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Discussant's Response to An Examination of the Status of Probability Sampling in the Courts

Kenneth P. Johnson

Coopers & Lybrand

It may be clear to some that the courts are increasingly dealing with issues of probability, or statistical, sampling and how it should be used. It may also be clear to some that auditors who continue to use judgment sampling in the performance of their audits should be prepared to defend their logic for doing so. However, the discussion by Professors Randall and Frishkoff will not support these conclusions. Further, as the authors indicate, it is certainly not clear how the courts will appraise the results of statistical sampling as part of the evidence used to reach audit conclusions.

On reviewing this paper, it occurs to me that there may be distinctions and observations that the authors have not made, which may assist in anticipating what attitude the courts may adopt in ruling on sampling questions that arise from audits of financial statements.

Considerations by the Courts

Only some of the cases cited turn on a court decision concerning the appropriateness of a sampling plan or particular statistical technique used. For example, in *Johnson vs. White*, the court reviewed the sampling plan and determined that it was appropriately devised and applied based on a review of the techniques employed. Two of the cited cases do not seem to deal directly with probability sampling. In *Commissioner vs. Indiana Broadcasting Corp.*, the issue seemed to turn on whether a Poisson distribution was either applicable or appropriately applied. This entailed consideration of whether proper judgments had been made in the planning stage, including whether the defined population had the appropriate attributes for the application of this statistical concept. Another cited case, *Super Foods*, appears to have been decided on a legal issue rather than on the issue of statistical techniques employed.

Putting aside these cases, I believe there is another characteristic implicit in the remaining cases that should be discussed. The paper notes that "references to sampling usually arose where the technique was being used to gather evidence rather than where it was used prior to the litigation, such as in an auditor's test of transactions." I believe it is significant that the cases cited typically seem to deal with specific attributes of a more or less well-defined population. However, the court's acceptance of probability sampling plans in these circumstances, in my opinion, does not indicate what its attitude would be in the much more complicated auditing environment. The expertise required of an auditor in devising

a sampling plan to help support general audit conclusions is sharply distinct from that required of an advocate developing evidence to sustain a particular position after the fact.

This leads to my next point. I am not surprised that there are no so-called "auditing cases" that deal with the issue of the appropriateness of statistical sampling applications or the lack of appropriateness of judgmental sampling. By its nature, the auditing process involves a series of judgments. The range of those judgments is so broad that there is little possibility that a case will turn on the very narrow issue of the specific sampling technique employed. One practical reason is that other broader areas, such as materiality of transactions and balances and the concept of reliance on internal control, are more promising areas for challenge in litigation involving audited financial statements. But those factors are outside the scope of this paper and it is sufficient to note that this is part of the backdrop for the current discussion.

Defensive Considerations

I believe that the genesis of this discussion paper was the suggestion that one of the advantages of using statistical, or probability, sampling is that "since the interpretation of the results is based on demonstrable statistical principles, the test is not only objective, but defensible, even before a court of law . . . or, even more important, before one's own conscience. Since the sample is objective and unbiased, it is not subject to the questions that might be raised relative to a judgment sample." As we have seen, Randall and Frishkoff have not been able to support this suggestion through their examination of actual legal cases. There is no evidence that statistical sampling would provide a better defense than judgment sampling when an audit undergoes the scrutiny of litigation. Let's look at the problem a little differently—why hasn't the auditing profession rushed to adopt probability sampling?

Reactions Within the Profession

At this symposium in 1972, Kenneth Stringer remarked on the increased use of statistical sampling, as follows:

The reasons why progress [in the use of statistical sampling] has been more evolutionary than revolutionary are understandable, and have involved both statistical and auditing problems. The statistical problems have included the general unfamiliarity of auditors with statistical methods, and technical questions concerning the applicability of certain statistical methods to auditing situations. The auditing problems have related primarily to defining and expressing audit objectives in terms susceptible to statistical measurement, and to the difficulty of combining statistical and subjective evaluations of audit evidence in forming overall audit conclusions.

In my view, growth in the use of statistical sampling in independent audits continues at only a measured pace. This, in my opinion, is due less to the general unfamiliarity of auditors with statistical methods and more to the problem of relating statistical measurements to audit objectives and conclusions.

