STATISTICAL INFERENCE IN CIVIL RIGHT DECISIONS

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The Civil Rights legislation of the sixties made illegal a wide variety of actions which had not previously been illegal. The thrust of this legislation centered around the factor of discrimination based upon race, religion, national origin, sex or age. But discrimination is not usually something which can be measured directly; it must be inferred from actions that have been taken. Except for cases where the intent to discriminate and the actions that followed were obvious the courts have, to certain extent, relied on statistical inference to determine the presence or absence of discrimination. In some cases, such as the racial composition of juries, the courts' applications have been reasonable. In other areas, particularly in employment discrimination cases, there have been questionable applications of statistical inference.

Statistics have been used in a wide variety of Civil Right cases including voting, jury selection, congressional reapportionment, housing, testing, worker representation, and wages. Due to the scope of this subject we have not attemted an exhaustive survey. Instead we will focus on the application of statistics in two types of cases: jury selection and fair employment practices. Our emphasis is on the technique used, the underlying model, and the implicit assumptions of the decision.

Introduction

The fact that discrimination cannot be measured directly means that a series of events must be observed. No one act can usually prove discrimination. Just because a member of a minority group is not selected for jury duty, is denied a loan, or is denied a promotion does not indicate the presence of discrimination. It is a pattern of discrimination which the courts look for and a large number of samples showing similar behavior can indicate this pattern. For example, suppose one had a county in which the eligible jury panel was composed of 90% whites and 10% blacks. The fact that a jury, supposedly drawn at random from the panel, was all white would not be unusual--in fact it would occur 28% of the time. However, if the next ten juries were similarly all white, a .0003% probability, it would be reasonable to infer that a nonrandom procedure was involved and that a prima facie case of discrimination in jury selection had been established.

The importance and significance of this type of inference has been recognized. In an oft quoted statement, Chief Judge Brown of the Fifth Circuit Court of appeals noted, "In the problem of racial discrimination, statistics often tell much, and courts listen."1

But the fact that the courts have noted the importance of statistics does not mean they always use them in the best manner. Social scientists have long been interested in applying their tools to problems of law but the courts have not been enthusiastic recipients.² This lack of acceptance can be attributed to legal training, tradition, and philosophy.³ Conflicts over facts are generally resolved by hearing both sides and judging the persuasiveness of their testimony. Modern society, however, is bringing more problems involving both complex factual situations and probablistic interpretations into litigation. Many cases involving Civil Rights practices fall into this category.⁴ Hence, the use of statistical applications may increase. Let us examine the ways in which statistics have been applied and how better techniques could be used to resolve complex issues in discrimination.

Jury Selection

We start by reviewing the jury selection process. Here the problems are relatively clear cut and the statistical techniques that could be applied are rather simple. One of the earliest issues involving discrimination occurred in the jury selection area. Early decisions established the rule that a conviction in a state court violated the equal protection clause of the fourteenth amendment if it were based on an indictment of a grand jury or a verdict of a petite jury from which blacks were excluded because of their race. The rule was developed in a set of cases in which proof of discrimination wasn't required. In these cases blacks were either excluded by statute or the fact that blacks were excluded from the jury was not contested.

The first case in which probability played a role was the 1934 Supreme Court decision in Norris v. Alabama.⁵ Although blacks comprised 7-1/2% of the total male population of the county in which the indictment was brought, no blacks had served on any jury as long as anyone could remember. The trial venire was also challenged because the county where the trial was held was approximately 18 percent black but there also no black had served on a jury within anyone's memory. The Supreme Court was able to infer from these cases that exclusion of blacks was a policy and that discrimination was present. The facts made this decision easy. Similar factual situations existed in other cases in which the courts granted relief, e.g. Arnold v. North Carolina⁶ where only one black had served on a grand jury in 24 years. In such cases the court's intuition as to the probability of exclusion of blacks from juries by chance was sufficient basis for judgment.

