a change in their posture. A method for extending the quantification to measure the potential impact on insurers is outlined and accounting requirements are briefly reviewed.

Section VII, Summary and Conclusion, notes that until there is a change in the claim filing posture of manufacturers, it may be premature to develop estimates of potential insurer liability for reserving purposes. Although such estimates would not appear to meet the tests of FAS 5 and 60 for most insurers, it is not too early to use exposure-based models as an important tool in the contingency planning process. If circumstances do change and insurance claims become more prevalent, clearly such estimates will be needed – initially for coverage defense cost amounts and perhaps later for liability.

At the time of this writing, events are taking place that may significantly affect the conclusions presented herein. As mentioned in the opening paragraph, one of the smaller tobacco product manufacturers, Liggett Group Inc., has again broken ranks from other manufacturers to file a major lawsuit against 33 insurers in an attempt to obtain declaratory judgment for coverage from its insurers. Clearly, the effectiveness of insurer defenses is about to be tested and this case warrants careful monitoring.

I. BACKGROUND

"You ask me what I need to win this war. I answer tobacco as much as bullets..."[7]

Experts believe that as early as 1 BC, American inhabitants began smoking and chewing tobacco. Shortly after the discovery of America in the late 1400s European explorers were introduced to tobacco; during the next century, they spread its use throughout the world. During the 17th century, as tobacco use increased, it became the subject of both condemnation for its potential health risks and heavy taxation in many countries — too valuable a source of tax revenues to live without. Perhaps the best example of these competing goals can be seen in the government of King James I. In King James I's "A Counterblaste to Tobacco", he wrote, "Smoking is a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs..." At the same time James' government found taxes on smoking to be extremely profitable. In an attempt to stamp out smoking, King James increased the tobacco tax by 4,000% and then watched as usage was severely curtailed and Treasury funds began to dry up. In response, the tax was cut to a more moderate amount and Treasury funds grew nicely, perhaps setting a disturbing model for governments to follow for centuries to come. Throughout the 18th century, tobacco's importance to the U.S. economy continued to grow, with tobacco notes becoming legal tender in Virginia in 1727. In the 19th century, ways of using tobacco continued to evolve and the cigar and paper-rolled cigarette were introduced.

By the 20th century, the use of tobacco in the U.S. was widespread and generally socially acceptable, despite the fact that its link to premature death and illness had long been suspected and despite the ban of cigarette sales in a number of states (Iowa, North Dakota, Tennessee and Washington) at the beginning of the century. The tobacco industry (including farmers, manufacturers, distributors, and advertisers) had become a significant force in the country's economic and political systems.

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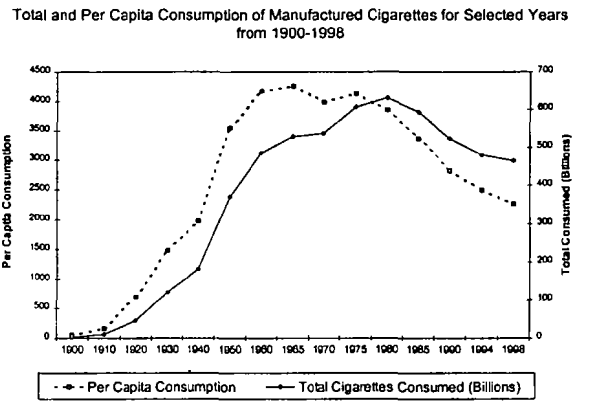
[7] Pershing, General John J., 1917

Chart 1 displays cigarette consumption from 1900 through 1998.



In 1900, cigarette consumption[8] was 2.5 billion cigarettes per year, or 54 cigarettes/year per capita. By 1910 this had grown rapidly to 8.6 billion cigarettes, or 151 cigarettes/year per capita. Increased consumption was helped by the two World Wars and the inclusion of cigarettes in soldiers' daily rations. In fact, during the Great War, General John J. Pershing said to the nation's leaders, "You ask me what I need to win this war. I answer tobacco as much as bullets...tobacco is as indispensable as the daily ration; we must have thousands of tons without delay." By the end of World War I in 1918, cigarette consumption had risen to 45.6 billion per year, or 697/year per capita. By the end of World War II in 1945, consumption rose to 340.5 billion, or 3,449/year per capita. Consumption peaked in 1963 at 523.9 billion or 4,345/year per capita.[9] The steep increase in cigarette consumption in these years, coupled with the post-war baby boom coming of age in a smoking-tolerant culture, and the long latency periods of smoking-related diseases (from time of first exposure), mean that the total health costs of smoking are becoming an increasing and significant issue that will not abate for several decades.

In the late 1950s and early 1960s, several significant changes took place: (1) anti-smoking activism became stronger, leading to the first Report of the Surgeon General on smoking in 1964; (2) filter cigarette usage began to increase; (3) as penetration of the male market began to plateau, the industry began developing and marketing products aimed at women; and (4) the first health warnings on cigarette packages were required in 1966. The introduction of filtered cigarettes and the rise in the percentage of female smokers have increased debate regarding the health

[8] Consumption figures based on CDC, Morbidity and Mortality Weekly Report, "Surveillance for Selected Tobacco-Use Behaviors - United States, 1900 -1994", November 18, 1994.
[9] Although1963 was the peak for consumption of cigarettes per capita, total number of cigarettes consumed peaked in 1981 at 640.0 billion.

effects, as the disease latency periods mean that the effects on females (who tend to prefer filtered cigarettes) have not begun to appear as strongly as those relating to males and unfiltered cigarettes. There are some indications, for example, that use of filtered cigarettes increases the rate of cancer in the outer periphery of the lungs relative to the bronchial tubes and core lung area.

Since the 1960s, tobacco advertising and indoor usage have been progressively restricted, the overall percentage of smokers has been declining (it peaked at 42.4% of adult Americans in 1966), research and publicity on smoking-related diseases has intensified, and anti-smoking activism has continued to increase.

The first tobacco liability lawsuit was initiated in 1954. As described in section III, Litigation History, this was the beginning of the first of four waves of lawsuits against tobacco manufacturers. In the 1990s, product litigation against the tobacco manufacturers began to increase noticeably (the fourth wave). Both tobacco usage by minors and environmental tobacco smoke (ETS, or secondhand smoke) became particular concerns. Since the beginning of the products litigation, the tobacco industry has taken a very aggressive — and successful — defense posture, vigorously defending every case and incurring significant legal costs. However, in 1996, the Liggett Group (the smallest of the U.S. tobacco manufacturers) offered to settle the *Castano* class action suit. By mid-1997, almost all of the states were considering or had already filed lawsuits against the tobacco manufacturers to recover health care costs spent to treat smoking-related illness, creating a whole new set of litigation dynamics.

II. TOBACCO-RELATED DISEASES

"Smoking is a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs..."[10]

Although smoking was long suspected of having an adverse impact on health and mortality rates, this was not made explicit to the American public until the 1964 Surgeon General's report,[11] which concluded that:

- Cigarette smoking is associated with a 70% increase in age-specific death rates of men.
- Cigarette smoking is causally related to lung cancer in men.
- Cigarette smoking is the most important cause of bronchitis in the U.S.
- A relationship exists between cigarette smoking and emphysema (although the report did not establish the relationship as causal).
- Male cigarette smokers have a higher death rate from coronary heart disease, although the causative role was not proven.
- Pipe smoking is causally related to lip cancer; cigarette smoking is a significant factor in the causation of cancer of the larynx in men; an association exists between tobacco use and cancer of the esophagus and the urinary bladder in men, but it is not necessarily causal.
- Women who smoke during pregnancy tend to have babies with lower birth weight.
- There is an association between cigarette smoking and various kinds of ulcers.
- The habitual use of tobacco is related primarily to psychological and social drives, reinforced and perpetuated by the pharmacologic actions of nicotine.

Research since 1964 has substantiated and strengthened the findings of the 1964 report, established associations between smoking and other diseases, shed light on pathogenic mechanisms of tobacco-related disease and added scientific depth to various parts of the 1964 report.[12]

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[10] King James I, 1604
[11] CDC, 1964, "Smoking and Health. Report of the Advisory Committee to the Surgeon General of the Public Health Service."
[12] "Advances in Knowledge of the Health Consequences of Smoking," Report of the Surgeon General, 1989.

The 1989 Surgeon General's report summarizes many of the subsequent research project findings, including:

- Smoking also causes lung cancer in women.[13]
- There is a dose-response relationship for lung cancer with cigarettes smoked per day, degree of inhalation and age at initiation of regular smoking.[14]
- It is a major cause of coronary heart disease in men and women.
- It is a cause of stroke.

It is important to understand that the 1964 and 1989 reports used the word "cause" to convey "the notion of a significant, effectual relationship between an agent and an associated disorder or disease in the host." The use of the word "cause" did not exclude other agents as causes. Rather, the authors shared "a common conception of the multiple etiology of biological processes." This is a key distinction between tobacco and asbestos, and it is an important factor in establishing a legal basis for a suit. Asbestos has disease associations, similar to those for tobacco, to certain diseases such as lung cancer. However, asbestosis and mesothelioma are virtually only caused by exposure to asbestos,[15] i.e., they are "signature diseases." While the words in the 1964 and 1989 reports seem strong, they do not say that the only cause of lung cancer (or any other disease) is cigarette smoking (i.e., there is no "signature disease" for tobacco).

In order to understand some of the liability issues associated with tobacco litigation, it is helpful to spend a little time reviewing some of the relationships between tobacco and lung cancer.

