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Antitrust litigation is an area of the law in which many diverse problems of statistical analysis arise. I have had the privilege of serving as the consulting statistician for the States of Washington, Oregon and Kansas, and subsequently for the U.S. District Court, in the Antibiotic Drug Case. This was a class action lawsuit against the five major manufacturers of tetracycline, a well-known broad spectrum antibiotic, in which it was alleged that purchasers suffered damages from improper pricing during the period 1954 through 1966.

Before the case was scheduled to go to trial, experts for the plaintiffs and the defendants locked horns on a number of challenging statistical issues -- the estimation of total retail purchases in the plaintiff states, the establishment of an index of prices, the breakdown of purchases into "just" and "unjust" components -- these are but some of the thorny problems that were encountered, few of which, if any, were amenable to classical textbook solutions. I echo my predecessors in this session when I mention the importance of statistics in questions of law, but I should like to emphasize that conventional methods are not always adequate - there is much room for innovation.

At any rate, the trial never took place. There was a \$39.6 million settlement, with about \$20 million of that to be distributed to members of the consumer class who would make claims for their amounts purchased. These purchasers resided in the States of California, Hawaii, Kansas, Oregon, Utah, and Washington. The story of the distribution of refunds is of the "they said it couldn't be done" variety. The largest previous class action refund involved about 70,000 businessmen with relatively good records of purchases (in re Gypsum Cases.) Hence there was great skepticism, especially on the part of the defendants, concerning the ability of the court to get the money back to the people who originally made purchases. An earlier distribution of \$100 million to consumers in 43 states had resulted in only about 37,000 claims. Defendants' attorneys speculated that it would be unusual if that number were exceeded in the present six-state situation. It was, therefore, a great success to end up, as we did, with about one million claims and to mail checks to 885,000 claimants after validation procedures were complete. Because its magnitude is so much greater than previous class action refund operations, and because it demonstrated the feasibility of a number of things that were considered to be infeasible, this antitrust refund, referred to as Operation Money Back, has become a landmark in the history of antitrust litigation and a prototype for similar distributions in the future.

Yet, many important questions concerning consumer class actions remain unanswered: For example, antitrust lawyers are bothered by problems of giving proper notice in actions of this type. Because of a recent court ruling (Eisen vs. Carlisle & Jacquelin) it is necessary to notify members of a class of the fact of their

membership by "the best means practicable", which has been determined to be first-class mail. Thus in the Antibiotic Drug Case, involving the six hold-out states, a notice of creation of the class was mailed to approximately 12 million households in 1971, and when the settlement was proposed in 1974, it was necessary to mail out another notice. When the settlement was approved by the court, claim forms were mailed, and to claimants who claimed purchases greater than \$150, a request for further proof was sent out. You can imagine the effect of all of these mailings on a distribution involving rather modest settlement amounts, but covering even larger populations.

Of interest also to the designers of Operation Money Back is the relative effectiveness of various types of communications in persuading consumers to participate in the refund.

There were serious questions raised about the incidence of fraud in the refund operation, although as described in other reports, considerable precautions against wide-scale cheating were taken.

In summary, it is desirable, for the future of class action litigation, to know a great deal more about the general characteristics and attitudes of the persons who made claims for damage refunds. In order to try to get some kind of a handle on these uncertainties, and in order to prevent a golden opportunity to study the phenomenon from fading away, we asked the court and the Attorneys General involved to allow us to use some of the money from uncashed refund checks to survey the population of claimants.* With the grant we designed a probability sample covering seven strata in the target population:

- (1) Claimants with purchases of \$150 or less -- for which no further proof was required.
- (2) Those claiming over \$150 but less than \$1000 who submitted statements of proof or documentation from physicians, hospitals, drugstores, etc. Notarization of signature was also required.
- (3) Those above \$150 but less than \$1000 who could not submit proof but who authorize the court to determine the amount of purchases. These were subsequently reduced to \$150.