A more difficult problem was addressed when the issue rested on the underrepresentation but not the exclusion of blacks. Dallas County, Texas was the location of the initial cases in this area. After a murder conviction of a man named Hill⁷ had been reversed because of the exclusion of blacks from the grand jury a change in the jury selection process occurred and the next three grand juries each contained one black. A black, Robert Akins, was indicted for rape by the third of these grand juries. Akins appealed on the basis that blacks were underrepresented.⁸ The issue rested on the questions as to whether the difference between the expected number of blacks per jury of 1.8552 (approximately 15% of Dallas County's adult male population was black) and the actual number of l was a sufficient basis for a finding of discrimination. The court held "we cannot say that the omission...of all but one of the members of a race which composed some fifteen percent of the population alone proved racial discrimination."⁹

The next of the Dallas County underrepresentation cases came 5-1/2 years later. By this time 21 grand juries had been enpaneled since the change in procedures following the Hill decision. Seventeen of these grand juries had one black each while four had no blacks. In Cassell v. Texas¹⁰ a black convicted of murder appealed on the basis of discrimination in the grand jury selection process. The issue apparently considered by the court did not concern the distribution of jurors (1 per grand jury), but the fact that only 6.7 percent of the jurors were black when 15 percent of the adult population was black. However, the state challenged the use of the adult population as being appropriate for the statistical population. They argued that the state law required payment of a poll tax to qualify for jury duty and only 6.5% of the poll tax payee's were black. The court held that no prima facie case of discrimination had been established on the basis of the representation.

A sufficient number of cases have been discussed to give the flavor of the data and issues being faced. Since the descriptions tend to be verbal and based on judicial interpretation, a question might be asked concerning the consistency as well as the accuracy of judicial opinions. A social scientist, Ulmer, set up a theoretical decision making rule for the courts and then tested decisions to see how well they fit his rule.¹¹ The rule for exclusion cases was that discrimination was found whenever the proportion of blacks was substantial (greater than 7.2%) and they had been excluded over a long period. The rule tested for representation decisions was that the allegation of underrepresentation of blacks would be rejected if their population representation was equal to the actual jury representation at the 95% confidence level. Twenty-five different justices cast a total of 113 votes on jury selection; all but ten were consistent with the listed criteria. Such rulings did not show any liberal-conservative dichotomy. One might question the appropriate level to reject the null hypothesis but the con-. sistency of these applications makes the rule seem to be representative of the decision criteria. Particularly interesting in these decisions was the judicial concern over the proper population.

The decisions discussed above were decided on the basis of judicial intuition as to probabilities. With no representation or in cases of gross injustice the intuition seemed to perform effectively. The problem came when there was some representation. It was clear that there could be some variation from proportional representation. The problem came in distinguishing a significant variation. Here the intuition failed to yield the kind of results that could be obtained with such simple tools as chi square tests. In his excellent discussion of the relevant cases Finkelstein¹² gives numerous cases where proper techniques could have been used to good advantage to judge the random nature of certain factual situations. Let us give one example that illustrates the nature of the cases. He notes a case where the percentage of blacks on grand juries didn't exceed 15% for over 15 years even though blacks comprised 26% of the population. The probability of this happening by chance was 4.63×10^{-21} . Yet the courts did not find discrimination in this case.

Evaluation of Jury Selection Cases

The jury selection cases point out an important feature of applied statistical inference. A model, albeit an implicit one, is necessary to assist the interpretation of data. The model underlying jury selection started with the assumption that there were a set of qualifications. e.g., over 21, and paid poll tax, which defined a qualified pool of individuals. The results of a random draw from this qualified population was compared with the expected value and a hypothesis about the role of discrimination was developed. The model implicitly assumed (quite correctly) that all voters who met certain criteria were equal. Without going into detail we can note that a similar implicit model underlay voter and housing decisions where all individuals who met certain criteria were identical in the eyes of the court.

The courts' intuition about probabilities yielded reasonable judgments in the gross cases. The problem came when more sophisticated methods were needed to test the significance of differences between actual and expected values. Here intuition tends to break down and as a result some rather unlikely events were not held to be prima facie cases of discrimination. However, except for these technical questions the basic method was correct with the implicit underlying model an appropriate vehicle for analysis and a judicial awareness of the presence of chance in any random event.

Fair Employment Cases

Cases under the Title VII Fair Employment Act of 1964 are typically divided into several different areas: seniority determination, promotion procedures, testing, hiring practices, and wage differentials. Upon reflection it is clear that discrimination, if present, should show up in two summary statistics: representation and wages. The other questions such as testing have relevance only when they affect either representation by setting up barriers to hiring or wages by hampering promotions or the job progression tracks.