Lung Cancer

The association between lung cancer and smoking is one of the strongest of any of the smoking-related diseases. Chart 2 illustrates this association by comparing cigarette consumption (for males and females combined) with lung cancer death rates for males for selected years from 1900 - 1997.

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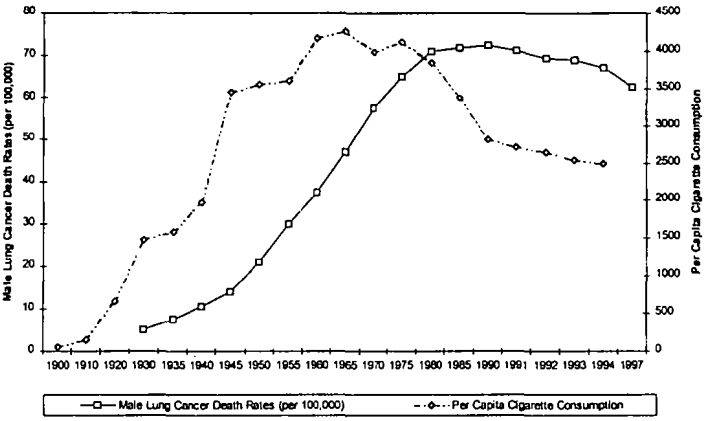
[13] 1971 Surgeon General's report. "Cigarette smoking is a cause of lung cancer in women but accounts for a smaller proportion of cases than in men."
[14] Doll and Peto Study, 1978.
[15] Journal of the National Cancer Institute, "Asbestos Linked Cancer Rates Up Less Than Predicted," April 1992.

Per Capita Cigarette Consumption and Male Lung Cancer Death Rates for Selected Years from 1900-1997



The relative risk[16] of a male current smoker developing lung cancer is 22.36, according to CPS II.[17] The closest rival is cancer of the larynx, with a relative risk of 10.48 according to that same study. Over 90% of men with lung cancer are smokers,[18] even though only 27.6% of adult males in 1997 were current smokers.[19] Even in1955, believed to be the peak year of the percentage of male smokers, less than 60% of males smoked. Chart 3 shows a graph of the percentage of adult male current smokers and the death rates from lung cancer among that same group. There appears to be a strong correlation, with about a 25- to 30-year lag between changes in smoking percentages and lung cancer rates. It is notable that the sharp decline in the percentage of adult males who are current smokers (from almost 60% in 1955[20] to 27.6% in 1997[21]) has not yet been fully reflected in lung cancer rates, which began to level off in 1985, peaked around 1990 and then began to decline. There was a 12.2% decline in lung cancer mortality rates between 1991 and 1997. (The decline was significantly greater for males under age 65.) This may be the beginning of a decline that should continue for many years if past relationships between smoking rates and lung cancer incidence continue to hold.

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[16] The age-adjusted percentage of male smokers that develop disease divided by the percentage of non-smokers that develop that disease.

[17] Cancer Prevention Study II, American Cancer Society. Although cancers of the lip, oral cavity, and pharynx carry a higher relative risk, 27.5, they represent a much smaller number of injuries.

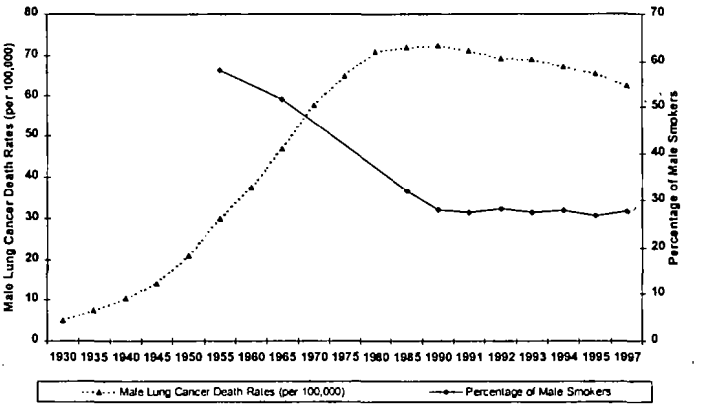
[18] Based on an analysis of relative risk and percentages of the U.S. population that smoke.

[19] CDC, National Center for Health Statistics, National Health Interview Survey.

[20] National Cancer Institute, "Cancer Death Rate Declined in the 1990s for the First Time Ever," Cancer Facts, October,1997.

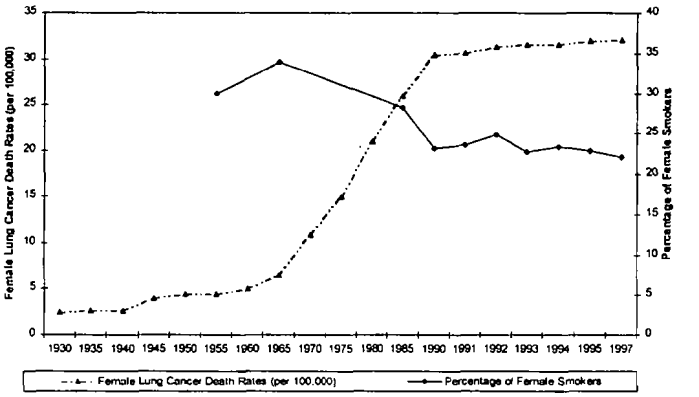
[21] Centers for Disease Control, 1965 - 1997 National Health Interview Survey.

Percentage of Male Smokers and Lung Cancer Death Rates for Selected Years from 1930-1997



Female lung cancer rates appear to be similarly related to smoking rates, although they are in a different stage of the cycle. Smoking was not as fashionable and socially acceptable for females until the 1930s, and the percentage of female smokers was well below the rate for males. The significant growth curve in the percentage of women current smokers started about 30 years later than that for men. It is estimated that in 1955 only 30% of women were current smokers – more than 25 percentage points below the rate for males. Smoking rates continued to increase for females, peaking at about 34% in 1965, and have declined since, but more slowly than for males. The 1997 female smoking rate of 22.1% is only about 5 percentage points below the rate for males. Unfortunately, this type of equality is not good for women, as their lung cancer rates continued to grow by 4.6% from 1991 to 1997 because of the time lag in their usage growth curves compared to those of males. Chart 4 displays a graph of female smoking and lung cancer rates for selected years from 1930 to 1997.

Percentage of Female Smokers and Lung Cancer Death Rates for Selected Years from 1930-1997



The existence of a strong dose-response relationship between smoking and lung cancer,[22] mentioned previously, further bolsters the case that smoking causes lung cancer.

Although there is statistical evidence of a very strong association between lung cancer and smoking, there are major difficulties in proving an individual's lung cancer was due to smoking, including the following:

- Certain types of lung cancer such as adenocarcinoma and large cell carcinoma are not associated with smoking as strongly as squamous, small cell and oat cell cancer.[23]

- A host of factors other than smoking may increase an individual's risk of contracting lung cancer, including:

  - prior family cancer history
  - certain other lung diseases that may increase susceptibility to lung cancer[24]
  - occupational exposure, e.g., asbestos exposure[25]
  - air pollution
  - diet.[26]

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[22] Doll and Peto Study, 1978.
[23] Morabia, A., MD, PhD, Wynder, E. L., MD, "Cigarette Smoking and Lung Cancer Cell Types," Cancer November, 1991.
[24] Peto et al. 1983: Samet, Humble, Pathak 1986: Skillrud, Offord, Miller 1986.
[25] Saracci, 1987.
[26] Colditz, Stampfer, Willet, 1987.

This discussion of diseases focused on lung cancer and smoking because this is the area in which the statistical association between smoking and lung cancer is the strongest. The major point of this discussion is that, despite the strong statistical support that smoking causes lung cancer, it is difficult to prove that a specific individual's lung cancer is the result solely of smoking and is not due to other intervening factors. It is even more difficult to prove that other smoking-related diseases result from that individual's tobacco use, due to the lower degree of association of those diseases with smoking and other intervening/contributing factors (such as lack of exercise). This is important to understanding the legal history of smoking-related cases described in the next section.

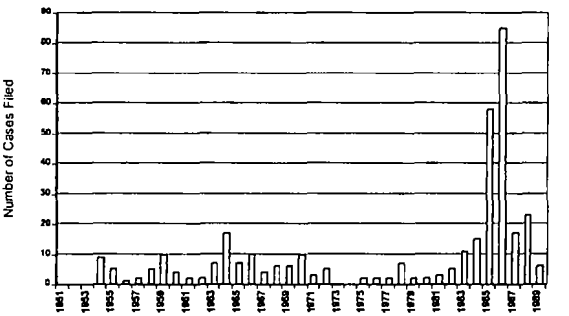
III. LITIGATION HISTORY

"It ain't over...until its over."[27]

In the Beginning...

Chart 5 displays the number of lawsuits involving individual smoker injuries filed against tobacco manufacturers by year from 1951 through 1989.

Number of Cases Filed Against Tobacco Companies 1951-1989



The first tobacco liability suit was brought in 1954, *Lowe v. R.J. Reynolds, et al.* It immediately attracted eight additional cases that year. During the balance of the 1950s, no more than ten suits were filed in any year. Most of the legal theories used were standard for product liability cases (e.g., negligence, failure to warn, design defect).

The manufacturers' response was to put up a strong defense, refuse to pay any settlement, and pursue all possible appeals. All motions and court rulings were also litigated until a satisfactory resolution was reached or there was no further legal recourse. Key defenses included preemption under the Federal Cigarette Labeling and Advertising Act, assumption of risk, lack of proximate causation, lack of defect and, where applicable, statutes of limitations.