In his book on sampling in auditing and accounting, Herbert Arkin elaborates on the role of statistical sampling in audits, as follows:

However, in considering the use of statistical sampling approaches by the auditor, it must be remembered that he is in a somewhat different position from that of the sampler in most other fields. He normally does not place total reliance on the results of a simple sample . . . in arriving at his decision, but he usually performs other examinations and a variety of other tests and analyses in evaluating the condition of the records and their impact on the accuracy of the financial statement.¹

We may summarize the kinds of audit tests and their purposes, as follows:

- *Transaction reviews*: To confirm an auditor's understanding of the flow of data.
- *Functional tests*: To gather evidence that controls are functioning, thus permitting reliance on the underlying accounts.
- *Validation procedures*: To substantiate an account balance by confirmation, physical inspection, reperformance, or vouching.
- *Analytical reviews*: To corroborate a logical relationship among items or accounts.

At this point I should note that this framework is designed for purposes of discussion and conceptualization. In practice, these distinctions between audit procedures and their purposes are never mutually exclusive. For example, every transaction review contributes something to functional testing and often to validation and analysis as well. Moreover, the underlying logic is that, if transaction reviews and functional tests reveal no reason to doubt the reliability of the underlying evidence, an auditor is justified in minimizing validation procedures and analytical reviews. Conversely, if transaction reviews or functional tests reveal the possibility of doubt about the reliability of the underlying evidence, that doubt can often be removed or reduced sufficiently by validation testing and analytical reviews. Accordingly, the auditing process and the resulting auditor's opinion are based on a composite of not quite discrete testing components. Moreover, to the extent that we can identify such components, their contribution to audit conclusions and the auditor's opinion based on such conclusions are highly variable and characterized by the subjective and judgmental nature of the total audit process.

An Example

For example, in functional tests, examination of one item ordinarily demonstrates the existence of a control or controls, and, in most cases, examination of a few items demonstrates that the control or controls are functioning. Of course, the purpose of these tests is to determine whether there are disciplinary controls which reasonably assure the continued functioning of basic controls. In my opinion, the variety and nature of influences that affect the amount of evidence needed require the auditor to make a number of judgments in designing and applying sampling techniques, statistical or otherwise. Moreover, there is little agreement about what constitutes a sufficient test because several factors affect the degree of confidence an auditor may have in a specific system of controls, and he must take them all into account. Some of these factors are:

- The importance to the auditor of the data being controlled
- The type of control
- The effectiveness of disciplinary controls
- The type of conditions that lead to difficulty in maintaining control
- The auditor's overall assessment of the reliability of the accounting system.

Some Difficulties in Application

I am not satisfied that our "auditor's" understanding of the concept of sufficient control can be uniform enough to permit designation of measurements, such as those of confidence and precision, necessary for effective use of statistical techniques. Let me illustrate. My firm places stress on evaluating the components of controls. In our view, certain aspects of discipline, e.g., supervision, are more important to the auditor than other characteristics of control. Since there is no consensus yet in the profession on the usefulness of identifying the components of controls, I am certain we would fail to agree, for example, on what effect the lack of "adequate" supervision would have on the sampling plan. Even when the problems of sampling plans and sample size have been resolved, there is the issue of the judgment problems involved in evaluating sample results.

The authors' reference to their murky crystal ball includes a suggestion of a landmark case involving sampling in the auditing context. I haven't found a basis for the statement. But accepting it for the purpose of discussion, such a case will be decided on the court's appraisal of the auditor's judgments made in the assessment of the circumstances that support his conclusions as to the appropriate sampling plan to be employed. Whether probability sampling or judgment sampling is applied, the auditor and the courts must deal with the same critical decision. I believe that present probability sampling techniques do not offer special "protection or comfort" in this area for the auditor. In fact, I'm concerned that auditors may be misled by an "aura of acceptability" and be bitterly disappointed in the legal arena. Bear in mind that either method of sampling entails the same essential risk. For these reasons, I believe that the authors' cautionary statements are useful reminders and that a practitioner should weigh the likelihood that probability sampling will lead in practice to the same problems as judgment sampling in justifying his procedures.

Footnotes

1. Herbert Arkin, *Handbook of Sampling for Auditing and Accounting*, McGraw-Hill Book Company, Inc., 1963, p. 5.