Let us emphasize the issue in this type of case. If the complaint of discrimination is upheld the employer is liable for either back wages, changes in his normal business practices that will presumably raise costs, or, occasionally, punitive damages. There is a great need here to distinguish between the obligation of the private employer and the obligation of society. Without question society has discriminated against certain minority groups. Whether individual employers discriminated needs to be settled case by case.

Representation

The usual procedure for the plaintiff in a discrimination case in which representation is an

issue is to show that there is a difference in the racial composition of the work force, or job classification, from that of the local population. This application is essentially the same as the jury cases. On a few occasions the plaintiffs have been able to rest their cases at this point and the courts have held this racial disparity to be conclusive evidence of discrimination in hiring. Generally, however, a disparity has not been sufficient by itself. It has been enough, however, to establish a prima facie case which the defendant must attempt to rebut. If the defendant is not able to prove a non racial reason for the disparity, discrimination will be found. For example, "the statistics indicate that race is the only identifiable factor explaining the disparity between the jobs held by white employees and those held by black employees."13

Examples of such an approach are found in a challenge of the Oakland Police Department where blacks comprised 32-45% of the city's population, but only 3 to 4% of the police force.¹⁴ In this case the court observed that "while such a showing of a significant statistical discrepancy is not in itself dispositive, it is at least some indication that discriminatory forces, albeit subtle ones, may be afoot."¹⁵

Attempting to prove discrimination by use of a demographic disparity between the general population and the work force assumes that all individuals are equally qualified for a position. We call this the "warm body" hypothesis--and here is where the past effects of discrimination by society need to be carefully separated from the discrimination by an employer. The past effects of discrimination may have reduced the level of qualifications held by members of the minority groups. Such a disparity in qualifications must be corrected, but Title VII should not be used to assign this cost to a private employer. Some courts have recognized this problem while others have not.

A court that was aware of the problem noted that "It is one thing to presume or assume, <u>prima</u> <u>facie</u>--wise or otherwise, that a significant number of a group have the qualifications for schooling or voting, or jury service. It is another thing to assume, prima facie--wise or otherwise, that because a certain number of people exist, be they white or Negro, that any significant number of them are lawyers or doctors, or merchants, or chiefs--or to be concrete, are competent plumbers or electricians, or carpenters."¹⁶

To a certain extent the courts have understood the fact that there exists a range of qualifications and at least have given lip service to requiring minimum qualifications, e.g., United States v. Household Finance Corp.¹⁷ and United States v. Vepco¹⁸ where the decision gave preferential treatment to minority group members who were qualified.

However, it is clear that if a difference exists in the distribution of qualifications for two groups, proportional representation between the two groups is not an indicator of a lack of discrimination. In fact, proportional representation in such a case would imply discrimination against the members of the better qualified group. A hypothetical example can illustrate this problem. Suppose an employer has 40% black employees in an area where the population is approximately 40% black. Under present interpretations he would appear to be immune from a charge of discrimination on representation since all warm bodies are considered equal. But suppose that the applicants for positions in this firm contain, on average, better qualified blacks. By taking proportional numbers from both races we would end up with the situation where the average black employee was better qualified than the average white. Present interpretation would not consider such a case discrimination.

A case can be cited which illustrates this point. Prior to 1947 blacks were not allowed in major league baseball. After the color barrier was broken teams began to add black players. (The Boston Red Sox was the last team to integrate in 1959.) By 1954 blacks made up 10 to 15 percent of major league players--approximately the percentage of blacks in the general population. Since the distribution of skills varied by race (under proportional representation) the average black player was more highly skilled than the average white player (e.g., blacks had a 40 point higher batting average).¹⁹

Representation according to proportion without adjustments for qualification (or reference to the appropriate population) can yield incorrect conclusions.

Wages

The same failure to recognize that a distribution of qualifications exists severely flaws some wage cases. The application of a model with an implicit assumption of the "warm body" hypothesis to the analysis of wage discrimination seriously distorts the inferences that can be derived from statistical data.

Typically an individual's contribution to an organization is multifaceted. At one time many factory jobs involved little or no discretion. The "warm body" assumption, although never totally true, might not have been a bad approximation for these factory jobs. However, modern technology has automated most jobs that require no human discretion. Typically work in a modern establishment involves joint production efforts which make certain characteristics desirable to an employer. Interaction with fellow employees and supervisors involves verbal cognitive skills while the complexity of operations often requires the ability to understand written instructions (if for no other reason, than understanding government regulations about the job). A changing work environment makes general knowledge worthwhile. A worker brings different levels of these skills, knowledge and other characteristics to his job.