As verdicts and summary judgments in favor of the defense began to mount, in the early 1960s the rate of filings slowed to a trickle until 1964, when a second wave started, perhaps in response to the Surgeon General's report. There was an increase to 17 lawsuits in 1964 and an average of ten per year for the balance of the decade. By 1970 defense victories continued to mount, despite the occasional bump in the road. All verdicts favored the manufacturers, as did most of the important rulings.

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[27] Berra, Yogi

Suits filed trickled to fewer than three per year. The emerging pattern was that even when most jurors were convinced that smoking causes lung cancer, they could not get past the assumption of risk argument. They believed that smokers freely chose to smoke despite the fact that the dangers of smoking were, or should have been, apparent (e.g., *Pritchard v. L&M, 10/8/68*).

The next wave of litigation followed adverse rulings in *Cipollone v. Liggett Group Inc., et al.,* filed in 1983. The case involved a suit by the estate of Rose Cipollone, a smoker who died of lung cancer, and her surviving husband. In 1988, the jury awarded $400,000 to the surviving spouse for breach of express warranty, but awarded nothing to the estate of Mrs. Cipollone. Even though the jury found that the manufacturer failed to warn of the risks of smoking prior to 1966, and that failure was the proximate cause of Mrs. Cipollone's cancer, they found her 80% at fault. This barred any recovery under comparative negligence. The case was appealed and ultimately the manufacturer won the war of attrition in1992, when the court ruled that the claim was preempted by the Federal Cigarette Labeling and Advertising Act.

No money was paid to either plaintiff. However, while the issues were being litigated, a third wave of lawsuits was triggered. More than 50 suits were filed in 1985, peaking at about 85 in 1986. In total, the 1980s saw 200 suits filed. But of the more than 300 individual smoker liability suits that had been filed since 1954, as of 1990 not one had resulted in a sustained verdict for the plaintiff with a paid indemnity amount.

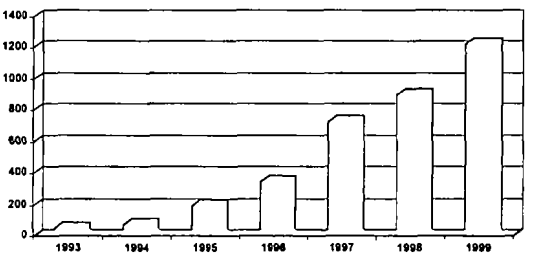
The seas remained calm for most of the first four years of the1990s. Storm clouds began brewing in 1994 when the Mississippi attorney general filed the first health care reimbursement lawsuit. And the first new chink in the armor of the defense team occurred in August 1995 in the form of a $2 million dollar verdict in *Lorillard v. Horowitz*. The Lorillard verdict was appealed, Lorillard lost and damages were ultimately paid. However, as discussed in the section titled Individual Smoker Cases, Kent Filters below, the Lorillard suit was unique and, in many respects, not typical of the individual smoker case.

As momentum grew in the attorneys general health care suits, the landscape shifted. Although they were individual state suits, there were a core of highly funded and experienced trial lawyers who worked for most of the states on a contingency fee basis. This enabled the plaintiffs to make a well-coordinated attack on a finely tuned defense machine. These cases are more fully described below. The bottom line is that settlements totaling $246 billion were reached with all the attorneys general. There also was a considerable amount of evidence gathered that has been used to portray the manufacturers as having knowledge that cigarettes were addictive and caused various diseases well before the general public. The combination of the large dollar settlements and additional information that could be used in other cases helped to generate the fourth wave, a storm surge of more than 1,500 lawsuits

during the 1990s – of which 1,225 of those cases were still pending at the end of 1999. Many are class action suits involving millions of plaintiffs and billions of dollars. The major types of cases filed and their status are discussed below. The outcome of these pending cases will undoubtedly determine whether a tidal wave will follow.

Chart 6 displays the number of lawsuits pending against the tobacco industry from 1993 through 1999.

Lawsuits Pending Against the Tobacco Industry 1993-1999



Individual Smoker Cases

There are currently more than 1,000 individual smoker injury lawsuits pending against the tobacco industry, almost equally divided between smoker and ETS claims.[28] In addition to the momentum created by the health care reimbursement case, a few important plaintiff wins in individual smoker cases helped generate the unprecedented number of new test cases. Although some of those verdicts have already been overturned and others are on appeal, plaintiff attorneys appeared to be convinced that the industry was vulnerable. A few of the more important cases are discussed below.

Carter v. Brown & Williamson – In August 1996, a Florida jury found for the plaintiff and awarded $750,000 to the estate of a smoker who died of lung cancer. That victory proved to be only temporary, as a Florida Court of Appeal reversed the jury's verdict in June 1998 because the claim was filed more than four years after the injury. However, the court noted that had the claim not been barred, it would have ordered a new trial to determine whether the claims were preempted by the warnings on cigarette packages required under the 1969 federal labeling act. The court also found that documents presented should have been granted attorney-client privilege, and that those documents had a prejudicial impact on the jury. The ruling was sustained by the Florida Supreme Court in late 1999.

[28] Based on analysis of 10K filings at year-end 1999.

Widdick v. Brown & Williamson – In June of 1998, another Florida jury awarded $1,002,249 in compensatory and punitive damages to the widow and estate of a smoker who died from lung cancer. In January 1999, a Florida Court of Appeal reversed the ruling and ordered a new trial in a different location.

Henly v. Philip Morris – In February 1999, a California court awarded a smoker $1.5 million in compensatory damages and $50 million in punitive damages against the company for concealing the dangers of smoking from consumers. In April 1999, the trial judge reduced the punitive damage amount to $25 million but denied motions to throw out the award and order a new trial. Philip Morris is appealing the verdict.

Williams v. Philip Morris – In March 1999, an Oregon state court awarded $821,485 in compensatory damages and $79.5 million in punitive damages to the family of a former smoker. The trial judge reduced the punitive damages to $32 million. Philip Morris is also appealing this verdict. Oregon law provides that the state receive 60% of any punitive damage award. There is also controversy over whether that potential payment ($19.2 million) is excused under the Master Settlement Agreement discussed below in the Health Care Reimbursement section.

Whitely v. Philip Morris & R.J. Reynolds – In March 2000, a San Francisco jury awarded $1.7 million in compensatory damages and $20 million in punitive damages to a former smoker who alleged that she contracted lung cancer as a result of her smoking in combination with household exposure to asbestos. Philip Morris and R.J. Reynolds have both said that they will appeal the verdict.

Broin II Cases – As a result of a settlement in the *Broin* class action, discussed below, 501 lawsuits by flight attendants claiming personal injury as a result of illness caused by secondhand tobacco smoke in airline cabins are currently pending individual trials. As part of the class action settlement, the manufacturers will allow there to be a presumption that smoking causes various illnesses and they have waived the statute of limitations. However, each individual must prove that he or she has a disease caused by ETS in airline cabins and that they are legally entitled to recover damages from one or more U.S. cigarette manufacturers. Punitive damages are not allowed by the settlement.

EPA Report on ETS – In 1993, the United States Environmental Protection Agency (EPA) issued a report on the health effects of ETS. The report included a risk assessment of the association between ETS and lung cancer in nonsmokers and a determination to classify ETS as a Group A carcinogen. In July 1998, a federal judge vacated those portions of the report, citing serious flaws in the supporting analysis. The federal government is appealing this case. The dismissal of this report will not help the prospects of plaintiffs in ETS cases such as Broin II.

Kent Filter Cases – These are cases that have been brought against Lorillard for cigarettes manufactured in the 1950s with asbestos-containing "micronite" filters that allegedly caused mesothelioma to smokers. They are somewhat different than other cases in that they relate to the alleged inhalation of asbestos, a proven carcinogen. It is certainly easier to prove causation and more difficult to use assumption of risk defenses in such cases. Despite this "vulnerability," Lorillard has won 10 of 13 trials. The groundbreaking case was *Lorillard v. Horowitz*. In September 1995, a California

jury awarded $1.4 million in compensatory and $0.6 million in punitive damages to a smoker who contracted mesothelioma. All appeals on this award were exhausted and payments to the plaintiffs were made. A second case was lost in February 1996 (*Newman v. Lorillard),* and an amount of $140,000 was awarded and subsequently paid. The third award was made in April 1999, in *Connor v. Lorillard, et al.*, in the amount of $2.3 million. Lorillard has appealed. The awards in these cases are allocated between the filter manufacturer and Lorillard.

Despite the publicity received by cases with plaintiff verdicts, the tobacco industry continues to win most of the trials. In 1999, eight of the eleven individual smoker trials were won by the defendants.

Health Care Reimbursement Lawsuits

State Attorneys General

In 1994 several state attorneys general developed a novel theory to use in attempting to sue tobacco manufacturers. They decided to sue on behalf of the state to recover medical costs expended to treat smoking-related illness. The approach used in these cases is somewhat unorthodox. Normally, a health care payor can only assume the rights of the individual to sue for recovery. It cannot sue directly for its own damages without "stepping into the shoes" of the individual, requiring the same level of proof that there was liability to that individual due to smoking. However, a number of states enacted legislation to expressly enable the state to file such suits. The legislation also effectively took away two of the traditionally strongest of the defenses by requiring only statistical correlation and making "assumption of risk" more difficult to use. The law only requires that a statistical proof that smoking causes cancer be presented. Initial rulings did not go well for the tobacco manufacturers in several of the states that were scheduled for early trials. Also, the cases were drawing significant adverse publicity, and an early loss may have required a significant up-front payment (either to the plaintiff or to post a bond while the cases were appealed).