The remaining strata are for higher claim amounts, and for the nonrespondents to the request for proof of purchases after the first claim form was received. (The latter group received nothing in refund.)

The National Opinion Research Center of the University of Chicago (NORC) was given the contract for the field work which began about May 15. Since almost a year had passed since the mailing of the refund checks, there was difficulty in locating some of the selectees. The interview was by telephone -- about 55 minutes -- with nontelephone claimants given personal interviews. Respondents were mailed packets containing the essential documents involved in the class action in order to aid them in recall. I am happy to report that we obtained the targeted response rate, 85 per cent, but the survey took rather longer than expected, and we just came out of the

field about August 10.

The few results that I will report today are from a lightning analysis (thanks to SPSS) of the first 727 cases out of a final 900 who either filed for \$150 or less or responded to the request for proof after having made a larger claim. These figures are of course tentative and not for publication, but I shall be very surprised if they change very much. Incidentally, because of the stratified design with widely different weights, we selected six interpenetrating subsamples for ease of estimation of standard errors -- estimates of population percentages appear to have standard errors ranging from 1 to 3 percentage points, depending on the variable.

First a few remarks about the way in which our population compares with the general population of persons over 21 in the U.S. -- As some of you know, NORC sends out an annual survey, the General Social Survey, in which a number of standard demographic items are asked, as well as specific questions for the social science community. The GSS was executed this year in March and April -- hence we included a number of GSS items in our own survey for comparison purposes.

Our group has a different age distribution from the general population (I use California 1970 here.) We have fewer under 34 and more in the 35-54 range, corresponding to heads of families with small children back during the period in suit, 1954-66. Also there are slightly more elderly, but this may be a response effect.

Our group is definitely better educated. 47.7 per cent have one or more years of college as opposed to 29.9 per cent for California in 1970 (persons 25 or over). Since our population is older, the results are even more noteworthy, indicating that the people who get into these kinds of consumer refunds are probably more aware of what is going on in general.

Income is also higher than that picked up by NORC nationally in March, which is to be expected because of the pervasive correlation between income and education.

Only 2.9 per cent of our population is black. 3.5 per cent identified themselves as belonging to races other than white or black, (probably Orientals in California) and .7 per cent refused to answer that item. We suspected that we would be deficient in racial minorities. Most persons of Latin American background in the West are white, and in California a great deal of effort was expended by the Attorney General's office to try to assure that Spanish-speaking consumers participated. There was even a Spanish claim form distributed, and the regular claim form had a message in Spanish across the top. It was not very successful, however.

NORC asked a series of questions that are rather interesting -- the ANOMIA questions -- e.g., Agree/disagree? Next to health, money is the most important thing in life; it's hardly fair to bring a child into the world with the way things look for the future; these days a person doesn't really know whom he can count on; you sometimes can't help wondering whether anything is worthwhile anymore; etc. If you agree with many of these nine items you are in pretty bad shape psychologically. In the General Social

Survey the results are rather depressing -- e.g., 33.4 of U.S. adults agree that money is the most important thing next to health; 40 per cent said that they wonder if anything is worthwhile anymore; 41.5 per cent think that it is hardly fair to bring a child into the world today; 59 per cent think that the lot of the average man is getting worse. I am happy to report, that averaging over the nine ANOMIA items, the mean proportion in our claimant group who agree with these dismal statements is about 18 percentage points lower than the U.S. adult population in general. We seem to have a happier group -- it will probably turn out to be a class distinction.

[To the extent that time permitted, Professor King reported additional marginal relative frequencies for some of the items in the questionnaire. Of particular interest to class action lawyers are questions about the willingness of the participants to get involved in another similar refund operation after their experience in Operation Money Back, and the minimum amount of refund that would be necessary to induce them to participate again. We emphasize that all reported figures are preliminary and subject to change in the final analysis. A complete history of the lawsuit and the refund operation including an analysis of the survey of participants will be published in the form of one or several monographs in the near future.]

* The "we" here refers to a term consisting of a Special Master of the Court, an economist, a data processing specialist, and a statistician.