Economists have formalized the relation between some of the various attributes which a worker brings to his job and his earnings in an "earnings function". An earnings function describes the relationship between a set of attributes, (e.g., age, education, experience, hours worked, etc.) and earnings.

A large number of articles have used these functions to estimate the impact of various factors such as age and education upon earnings. Using a data base made up of individual characteristics and earnings, a function is specified with

earnings as the dependent variable. The coefficient on the appropriate independent variables can then be interpreted as the "pay off" for a year of education, or experience, or an extra hour worked, etc. If the coefficients are significant it is presumed that the attribute is desirable or else employers wouldn't pay for the characteristic. Such models have been used to estimate the impact of employee discrimination by including a dummy variable for race. Since the earning differences occurring from differences in worker characteristics are already adjusted for in the equation, the magnitude of the racial variable's coefficient indicates the size of the difference in earnings which cannot be attributed to worker characteristics. Some refer to this magnitude as the amount of discrimination but this isn't quite true since this coefficient is essentially a residual measuring all earnings differences between races not attributed to the variables in the equation. If some other worker characteristic which is correlated with race, like health, were present the amount properly attributed to employer discrimination would be lessened.

Given in Table 1 is an example of an earnings function derived from national data. The results of Table 1 support the propositions which have been developed over time in economic theory. Certain attributes are important to employers. For example, each additional year of education that was completed was associated with an annual increment of approximately \$500 in 1969. Similarly age, which is a proxy for experience, is assoicated with higher income until retirement age was reached, etc. Some of the variables were simply corrections for measurement errors induced by cost of living variations across the United States. What is important here is not this particular earnings function but the type of attributes which a market economy rewards with higher compensation.

The contrast between the well established relationship among earnings and worker characteristics found in empirical studies and the relationship used in some cases is disconcerting.

The critical case in this area is Griggs v. Duke Power Co. 20 In his discussion of the case, Chief Justice Burger seemed to take note of the variations.

Congress did not intend by Title VII; however to guarantee a job to every person regardless of qualifications.

Congress has not commanded that the less qualified be preferred over the better qualified simply because of minority origins. Far from disparaging job qualifications as such, Congress has made such a qualification the controlling factor, so that race, religion, nationality, and sex become irrelevant.

The court then proceeded to do just the opposite of what would have been expected to follow logically. In Griggs the use of educational standards for employment or for promotion were prohibited unless they can be shown to have demonstrable relationship to successful job performance.

At first glance such a standard might appear reasonable. But the unimaginative and literal interpretation which has been associated with demonstrating such a relationship makes it almost impossible. Few employers will be willing to run the risk of meeting the unreasonable standard that has been placed on the employer. For example, in finding a high school diploma requirement discriminatory the court declared "many high school courses needed for a diploma (history, literature, physical education, etc.) are not necessary [for a particular position]".²¹ With such reasoning few, if any, degrees could be demonstrated necessary. The inference is that an individual with a 6th grade education is equal to a high school graduate in value to an employer. Such a narrow view implies that literally millions of employers in this country and other countries have been irrational in rewarding educational achievement.

One hopes that the Grigg decision was influenced by the fact that Duke Power had used education as a blatent tool for discrimination. Other decisions offer some hope that years of social science research will not be totally ignored.²²

Statistical Analysis

Cases involving wage differences could certainly be improved through the use of statistical analysis. Presently the plaintiff presents statistical information on the average wage level of black versus white employees. If the blacks are more senior than whites this data is also included in a three way table. This type of evidence is based on the implicit model that earnings are paid on the basis of factors which are distributed alike in all groups. When seniority is included the model suggests that earnings characteristics are distributed in the same way in the two groups except for seniority. Hence, with this underlying model, a difference by race for a simple average of earnings or an earnings average for each seniority level is all that is required to show that under this standard employers are discriminating. Such a presentation is enough to shift the burden of proof to the defendant who must attempt to explain why such an earnings difference exists.

Usually the defendant's proof focuses on a person by person explanation of the earnings differences. If a more complete model of wage determination had been exhibited early in this case, however, the focus of evidence on both sides could have presented a more cohesive and convincing case.