Regardless of the reasons, a national settlement was proposed and agreed to by the litigants that would have required over $368 billion in payments by the tobacco manufacturers[29] and additional federal regulation (including further restrictions on marketing, advertising and smoking in public places). Penalties also would have been issued if targets for the reduction in the number of underage smokers were not achieved. The proposed $368 billion settlement would have included funds for a number of federal programs, in addition to amounts earmarked for the states. In return, the manufacturers would have received settlement of all governmental health care reimbursement suits, settlement of the addiction/dependence claims, settlement of all class actions pending and prohibition of future class actions. Individual smoker suits would have been permitted, but punitive damages prohibited and caps placed on the total annual payment to successful plaintiffs.

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[29] Payments over the first 25 years; actual payments continue in perpetuity. Payments varied by year, but ongoing annual payments would have been $15 billion at 1997 levels.

The settlement required Congress to enact enabling legislation. Some health advocates believed "Big Tobacco" was finally on the ropes and wanted to include higher payments and more regulation in the legislation. Monetary demands exceeded $525 billion. The bill became unacceptable to the manufacturers and the legislation was killed. Instead, a settlement was reached separately with each of five states[30] whose trials had begun, and later a Master Settlement Agreement was reached with the remaining 46 states. The settlements in the five states total $40 billion. The Master Settlement Agreement provides terms similar to those of the failed national settlement but with several important differences:

- Monetary payments will be $206 billion.
- FDA regulation is not provided for tobacco.
- No resolution of class actions is included.
- No limitations of punitive damages or caps on individual award payments are included.

Other Health Care Cases

Hoping to ride the coattails of the attorneys general in this unorthodox approach, attorneys filed many similar suits on behalf of Native Americans, unions, other health care providers, foreign governments and, recently, the U.S. federal government. Approximately 60 of these cases are still pending. However, to date they have generally not met with similar success. Many of these cases were dismissed by a lower court, and appeals have been upheld in several U.S. Courts of Appeal.[31] The principal difficulty has been that the claims have been ruled as "too remote" because they are derivative of third parties. Simply put, the plaintiffs don't enjoy the same legal standings as the states did. The claims must be brought directly by or for specifically named injured individuals, with all of the same burdens of proof of liability that would apply to any individual smoker claim. However, some cases have survived motions to dismiss and may proceed to trial. As we've seen so often in tobacco cases, it's not over until the last appeal is ruled on.

The case brought by the federal government is in the very early stages,[32] and it must overcome several additional hurdles to be successful. These include challenges to the legal authority for the suit, knowledge the government had about the dangers of smoking,[33] whether there are in fact increased costs[34] and whether income that the government receives from the sale of cigarettes should be considered. Nevertheless, the Justice Department is a formidable opponent and it is being assisted by experienced tobacco litigators.

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[30] Mississippi, Texas, Florida, Minnesota and Washington.
[31] Second, Third, Fifth and Ninth Circuits.
[32] Filed on September 22, 1999.
[33] Via the various Surgeon General reports and studies by several agencies.
[34] J.J. Barendregt, et al., "The Health Care Costs of Smoking, October 1997."

Class Actions

A class action is a lawsuit filed by one or a few people on behalf of a much larger "class" of people who share common legal interests with the named plaintiffs. In order for a lawsuit to proceed on a class basis, to protect the companies being sued and the rights of the members of the class who are not before the court, a court must determine that it is proper to go forward on that basis, or "certify" the class. A key legal requirement for a class action is that legal and factual issues common to the class must predominate over issues that only affect individual class members.

In *Amchem Products Inc. v. Windsor,*[35] a class action involving individuals exposed to asbestos, the U.S. Supreme Court rejected a class action because the claims of the individual class members were too different from each other to satisfy the requirements for a class action. The court ruled that the class members were exposed to different asbestos-containing products, in different ways, over different time periods and for different durations, and suffered different types and severity of injury. This ruling by the Supreme Court has caused many lower courts to scrutinize class actions carefully and made them less willing to grant certification. Many of the attempted class actions for tobacco have failed to meet the certification tests required and have been dismissed.

Approximately 50 class actions are currently pending against tobacco manufacturers. Most of these cases have not had ultimate judicial determination as to whether the class is appropriate. As mentioned earlier, while the absolute number of class actions is relatively small, many of these cases purport to represent thousands of people and in some cases seek billions of dollars in claims. Some of the more important cases are discussed below by category.

Class Actions Involving Injuries to Individuals

Norma R. Broin, et al. v. Philip Morris Companies Inc., et al. – This is the only class action settled to date. The case involved Florida flight attendants who were exposed to ETS in airline cabins. In 1997, at about the same time the failed national settlement in the health care reimbursement cases was being negotiated, a trial had begun in this case. Rather than risking an adverse verdict, litigants reached a settlement. In that settlement the manufacturers agreed to pay $349 million to create and endow a research institute to study diseases associated with cigarette smoking and to pay attorney's fees. As noted earlier, manufacturers also agreed to waive the four-year statute of limitations on individual claims by flight attendants and allowed the generic presumption that smoking causes various diseases. However, individual trials are required and punitive damages are not permitted, as described above under Individual Smoker Cases, Broin II.

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[35] aka *Georgine.*

R.J. Reynolds Tobacco Co., et al. v. Howard A. Engle, M.D., et al. – The class that has been certified in this case consists of Florida residents who claim to have diseases or medical conditions caused by their addiction to smoking. The trial has been divided into three phases. Phase One included common issues related to elements of liability, general causation and a potential award of punitive damages. The second phase consists of the claims of the three specific named individuals in the case. The trial court has ordered that if there is a finding of liability to any of the three individuals, then the same jury should also determine punitive damages, if any, on a class-wide basis. The third phase will address all other class members' claims in individual trials before separate juries.

Phase One was concluded in July 1999, with a verdict for the plaintiffs. The jury found that:

- Smoking causes 20 diseases or medical conditions.
- Cigarettes are addictive, defective and unreasonably dangerous.
- Defendants made materially false statements with the intent of misleading smokers.
- Defendants concealed material information concerning the health effects and addictive nature of smoking.
- Defendants were negligent and engaged in extreme and outrageous conduct, or acted with reckless disregard with the intent to inflict emotional distress.
- Defendants' conduct "rose to a level that would permit a potential award of punitive damages."

In April 2000, during Phase Two, the same jury awarded compensatory damages of $2.9 million and $4.0 million to two of the three named individuals in the case. The third plaintiff was awarded $5.8 million, but the jury found that his claim was barred by Florida's four-year statute of limitations. The manufacturers have said they will appeal the verdict and the judge's decision to allow the case to proceed as a class action. The same jury is now considering potential punitive damages. Phase Three may involve thousands of individual trials and will take many years to complete. The determination of punitive damages on a class-wide basis was appealed by the manufacturers, but their petition was denied. The Florida Supreme Court decided not to review the issue "at this time." Compensatory damages, if any, would be paid to each plaintiff at the end of their trial and the appellate process. As currently structured, punitive damages can't be determined for any individual until all trials for each class member are completed, since the total number of people entitled to share such damages won't be known until that time.

Class Actions Involving Addiction Only

One of the early class action cases, filed in March 1994, was *Castano v. American Tobacco Company, et al.* A consortium of more than 60 law firms supported the case, with each pledging $100,000 per year in funding to support the action. The claims in the case related to alleged addiction to tobacco, and sought medical monitoring costs and other remedies. In February 1995, the lower court certified a nationwide class. However, in May 1996, the Fifth Circuit Court of Appeals overturned that certification, ruling that individual issues predominated and greatly outweighed issues common to the class as a whole. Not to be discouraged, the well-funded consortium changed its strategy to focus on seeking certification of statewide classes, as have most class actions filed since that ruling. Overall, only a few class actions have been certified and survived appeal.

Class Actions Involving Asbestos Manufacturers

Smoking, in combination with exposure to asbestos, is believed to significantly increase the probability of contracting asbestosis and mesothelioma.[36] Prior to 1990, there were more than 300 lawsuits filed by asbestos manufacturers (or other litigants) seeking recovery of amounts expended for asbestos injuries to individuals that were allegedly caused by, or accelerated by, smoking. All of these cases were won by the cigarette manufacturers.

The aftermath of the attorneys general health care recovery cases, however, offered the opportunity of a new legal climate and new information about tobacco. There are ten cases pending involving lawsuits by asbestos manufacturers[37] seeking contribution for funds expended by them to individuals whose asbestos disease was caused, at least in part, by smoking. Three are scheduled for trial during 2000.

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[36] Erren, T.C., Jacobsen M., Piekarski, C.,"Synergy Between Asbestos and Smoking on Lung Cancer Risks," *Epidemiology,* July 1999.

[37] Some cases are actually brought by their insurer or settlement trust.

IV. INSURANCE INVOLVEMENT

> ***"INSURANCE, n. An ingenious modern game of chance in which the player is permitted to enjoy the comfortable conviction that he is beating the man who keeps the table."***[38]

Reported lawsuits in which tobacco manufacturers sought to obtain coverage for defense costs or potential liability awards from their insurers for smoker lawsuits could not be located prior to 1996. Some observers speculate that this is the case either because manufacturers believe that there is no applicable insurance coverage, or because the potentially applicable coverage and limits are so small in relation to the total potential liability that manufacturers prefer to maintain complete control of how their defense is handled.

