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Authors' Reply to Discussant's Response An Investigation of a Measurement Based Approach to the Evaluation of Audit Evidence

Theodore J. Mock and Arnold Wright

The purpose of this reply is to help clarify the scope and objectives of our paper. Many of Professor Ward's comments appear to have resulted from a confusion as to the intended purpose of the paper. Thus, a restatement of the objectives of our study seems warranted. Additionally, we would like to take the opportunity to respond to a number of other important observations by Ward.

Purpose of the Study

Ward begins his discussion by a consideration of the goal of an audit and the issue of measuring audit and firm performance. He states that audit performance should be judged by three criteria:

- (1) appropriateness,
- (2) efficiency, and
- (3) effectiveness.

Ward concludes that the approach presented in the paper "seems to reduce this (audit performance) goal to a single criterion measure—success or failure in verifying or refuting financial statement assertions."

To restate, the primary focus of the study is stated in our paper to be "... to investigate the usefulness of a measurement based approach as an integrative, operational *process to evaluate audit evidence*" (emphasis added). The specification of appropriate performance measures for an audit of a firm, although important issues, are outside the scope of the study. Given that auditors must evaluate the competency of evidence to establish reliance on such information, the study advances an approach that may be used to systematically judge the relative qualities of various evidence sources.

Ward's three audit performance criteria are enlightening; however, there does not appear to be a consensus among practitioners or academics that such criteria are sufficient. Scholars have wrestled for many years with the appropriate goals for the private enterprise firm itself, e.g., profit maximization, survival, maximizing firm share prices, societal responsibilities. There continues to be wide disagreement as to the proper objectives for the firm. Then, what are the chances that accountants would agree on the criteria established by Ward? Are there other important criteria that should be considered such as ethics or development of staff? What about the difficulties of weighting the relative importance of the criteria themselves? Additionally, Ward's criteria are vaguely defined and do not appear operational. For example, how is "appropriateness" to be measured?

The measurement based approach does not ignore the importance of multiple

criteria in evidence assessment; such factors as “appropriateness and efficiency” are incorporated in step 4 of the process. These criteria are considered along with several others, since, as discussed, there is no universally agreed upon criterion of audit performance.

Ward does concur that “effectiveness” is a vital criterion. Thus, there is a real need for the evaluation of evidence in order to appropriately render an opinion regarding management assertions. The measurement based approach addresses that need.

Ward’s apparent resolution of the evidence assessment problem is stated as:

Acceptance of efficiency and appropriateness in the composite criteria set for audits also suggests that *dynamic branching and bounding* can and should be used in pruning down all the alternative combinations of procedures and techniques which could be employed to achieve particular audit objectives.

This process of “dynamic branching and bounding” is vague and unspecified and offers little hard guidance to an auditor in judging the strength of various sources of evidence.

Other Issues

Ward indicates that the measurement based approach “de-emphasizes (and perhaps ignores) the role of evidence in planning for an audit.” This statement directly contradicts perhaps the major envisioned role of the approach: to provide *ex ante* information on the quality of various forms of evidence through field or other testing techniques. Such findings would provide guidance to auditors in *designing audit programs* and interpreting audit results.

Ward suggests that the measurement based approach is almost solely based at the factual level. “The central premise of the Mock and Wright paper is that the concepts of validity and reliability as known in science can be used to improve the quality of evidential inference in auditing.” The approach addresses the factual *and purposive* views and does not suggest at all that evidence be evaluated solely on factual considerations. This confusion may have resulted from the illustration, which does tend to focus perhaps unduly on the factual level.

Ward notes that receivable confirmations have been found to be unreliable in empirical studies. He then poses the important questions of: “But just how important is such a conclusion? Of what consequence is it?” Such findings indicate that the significant reliance placed on confirmations may be misplaced; the auditor may be underestimating the ultimate risk on an engagement. Recognizing this exposure, alternate procedures can then be evaluated. Confirmations may be supplemented or replaced by alternate tests in designing programs. Such alternatives are now being actively investigated such as confirmation of individual invoices (Krogstad and Romney, *Journal of Accountancy*, February 1980). Ward perhaps answered his own questions at the conclusion of his discussion by saying:

Therefore, I recommend an alternative direction for empirical study in auditing and call for . . . fuller delineation and development of *threats to reliability and validity* of evidential inference in auditing so that the potential source of such threats can be more fully known, considered and avoided or controlled when designing audit programs.

The comment that the paper implies the audit process itself is not systematic or scientific is unfounded. The study does not attempt to evaluate the entire audit process. Auditing is certainly systematic. The paper indicates that in the one area of evaluating audit evidence there does not appear to be an *integrated, scientific approach* present. Instead, heuristic rules, various concepts, learning and judgment predominate.

We concur that the statement in the paper indicating validity and reliability “have distinct, separate scientific meaning” was unjustified. The point we wished to make would have perhaps been better stated as: “Reliability and validity are indeed related but are not the same and are on two ends of a spectrum.” We also agree that there are a number of definitions in the literature of these concepts. However, reliability and validity still provide normative guidelines in evaluating the competency of various alternate procedures. Agreement by the auditing profession on one or a select few operational definition(s) of these terms, such as those presented in the paper, can lead to valuable evidence assessment criteria.

Conclusion

Dr. Ward presents a number of interesting ideas and issues for the auditing profession. He suggests that the measurement based approach does not properly address the three audit performance criteria of appropriateness, effectiveness, and efficiency but instead simplifies by relying on a single criterion, success in verifying assertions. The purpose of the paper is not to specify the performance measures for an audit or a firm. Rather, the objective is to address the complex problem of evaluating the strength of audit evidence. Accordingly, an integrated approach is presented based on concepts in measurement theory. Ward’s proposed performance criteria are, of course, subject to dispute and a matter of opinion. It is believed these criteria, among others, may be incorporated into the measurement based approach.

Nonetheless, the performance framework suggested by Ward does not obviate the real need for guidance on the evidence assessment judgment. This vital need was the reason for the formulation of the recent AICPA Audit Evidence Task Force. Hopefully, the measurement based approach has provided a beginning by offering a systematic evidence evaluation process.