A complete model of wage determination should be able to determine whether any significant racial differences exist among people with the same education, previous work experience, veteran experience, seniority, absenteeism and other factors which affect people's earnings. This model could be used to test the assumption made by the implicit model that the distributions of all of these characteristics are the same among racial groups. Furthermore, the statistical techniques are available to test this model whenever data exists on the important earnings factors.

Several statistical techniques are available for this type of inference. A set of cross tabulations showing the average earnings by race for all people at a specified seniority level, of

Independent Variables		Dependent Variable-Individual Earnings	
	Aggregated Function 1969	Whites Only 1969	Nonwhites Only 1969
Nonwhite	-1427		
	(16.3)		
Age (16-24)	-3732	-3916	-1688
	(38.4)	(37.2)	(8.1)
Age (25-35)	-1753	-1856	- 787
	(23.0)	(22.6)	(4,7)
Age (45-54)	278	380	87
	(3.6)	(3.4)	(0,5)
Age (55-64)	- 2	8	- 469
	(0.0)	(0.1)	(2.3)
Age (65+)	-1503	-1566	-1434
	(9.8)	(9.5)	(4.3)
Schooling	518	546	269
	(66.0)	(63.9)	(16.3)
Rural	-1155	-1198	- 616
	(19.5)	(19.0)	(3.8)
South	- 792	- 753	-1590
	(14.1)	(12.4)	(13.1)
Hours Worked	1.80	1.86	1.34
	(41.7)	(39.2)	(13.7)
Married (SP)	1844	1899	1449
	(22.1)	(20.8)	(-8,6)
Once Married	711	733	649
	(5.7)	(5.2)	(2.9)
Nonveteran	- 158	- 169	- 83
	(2.8)	(2.8)	(0.7)
Y-Intercept	-2029	-2448	429
R ²	. 32	• 31	.29

TABLE 1--THE AGGREGATED EARNINGS FUNCTION AND THE SEPARATED EARNINGS FUNCTIONS OF WHITE AND NONWHITE MALES FOR 1969

(t-ratios in parentheses)

Source: U.S. Census of Population, Public Use Sample 1970--excerpted from Haworth, Gwartney and Haworth, "Earnings, Productivity, and Changes in Employment Discrimination During the 1960s" <u>The American</u> <u>Economics Review</u>, Vol. 45, March, 1975.

a certain age group, previous experience level, etc. could be used and the resulting differences in earnings by race tested for significance. Alternatively, factor analysis might be used to isolate those variable combinations which seem to measure the principal components of a person's earnings and then could be tested for significant differences by race. Analysis of variance between and among cells which are separated into the relevant categories for each variable could be used to measure significant racial differences in earnings or in the distribution of the earnings' characteristics.

Regression analysis also exists as a technique to show whether there exists significant differences in earnings after we hold the other earnings' affecting characteristics constant. A recent article has suggested that the regression technique is appropriate for determining the presence or absence of discrimination.²³ In several cases with which we are familiar such a technique has been used.²⁴ In these cases, the same characteristics which were significant in earnings models using national data were significant in the individual firm and for the subset of each race. The use of regression equations is helpful not only in the establishment (or disestablishment) of discrimination but in the awarding of back pay. After an earnings function for whites has been established the characteristics of each black employee could be substituted in the equation to get an "expected earnings" for each person. Those with a difference between the expected and their actual earnings could be compensated accordingly.

A recent case, White v. Carolina Paper Board Company, illustrates how a more complete model would help the most deserving affected workers. In this case, the employer was found to have discriminated and back pay was to be awarded to compensate the workers for lost earnings caused by the discrimination. All of the workers were awarded the difference in salary between the average white worker and the average black worker.

This back pay allocation scheme did not recognize the fact that some of the black workers had many more years of experience than others. It also ignored the fact that the differences in average earnings by race might be due in part to the presence of skilled craftsmen in the white employee groups. Clearly an earnings function would have been useful in identifying the workers who were most harmed and paying them according to their real ability to earn.

Conclusion

The use of statistics is helpful in many forms of litigation. As courts become involved in more complex phenomena the use of more inferential statistical techniques could be useful. As in most analysis the underlying model and assumptions are important in making the appropriate inference from a body of data. An appropriate model for a jury case might be different from an employment case. Some protocols concerning data and models would be helpful in getting to the essence of the case.²⁵

It is clear, however, that the real essence of the statistical analysis question is to identify those factors which influence other factors and measure their significance. In Civil Rights cases, where discrimination cannot be measured or observed directly, statistical analysis is especially helpful in arriving at a fair and equitable decision.