Other observers have speculated that manufacturers have enough legal battles on their hands without taking on the insurance industry in yet another protracted battle in which the extensive discovery process regarding the manufacturers' prior knowledge of the hazards of smoking may unwittingly assist those plaintiffs currently suing the manufacturers. This situation may be changing.

In January 1996, Imperial Tobacco Limited, a subsidiary of BAT Industries, filed suits in Quebec, Canada, against American Home Assurance Co. and Commercial Union Assurance Company of Canada. The cases are seeking coverage under excess umbrella liability and CGL policies issued between 1936 and 1986 for defense costs and potential damages arising from personal injury suits brought by smokers. The coverage actions are believed to have been filed to preserve the rights of Imperial and have not progressed beyond the early stages of litigation. Insurer defendants have not assumed the defense nor acknowledged a duty to indemnify.

On March 14,1997, the situation changed somewhat in the U.S., but not at the behest of the manufacturers. In connection with the health care reimbursement lawsuit brought by the Louisiana Attorney General, a supplemental petition naming more than 100 insurers that had provided coverage to tobacco companies as additional parties to the action was filed. In most states, plaintiffs are not entitled to sue the defendant's insurer. However, three states (Wisconsin, New Hampshire and Louisiana) have enacted special "direct action" statutes that provide: "The injured person...shall have a right of direct action against the insurer within the terms and limits of the policy...." Published reports have speculated that the move was designed by the Attorney General to pit the manufacturers against another powerful adversary. However, several of the insurers named were foreign insurers that had arbitration clauses in their policies. Jurisdiction was successfully moved to London,

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[38] Bierce, Ambrose, U.S. journalist, The Devil's Dictionary, 1911.

and the case was dismissed prior to any significant litigation pitting insurers against manufacturers. In March 1998 in another Louisiana case *Dolores Frank, et. al., v. American Tobacco Co., et. al.*, a wrongful death action, the plaintiffs applied the same legal principles to enjoin insurers as defendants. In that case plaintiffs were careful to name only U.S. based insurers[39] in their suit. The case was dismissed in August 1999.

There are a limited number of public reports of other actions in which insurers have received notice of possible claims or actual claims that have been reported by AM Best.[40]

In addition to the pending cases, Schroder Securities Limited published a report[41] in 1999 on BAT stock that identified what Schroder considers to be substantial evidence of insurance coverage. The Schroder report focuses on the insurance policies identified in the Louisiana health care reimbursement lawsuit. The report divides those policies into two categories: (1) CGL policies and (2) policies sold to manufacturers explicitly covering potential tobacco health liability. Schroder claims that the CGL policies use "...exclusions of dubious efficacy and that analysis of older policies reveals an absence of relevant exclusions, poor definitions and ambiguous policy limits." The report further claims that senior policyholder lawyers are keen to litigate the coverage issue, that the potential recovery far exceeds the costs of pursuing coverage, and that it is clearly in the best interest of the shareholders for tobacco manufacturers to pursue recovery.

Insurers whose policies were identified in the Schroder report responded with vehement denials that coverage exists. They claim that the explicit health liability policies were written on a claims-made basis and that the allowable reporting period has long since passed without a claim report. They similarly cite explicit tobacco exclusions present in the CGL policies and numerous other policy provisions that bar such claims.

At the time of this writing, there has been another interesting development. On February 4, 2000, one of the manufacturers, Liggett Group Inc., broke ranks with the other manufacturers and filed suit against 33 insurers. Liggett is seeking declaratory judgment of coverage for defense costs and settlement payments that it has incurred and will incur under primary, excess and umbrella, and advertising liability insurance policies issued from 1970 to 1999.

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[39] Liberty Mutual, Home, and St. Paul.

[40] Best Week, March 25, 1996 "Insurance Industry Gets Early Warnings Of Possible Tobacco-Related Claims."

[41] Schroders, Recommended List, BAT plc (BATS.L – 552p) (ADR - $18.31), July 8, 1999.

Potential Coverage Issues

Involved insurers and other observers have identified a number of coverage issues that either have arisen in cases to date or that may arise as coverage litigation proceeds. These include:

Specific tobacco exclusions – Insurers began to incorporate tobacco exclusions in policies for tobacco companies in the late 1950s. The prevalence of tobacco exclusions increased over time and wording was also strengthened. Because these policies are generally manuscripted, wording varies. As was the case with asbestos and pollution, the efficacy of various wording will undoubtedly be tested in the courts. In addition to primary challenges to the wording, issues will arise as to whether such exclusions apply to secondhand smoke exposure. Such exclusions are also not likely to be present in policies of potential secondary and tertiary defendants such as suppliers, distributors, retailers, advertising agencies and law firms.

Pollution exclusions – In the early 1970s, "sudden and accidental" pollution exclusions were introduced by most insurers as standard policy provisions. They became standard in CGL policies in 1973 and were strengthened in 1986. Such exclusions may well become issues in secondhand smoke cases as lawyers debate whether ETS qualifies for coverage. Controversies are likely to center around whether smoke discharged in enclosed interior spaces has been discharged into the atmosphere, whether the release is sudden and accidental, and its applicability to product liability cases.

Occurrence definition – Issues may well arise as to whether the liabilities develop from "an accident...which results in bodily injury...that was neither expected nor intended." Determination of what the manufacturers knew about the health effects and when they knew it may be key in deciding these issues.

Covered damages – Another issue is whether payments arising from health care reimbursement suits brought by the attorneys general, and other governmental or medical insurance entities are "...sums which the insured shall become liable to pay as damages because of bodily injury or property damage," or equitable relief (because the state did not have a bodily injury).

Late Notice – Issues are likely to arise as to whether manufacturers failed to provide notice "...as soon as practicable" and whether the failure to do so was prejudicial to insurers.

Coverage trigger – As with asbestos and pollution, controversies are likely to arise as to which policies and limits apply. Is it the policy in effect when the claimant was first exposed (exposure trigger), the policy in effect when the injury was first diagnosed (manifestation trigger), or are all policies in between exposure and manifestation applicable (continuous trigger)?

Summary

It is beyond the scope of this paper to judge the merits of the case for or against insurance coverage. The purpose of this section is merely to heighten the reader's awareness of cases already pending on this subject, and the likelihood that additional cases may be filed. Extensive issues must be resolved by the courts, most likely on a state-by-state basis, before coverage can be determined.

V. QUANTIFYING THE POTENTIAL LIABILITY

"Do not expect to arrive at certainty in every subject which you pursue. There are a hundred things wherein we mortals...must be content with probability, where our best light and reasoning will reach no farther."[42]

This section discusses techniques and sources of data for quantifying the potential liability of tobacco manufacturers. The description of the quantification process focuses mainly on individual smoker liability, although there are other important sources of potential liability, including:

- Class actions involving the occurrence of diseases in groups of individual smokers
- Individual and class action addiction-only suits
- Individual and class action secondhand smoke cases (ETS)
- Health care reimbursement suits by the federal government, native American governments, HMOs and various other public and private health care providers
- Injuries from other tobacco products such as pipes, cigars and smokeless (chewing) tobacco.

Each of these sources of liability will be discussed briefly following the individual smoker model discussion. Section VI, Potential Impact on Insurers, will discuss issues affecting insurer involvement and how to extend the analysis down to the individual insurer level.

The Process - Individual Smoker Liability

The model to estimate potential insured tobacco losses described here is an exposure-based simulation model. This model uses exposure information for the individual policies for the book of business being evaluated, such as the distribution by type of insured, risk classification, policy deductibles, retentions and limits. The model simulates the process by which (1) the underlying injuries occur, (2) economic damages are generated, (3) people pursue recovery of those damages through the legal and insurance systems, and (4) the terms and conditions of the insurance contract serve to define the insured portion of those damages. Such models have proved particularly useful in estimating insurers' potential exposure to mass torts such as asbestos and environmental claims. While the specifics of this

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[42] Watts, Isaac, (1674-1748), English Minister

discussion are unique to tobacco liability, the reader may recognize that the ***process*** is essentially the same as that described in two papers, "Measurement of US Pollution Liabilities" and "From Disability Income to Mega-Risk: Policy Event Based Loss Estimation."[43]

The modeling process, as adapted to determine potential tobacco liability (prior to considering insurance coverage), is outlined below. A description of each of the steps follows the outline. Section VI, Potential Impact on Insurers, outlines two additional steps needed to determine the impact on a particular insurer or reinsurer.

1. Determine Starting Population To Be Analyzed

    a) Select a year to begin, based on analysis of statutes of limitations.

    b) Divide the population into subgroups, based on attributes that affect the timing and severity of disease incidence (i.e., smokers, non-smokers by age or age group, gender, age at inception of smoking, age at cessation of smoking, degree of usage).

2. Determine How Diseases Will Emerge

    a) Estimate the relative risk of contracting smoking-related diseases.

    b) Develop/select appropriate mortality/morbidity tables.

3. Track Injuries Over Time

    a) Age the population forward year by year to determine potential injuries that may be alleged to have been caused by smoking.

    b) Keep track of disease incidence and deaths by year and type of disease.

4. Determine the Number of Cases With Recovery

    a) Assess propensity to sue.

    b) Estimate likelihood that plaintiff wins.

5. Estimate the Indemnity Value of Cases Won by Plaintiffs.

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[43] Bouska, A., McIntyre, T., "Measurement of US Pollution Liabilities," CAS Forum, Summer 1994 and Bouska, A., "From Disability Income to Mega-Risk: Policy Event Based Loss Estimation," CAS Forum, Summer 1996.

Step 1. Determine the Starting Population

If we wish to estimate the potential liability for existing lawsuits and newly emerging suits, we first determine the population of injuries/deaths from which a lawsuit may arise. Laws vary from state to state, and often the specifics of any legal action govern its outcome. However, generally there are statutes (statutes of limitations) that place a time limit on how long after the recognition of an injury an individual has to bring suit against the alleged wrongdoer. Thus, for example, not all people alive in the year 2000 with lung cancer that allegedly arose from smoking will be allowed to bring suit. Many of those people were diagnosed too long ago and will be barred by the applicable statute of limitations.

The first step in building the model is to analyze these statutes state by state and decide on the appropriate way of handling them. Options are to subdivide the populations by state and consider each state's applicable statute, or, if the range of variation is reasonably small, an average value may be selected. For simplicity, if statutes of limitations most often fall in a narrow range (for example, between three and six years), an average value of four or five years may be selected for purposes of analysis.

Assume, for example, that we are trying to estimate liability for the year beginning January 1, 2000 and each year thereafter. If the analyst has selected four years as the appropriate "average" statute of limitations, then smokers with injuries occurring prior to January 1, 1996 need not be considered. Therefore, the most suitable starting population would be information about the U.S. population as of December 31, 1995. The U.S. Bureau of the Census, Population Division publishes extensive data by year. Generally, the information provided reflects mid-year population estimates. Interpolations or other approximation techniques may be used to estimate year-end populations.

The population should be divided into "buckets" based on attributes that significantly affect the percentage of smokers, or the timing and severity of disease incidence. Items for consideration include:

- Age – The percentage of people who smoke varies considerably by age. Generally, smoking rates increase with age until age 45, after which they decline somewhat. Disease incidence rates also tend to increase with age for most smoking-related diseases.

- Gender – Male and female smoking rates and disease incidence rates differ considerably by age. Generally, females started smoking more recently as a group and, therefore, smoking-related diseases are not yet as prevalent as they are for males.

- Ultimate smoking status – Those that never smoke versus those who will smoke for some period of time during their life.

- Age at inception of smoking/age at cessation of smoking – Generally, the earlier the age at which smoking begins and the longer the duration of smoking, the higher the probability of injury from smoking-related diseases.

- Degree of cigarette usage – For a given age, gender and duration, the disease incidence rates will vary depending on how many cigarettes are consumed per day.

Unfortunately, no single source of the required information on all attributes is available. This necessitates obtaining information from multiple sources and analytically combining them into a single estimated profile of the starting population. The U.S. Bureau of Census population data is available in detail by age and gender. Data on current, former and never smokers separately by gender and age group is available from the Centers for Disease Control (CDC), Tobacco Information & Prevention Sourcepage.

The National Center for Health Statistics publishes additional breakdowns of the percentage of current smokers by age group and gender. Data regarding the age at which people start and stop smoking is available from the 1989 Surgeon General's report: "Reducing the Health Consequences of Smoking – 25 Years of Progress" and the National Health Interview Survey (NHIS) from the Office of Smoking & Health.

Step 2. Determine How Diseases Will Emerge

Relative Risks of Diseases

The 1990 Surgeon General's report, "The Health Benefits of Smoking Cessation," provides a convenient summary of numerous studies estimating the relative risk of contracting smoking-related diseases. The most recent and largest study included in that report is CPS-II (Cancer Prevention Study II, sponsored by the American Cancer Society). The CPS-II relative risks are reasonably consistent with prior studies with respect to the relative risk for contracting most diseases, except for lung and oral cancer. For the latter two categories, the relative risks indicated in CPS-II are far in excess of that indicated in prior studies. There have been some criticisms of limitations in the extent to which CPS-II controls for risk characteristics other than smoking, as a possible contributor to overstating the relative risks for these two categories. Analysts may wish to evaluate this information carefully and temper the indications as appropriate. A more modest tempering of the indicated CPS-II relative risks for other diseases may also be appropriate based on analysis of all the studies presented.

The CPS-II study generally presents information in four buckets for each disease type: male, female, current smokers and former smokers (for strokes and coronary heart disease there are also splits for under and over 65 years of age). As the length of time since cessation of smoking increases, the relative risk of a former smoker

contracting a smoking-related disease generally declines. The 1990 Surgeon General's report contains information about this relationship for the various smoking-related diseases. It is necessary to analyze this information in conjunction with the CPS-II information in order to develop an appropriate spread of relative risks for former smokers by number of years since quitting.

Mortality/Morbidity Tables

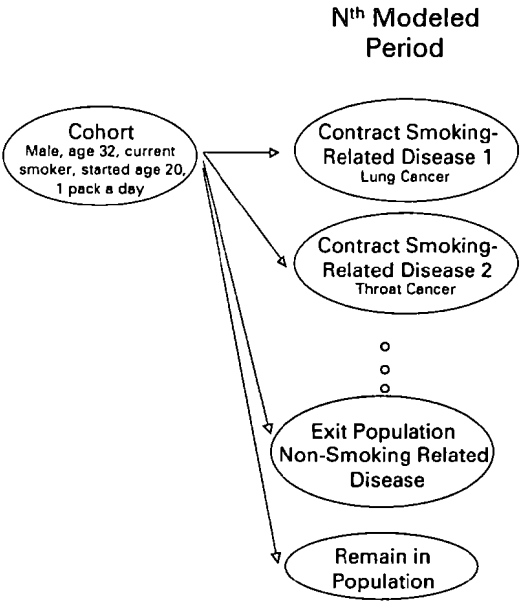
A source of information for determining smoking-related cancer mortality/morbidity rates is the National Cancer Institute's publication "SEER Cancer Statistics Review." Information about other diseases is available from the CDC and the National Center for Health Statistics.

An appropriate mortality table needs to be selected as a starting point. If necessary, the analyst needs to make appropriate adjustments to apply to a 1995 starting population and include appropriate splits for current, former and never smokers. As will become apparent in Step 3, the mortality rates need to be net of (exclude) the mortality/morbidity effects of smoking-related diseases.

Step 3. Track Injuries Over Time

The purpose of this step is to identify the number of people in the population who develop and/or die from each of the smoking-related diseases at each modeled period.

Separate mortality/morbidity tables are available or were developed (as described in Step 2) for each smoking-related disease. As shown in the diagram below, the disease rates for the smoking-related diseases are applied to each cohort of the population to determine the proportion of the population contracting those diseases. To the extent someone in the population dies or becomes ill from one of the diseases being analyzed, potential liability may attach. These people are then "removed" from the healthy population and tracked separately. The mortality table is then used to eliminate those people who are part of the remaining healthy population who die from other causes in the next year. Therefore, the mortality tables described in Step 2 must be net of (exclude) the mortality/morbidity effects of smoking-related diseases. The proportion of each cohort that does not either (1) contract a smoking-related illness or (2) exit the population for a non-smoking related disease, remains in the population for processing in the next modeled time period.



Of course, populations are not just reduced for mortality — there are also new entrants (births). If projected injuries are for relatively short time periods — up to 25 years — then the analyst may wish to ignore new entrants, since it is not likely that individuals in that population group will begin smoking and become injured before reaching age 25. (This assumes that second-generation injury claims are not a significant factor.) Even if projections are needed over a longer period of time, such individuals will certainly have a more difficult time proving that they did not know the risks associated with smoking. Other adjustments also need to be considered for long-term projections, such as trends in mortality and morbidity rates.

Step 4. Determine the Number of Cases with Recovery

In addition to the number of smoking-related diseases as determined in Step 3, two key components determine the number of cases in which liability may be assessed against the manufacturer:

1. Propensity to sue – the likelihood of an individual suit being filed, given the existence of a smoking-related disease.

2. "Win rates" – given the existence of an individual suit, the likelihood that the plaintiff will win the case and the manufacturer will be required to make an indemnity payment.

Propensity to Sue

According to Dunbar, et al.,[44] there is a four-stage process for filing a suit in an injury situation. The injured party moves from 1) exposure without perception of injury, to 2) perception of injury, to 3) grievance (attributing fault to another), and finally to 4) awareness that the benefits of filing a suit outweigh the costs. Four influences cause people to move from one stage to the next: 1) publicity/media attention, 2) establishment of claims facilities, 3) entrepreneurial behavior of plaintiffs' attorneys, and 4) key legal developments.

Stages 1 and 2 generally happen automatically in smoking-related injury cases. However, there are two inhibitors to moving to stage 3. First, the smoker must recognize and admit that the injury was the result of smoking. Recognition that an injury was due to smoking is an inhibitor because 1) some smoking-related injuries may have many other contributing factors (e.g., coronary heart disease) and 2) some smokers simply may not realize the connection, despite all the publicity.

Admission is also an issue because many smokers deny that there is a connection between their smoking and the resulting injury. Many have justified their smoking habit for years by taking a position that they will sustain those types of injuries whether or not they smoke. The second inhibitor to moving to stage 3 is that the smoker must blame that injury on the manufacturer. According to a March 1997 Gallup poll, only 19% of smokers feel tobacco companies should be held legally responsible if they are sued by families of smokers who died of smoking-related causes.

Certainly, extensive publicity and media attention continue to be directed at creating awareness of the link between smoking and illness and the manufacturers' culpability for allegedly hiding key information from the public that could change these inhibitors. Additionally, recent large jury awards – despite the possibility they could be overturned on appeal – may quickly move some people to stage 4.