Footnotes

¹Alabama v. United States, 304 F. 2d 583, 586 (5th Cir 1962).

²For a discussion of the role of social science in court decisions on school integration see the Winter 1975 issue of Law and Contemporary Problems which is devoted to the general topic "The Courts, Social Science, and School Desegregation." Of particular interest are "School Desegregation Litigation in the Seventies and the Use of Social Science Evidence: An Annotated Guide." B. Levin and P. Moise, pp. 51-133, "Random Remarks on the Role of Social Sciences in the Judicial Decision-making Process in School Desegregation Cases." J. M. Wisdom, pp. 134-149, and "The Impact of Social Science Evidence on the Judge: A Personal Comment" J. B. Craven, Jr., pp. 150-156 and "Social Science and the District Court" J. B. McMillan, pp. 157-163. Among the judges present there was a lack of unanimity about the role of social science research.

³For an insight into the difficulties some lawyers have in accepting a probablistic approach see the reasonable procedure outlined in Finkelstein and Fairley, "A Bayesian Approach to Identification Guidance" 83 <u>Harvard Law Review</u> 439 (1970) and then note the comment by Tribe 84 <u>Harvard Law Review</u> 1329 (1971) which appears to miss the point of the original article. The rejoinder by Finkelstein and Fairley 84 <u>Harvard Law Review</u> 1801 (1971) helps to clarify the distinctions.

⁴So do many of the pollution cases. Courts must evaluate the danger of asbestos in drinking water, for example, on statistical evidence and testimony of a most indirect nature, e.g. the effect of asbestos in the air.

⁵294 U.S. 587 (1935).

⁶376 U.S. 773 (1964).

⁷Hill v. Texas, 316 U.S. 400 (1942).

⁸Akins v. Texas, 325 U.S. 398 (1945).

⁹Id. at 7405-6.

¹⁰339 U.S. 282 (1950).

¹¹Ulmer "Supreme Court Behavior in Racial Exclusion Cases: 1935-1960" 56 <u>American Political</u> <u>Science Review</u> 325 (1962).

¹²Finklestein, "The Application of Statistical Decision Theory to the Jury Discrimination Cases," 80 <u>Harvard Law Review</u> 338 (1966).

¹³Brown v. Gaston County Dyeing Mach. Co. 457 F 2d 1377, 1383 (4th Cir.), cert. denied 409 U.S. 092 (1972).

¹⁴Penn v. Stumpf 308 F. Supp 1238 (N.D. Cal 1970).

¹⁵Id. at 1243 n. 7.

¹⁶Dobbins v. IBEW Local 212, 292 F. Supp 413, 445 (S.D. Ohio 1968).

¹⁷4 CCH Empl Prac Dec 7680, at 5671 (N.D. 111 1972).

¹⁸327 F. Supp 1034, 1042, (E.D. Va. 1971).

¹⁹For a discussion of this case see Gwartney and Haworth "Employer Costs and Discrimination: The Case of Baseball," 82 <u>Journal of Political</u> Economy 873 (1974).

²⁰401 U.S. 424 (1971).

²¹United States v. Georgia Power 474 F. 3d 906, 978 5th Cir. (1973).

²²The Fourth Circuit has suggested the education, experience, ability, length of service, reliability, and aptitude are proper objective criteria. Brown v. Gaston County Dyeing Mach. Co. 457 F. 2d 1377, 1383 (4th Cir.), cert. denied, 409 U.S. 982 (1972). The Fifth Circuit upheld an employers promotion standard which used prior experience and educational training of the applicants. United States v. Jacksonville Terminal Co. 451 F. 2d 418 (5th Circuit 1971) cert. denied. 406 U.S. 906 (1972).

²³"Beyond the Prima Facie Case in Employment Discrimination Law: Statistical Proof and Rebuttal," 89 <u>Harvard Law Review</u> 387, (Dec. 1976).

²⁴e.g., Ford et al., v. United States Steel Corporation, et al., 371 F. Supp. 1045.

²⁵See for example the four protocols suggested in Finkelstein's "Regression Models in Administrative Proceedings," 86 <u>Harvard Law Review</u>, pp. 1442-1475 (June 1973).