There are a number of useful reference points when considering propensity to sue ranges:

- A study by Deborah R. Hensler, "Compensation for Accidental Injuries in the United States," published in 1990 by RAND The Institute for Civil Justice, indicates that only about 10% of injured Americans attempt to seek compensation from someone else when injured in an accident. Even among those more seriously injured, only 14% consulted attorneys.

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[44] Dunbar, F. C., Martin, D. N., Dhrymes, P. J., "Estimating Future Claims, Case Studies from *Mass Tort and Product Liability*," *Andrews Professional Books*, 1996.

- In Selikoff,[45] Peter Barth cites rates of lawsuits from 16% (average for all years) to 32% (the latest year in his study). It is important to consider that asbestos damages are easier to prove (some asbestos illnesses are unique, "signature" diseases), and there has been a well-publicized effort by unions and attorneys to file lawsuits.

- Not everyone pursues compensation, even when compensation is almost a certainty and no lawsuit is required. According to Selikoff,[46] for example, families who lost members to mesothelioma, which is caused only by exposure to asbestos, filed claims only about 75% of the time even though workers compensation death benefits would have been automatic.

Win Rates (Probability of a Plaintiff Win)

As discussed in the next section, there is a relationship between plaintiff win rates and suit filing rates. Economics dictate that attorneys working on a contingent fee basis will only pursue cases with a reasonable potential for success. Excluding the Kent filter cases, historical win rates on individual smoker cases were zero until 1999 and now are slightly above that (but only if further litigation on the two California cases and one Oregon case upholds the verdicts for the plaintiff).

Win rates for various lines of insurance and types of suits are a useful reference point for the steady state levels that may be required for tobacco litigation to be profitable for attorneys. Erik Moller's report prepared for RAND The Institute for Civil Justice in 1996, "Trends in Civil Jury Verdicts Since 1985," summarized plaintiff win rates for various suit categories that ranged from a low of 35% for medical malpractice to a high of 66% for automobile and business personal injury cases. Other closed claim studies by the NAIC and ISO have shown that plaintiff win rates in the 50-65% range are typical for most liability lines. The win rate for Dalkon Shield claims in the A.H. Robbins bankruptcy case was approximately 65% (195,000 out of 300,000 claimants).[47]

Things could get worse; win rates for asbestos claims in 1981 and 1982 exceeded 90%.[48] However, tobacco cases differ significantly in that there is an assumption of risk defense associated with smoking cases and there is no signature disease.

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[45] Selikoff, I.J., M.D., "Disability Compensation for Asbestos-Associated Disease in the United States," 1981.
[46] ibid.
[47] Hensler, D. R., "What We Know and Don't Know About Product Liability," P-7775-ICJ, RAND The Institute for Civil Justice.
[48] Kalalik, J. S., Ebener, P. A., Felstiner, W. L. F., Shanley, M. G., "Costs of Asbestos Litigation," R-3042-ICJ, RAND The Institute for Civil Justice, 1983.

Pulling It All Together

It is important to recognize that win rates and propensity to sue are not completely independent. The contingent fee system tends to encourage plaintiff attorneys to pursue/file suits with the biggest potential payback. Unless or until win rates increase sufficiently to make it a "good bet" for plaintiff attorneys to invest their resources in tobacco cases, filing rates will remain low. Why bother to try a tobacco case if the rewards are easier to achieve for other suits?

Evidence of this interrelationship between win rates and propensity to sue is already present in tobacco litigation. This can be seen by reviewing the timing of the past litigation surges outlined in section III, Litigation History. Each of the surges followed a court victory that was in all likelihood perceived as having the potential to increase the win rates.

It is clear that we are at a critical juncture from a litigation perspective. With all the publicity and documents resulting from the health care reimbursement suit's discovery and settlement, there has never been a better opportunity for plaintiffs to try to overcome the hurdles presented by the assumption of risk and specific causation defenses. However, if plaintiff win rates among the 1,000 plus cases currently pending don't increase markedly, it is likely that plaintiff attorneys will abandon the current assault on individual smoker cases.

How then do we estimate potential liability? When there is such a wide range of possible trigger events, the best approach is to evaluate the range of possibilities by creating several different scenarios and then tracking the potential outcomes using logical pairs of selected propensities to sue and win factors. Examples of possible scenarios are:

- Propensity to sue stays at the current level. The manufacturers win appeals of the three individual smoker cases and all others with trial court awards, only incurring defense cost. Within three years the number of suits filed drops back to a "test case" level.

- Propensity to sue stays at the current level (high by historical standards), supported by some level of plaintiff success at the low end of what it takes to make litigation economics work for plaintiff attorneys.

- Win rates increase to somewhat above the minimum required level, but remain below the average of other lines; propensity to sue increases dramatically.

- Win rates reach the high end of other lines and propensity to sue increases yet again.

Other Complications

When selecting pairs of propensity to sue and win rates, it is important to remember that not all tobacco cases are created equal. The propensity to sue and the likelihood of plaintiff success will vary by type of disease, age at time of injury, whether the plaintiff is a current or former smoker, and the age and year at which the plaintiff started smoking. These issues are discussed briefly below.

- Disease – As previously noted, the degree of association of lung cancer with smoking is very different from, for example, coronary heart disease. This affects the propensity to sue, as fewer people will associate their coronary heart disease with their smoking and feel aggrieved. It also affects the ability to win the case. Not only are the statistical linkages between smoking and injury weaker in this example, but there are more potential intervening factors that could have caused or aggravated the injury, making it more difficult to convince juries of manufacturer liability.

- Age at Time of Injury – There are empirical studies (Selikoff '81 and Danzon '82) that suggest that the propensity to sue is generally lower for older claimants.

- Number of Years Clean – Epidemiological data indicates that the relative risk decreases as the time after cessation of smoking increases. The rate and extent of the decrease appears to vary by disease. The 1990 Surgeon General's report provides information supporting this relationship. At some length of time after quitting, it becomes both less likely that the individual associates the injury with use of cigarettes and more difficult to convince a jury that it wasn't caused by other factors.

- Age at Start of Smoking – It is sometimes argued that persons who start smoking at a younger age (below the age of consent) have less understanding of the ultimate risks associated with the behavior or less ability to resist enticements to begin smoking. Thus, it is argued that persons who begin smoking later would have a weaker case due to their more advanced level of maturity at the time that they assumed the risk. This would probably not impact the propensity to sue, but might impact win rates.

- Year at Start of Smoking – The assumption of risk argument is stronger in the cases of persons who began smoking after warnings were put on cigarette packages. The original warning was put into place in1966 and in1984 the warnings were strengthened. One can also argue that, after the proposal of the National Settlement in 1997, awareness of the hazards of smoking should be essentially universal.

Step 5. Estimate the Indemnity Value Per Case

Benchmark award amounts for various types of claims are available from many sources, including closed claim studies by the NAIC and ISO. Key variables driving award amounts include the type of disease and age at time of disease/death. Amounts may also vary by scenario. These variables are discussed below.

- Type of Disease – There are at least two factors at work here. First, average medical expenses and degree of debilitation may differ by disease. Second, and perhaps more importantly, the degree of association between disease and smoking may affect juries. A jury that finds for the plaintiff in a case where they were not 100% convinced that the injury was caused by smoking may elect to provide less generous compensation than they would for similar injuries resulting from another disease that more clearly resulted from smoking.

- Age at Time of Death – Injuries that occur after a worker's prime productive earning years tend to have lower economic loss and, therefore, lower jury awards/settlement value.

- Scenario – In the "low suits/low win rate" scenarios when "test cases" are being tried, the more severe injuries and most sympathetic plaintiffs are likely to be selected. Also, if few cases are receiving awards, juries will be more inclined to grant generous awards. For those scenarios in which more cases are won by plaintiffs and greater numbers of suits are filed, settlements at a lower value become more common.

Approach/Considerations for Other Types of Litigation

Although individual smoker liability suits are an important part of the potential liability for manufacturers, they are certainly not the whole story. Other significant areas of potential liability are discussed briefly below.

Class Actions Involving Individual Smoker Disease

As noted in section III, following the failure of the asbestos class action, significant legal hurdles must be overcome in order for classes to be certified. The Castano class action failure on a national basis led to attempts to file similar actions on a state-by-state basis. Tobacco actions have met with mixed results, with initial success at certification in only a few states, but failure to achieve certification in many others.

Since the primary defenses for the manufacturers are assumption of risk and the assertion that a particular injury/disease in an individual did not arise from smoking, class actions (if certified) become more difficult to defend. And there is certainly much more at risk in a class action suit than an individual smoker suit.

Individual smoker liability suit estimates do provide an important reference point for estimating class action amounts, as these two suit categories are not totally independent. One reference point is the **total** number of people injured by smoking in a given scenario. Legal principles of equity do not permit an individual to sue twice for the same injury. At the extreme, if every person allegedly injured by smoking filed an individual suit, there would be no one left to include in a class action.

One approach to reflect this interrelationship between number of suits is to look at the total population of smoking-related injuries and within each scenario first decide how many are likely to seek individual recovery and what proportion of the remainder will join a class. The next steps would be to estimate what percentage of those class actions become certified, what percentage will win and what the average award is likely to be. Another reference point is that average awards for class actions are typically lower per claimant than for individual suits.

Individual Class Actions for Addiction Only

There are two categories of addiction-only suits: 1) "rescission" actions which seek rescission of the contract involved in the purchase of cigarettes (i.e., refund of the total purchase price over the smoker's lifetime), and 2) medical monitoring suits that seek payment for the cost of monitoring current smokers without disease for possible future illness. Because the dollar amount of damages is relatively small for an individual smoker, class actions seem to be the only plausible way to pursue these remedies.

To date, such suits by current and former smokers have not exhibited a strong potential for success. In other areas, such as asbestos, medical monitoring damages have not been commonly awarded.[49]

Secondhand Smoke Cases (ETS)

As noted earlier, epidemiological evidence supporting a link between ETS and injury to non-smokers is considerably weaker than that for smokers. The federal court ruling that the1993 EPA report classifying ETS as a Group A carcinogen was seriously flawed further hampers such cases. Unless more compelling scientific support is presented, such cases have an uncertain future.

Health Care Reimbursement Suits

As previously discussed, the most successful assaults on the tobacco industry to date were the health care suits by the attorneys general. However, as noted in section III, these plaintiff cases received tremendous legal assistance from special legislation that was enacted to weaken the defenses traditionally used in individual smoking injury cases.

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[49] e.g., *Buckley v. Metro-North* in which the U.S. Supreme Court denied medical monitoring costs for railway workers exposed to asbestos.

As discussed earlier, in addition to the state suits, the U.S. federal government and various other entities have filed similar suits seeking reimbursement of their health care expenditures resulting from smoking injuries.

An approach to estimating potential liability from these suits is to start with estimated annual health care expenditures for smoking-related injuries. The CDC periodically publishes such statistics by category of health care payor. Analysis of the Medicaid component, coupled with the settlement provisions of the attorneys general suits, can be used as a basis for determining a potential "market value" of successful suits by other health care payors. Within each payor category, the analyst then needs to evaluate both the percentage of payors likely to sue and the win rates. Adjustments to the settlement value may also be appropriate, based on perceptions of the relative strength of each type of case.

As previously noted, a number of the cases brought by private payors have not fared particularly well. Private payors generally do not have the standing to sue a third party directly for recovery of damages, unless it is for subrogation of specific injuries to a specific individual. This, of course, would then be tantamount to an individual smoker injury suit. Courts have generally ruled that private parties, such as HMOs and Blue Cross plans, do not enjoy the same benefits as the attorneys general do under the special legislation enacted. Not all such cases have been dismissed, and the analysts will need to include their own evaluation of likelihood of success.

The U.S. government case also needs to be evaluated carefully. It is still in the early stages and many key issues have not been litigated. Some pivotal issues in determining the likelihood of success (if the initial objection to the legal authority for the federal government to bring such a suit fails) will be:

1. To what extent will the manufacturers be allowed to introduce evidence that the U.S. government allegedly helped to create two generations of addicted smokers by supplying soldiers with free cigarettes?

2. Will the manufacturers be able to introduce evidence of offsetting savings to the damages claimed? It is claimed by some[50] that the early death of smokers has, in fact, reduced health care costs paid by the federal government due to the elimination of nursing home expenditures and other diseases of old age.

3. Did the U.S. government have far more knowledge than others of the dangers of smoking at the time Medicare and Medicaid were created, by virtue of several Surgeon General's reports and other government studies?

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[50] Barendregt, J.J., M.A., Bonneux, L., M.D., Vander Maas, P.J., Ph.D. "The Health Care Costs of Smoking".

Injuries from Other Tobacco Products

Cigars, pipe and smokeless (chewing) tobacco products represent a relatively small percentage of the total tobacco market. Information on prevalence of use and the relative risk of various diseases is available from the same sources that provide this information for cigarettes. This information can be used to develop a model similar to that described for cigarettes, or short-cuts using relativity approaches can be taken.

VI. THE POTENTIAL IMPACT ON INSURERS

> **"Down went the owners -- greedy men whom hope of gain allured:**
> **Oh, dry the starting tear, for they were heavily insured."[51]**

Tobacco product manufacturers have generally not exhibited a propensity to file claim notices or initiate declaratory judgment actions against insurers. However, the manufacturers are effectively being pressured to take such actions, and changing circumstances could force them to pursue such coverage. The Schroder report (see section IV) stops just short of saying that if management doesn't pursue recovery, shareholder D&O suits will follow. The Liggett suit for coverage is likely to raise further questions among the shareholders of other manufacturers. Needless to say, should the Liggett action be successful, it is hard to imagine that the other manufacturers will not at least consider similar measures. Certainly, significant losses for the manufacturers in pending litigation would also add to that pressure.

At the very least, insurers involved in the Liggett suit need to consider the potential declaratory judgment costs that will be expended, regardless of whether coverage is awarded.

While there may not be an obligation (see Obligations Under SFAS 5 and SFAS 60, below) for calculating tobacco indemnity reserves prior to finding that there is coverage as a result of at least one DJ action, management should be carefully evaluating the potential exposure range; it can be quantified.

To make these estimates for management, analysts need to add steps 6 and 7 to the model described in section V:

Step 6. Determine Potentially Applicable Insurance Coverage

In large part this step may already have been completed. The Louisiana Attorney General's health care reimbursement suit attempted to bring insurers into the fray. While that objective obviously failed, it did result in a database of policies from more than 100 insurers that are alleged to provide coverage. An individual insurer could review its own database for other policies with potential coverage.

Step 7. Estimate Insurance Costs

Despite the fact that coverage is disputed by involved insurers, step 6 does provide a policy base that could be analyzed for contingency planning purposes. Because of the variations in policy language, this review would have to proceed on a policy-by-policy basis to determine the potential impact on any particular insurer. One approach would place policies in several buckets with increasing degrees of vulnerability to coverage actions, then analyze all policies with a given level of vulnerability or higher as if they were found to provide coverage. This would enable the analyst to evaluate the impact of the interrelationship of multiple policy terms and

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[51] Gilbert, William, The 'Bab' Ballads, Etiquette, 1866-71.

limits applicable during overlapping time periods to the same set of claims. This could be repeated for each level of vulnerability to create different scenarios of possible outcomes.

Obligations Under SFAS 5 and SFAS 60[52]

Statements of Financial Accounting Standards (SFAS) 5 and 60 set the principal standards for when and how to account for a liability in accordance with U.S. GAAP accounting. SFAS 5 is titled "Accounting for Contingencies" and is applicable to all reporting subject to U.S. GAAP rules (manufacturers, financial service firms, etc.). SFAS 60 deals specifically with "Accounting and Reporting by Insurance Enterprises."

Until the implementation of codification, effective January 1, 2001, insurer statutory accounting rules are not always well specified regarding when to book a liability and when to disclose a liability. In general, most companies apply the same rules for GAAP and statutory accounting.

SFAS 5 says to book a liability when:

- It is ***probable*** that the liability has been ***incurred*** by the valuation date, **AND**
- The amount of loss can be ***reasonably estimated.***

The same standard requires a disclosure when:

- One or both of the above conditions are not met, or
- "An exposure to loss exists in excess of the amount accrued" **AND**
- There is a "reasonable possibility that a loss or an additional loss may have been incurred."[53]

In addition, GAAP standards generally do not apply to immaterial items, so only material amounts are required to be disclosed.

Based on the above, central issues involved with accounting for tobacco liabilities will be the determination of when it is ***"probable"*** that a liability has been incurred, and when the liability can be ***"reasonably estimated."*** If it is only possible that a liability exists and/or the liability can be quantified but not reasonably, then only disclosure may be called for, unless a lower bound on the dollar amount can be established, in which case that amount should be booked. The ability to quantify the

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[52] This section is largely an adaptation of section IV, F. of the CAS issues paper on "Actuarial Considerations Related to Y2k Insurance Exposures and Potential Liabilities," September 1999.

[53] Paragraphs 8 and 10 of SFAS 5, as issued by the Financial Accounting Standards Board (FASB).

liability alone is not sufficient to trigger booking of the estimate. The liability must be reasonably estimable, and it must be probable that it has been incurred.

The issues of materiality, probability of incurral, and reasonable estimability of a liability may differ for each particular component of reserves (DJ, defense, adjusting, indemnity, subrogation, cession or retrocession, deductible, etc.). The status for any particular component is expected to change over time, as more information on cases and their outcomes becomes available. Each insurer will have to carefully evaluate this in conjunction with its own facts and circumstances.

VII. SUMMARY AND CONCLUSION

"It takes as much energy to wish as it does to plan."[54]

It is hoped that this paper has provided valuable background information for actuaries that may need to become involved in the quantification of potential liabilities arising from the usage of tobacco products.

Large payments and high legal costs are already a reality for tobacco manufacturers. Involvement in declaratory judgment actions is also a reality for some of the potentially involved insurers. Indemnity payments by insurers are far less certain.

It is also hoped that the paper provides a logical process for quantifying ranges of potential DJ and indemnity costs. Exposure-based simulation models such as the one described in this paper are highly flexible, since they can be used prior to or after the emergence of significant data. They are easy to understand, since they parallel the loss occurrence process, breaking it down into components with varying degrees of estimability. This makes judgments regarding ranges of parameter values for each component easier to make, easier to test as more data becomes available, and easier for others to evaluate. It does not eliminate the uncertainty, but it pinpoints the sources of that uncertainty for monitoring and treatment.

Based on a review of FAS 5 and 60, the Liggett DJ action may trigger an accounting obligation for reserves, if material expenses will be involved. However, prior to determining that there is a coverage obligation as a result of a DJ action, there may not be an obligation to carry reserves for potential indemnity amounts. Each insurer will have to carefully evaluate this in conjunction with its own facts and circumstances.

Regardless of whether accounting obligations are triggered, it is prudent to use tools such as those described in this paper as an aid in contingency planning. While it is human nature to hope for the best, it is always a good idea to evaluate and plan for the worst.

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[54] Roosevelt, Eleanor