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## The Role of Auditing Theory in Education and Practice

**Robert E. Hamilton**

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Auditing activities are receiving increased public attention and scrutiny. With public institutions increasingly being the subject of auditors' activities and with public disclosure occurring of the financial and operating results of large CPA firms, there is an increasing demand for explanations of the auditor's role in our society. The expansion of audit activities performed by governmental, internal, and external auditors likewise has not gone unnoticed. New audit procedures, new forms of audit organization, and new institutional arrangements have been rapidly introduced without a simultaneous infusion of explanations which are grounded in theory.

The purpose of this paper is to describe the nature of a theory of auditing which would improve the underpinnings for explanations of audit activities and to identify specific linkages between improvements in theory and difficult problems in auditing education and practice. A theory of auditing can help improve our understanding of the role for auditing in society and thus improve the ability of society's members to design institutional structures and to take actions which lead to desired outcomes.

Auditing is a term associated with activities having specified characteristics. An auditing theory should describe these activities and their particular configurations and intensities. It should explain using differing relative amounts of substantive and compliance testing and differences in the amount of resources used to audit a public versus a private entity. These two matters are but illustrative of a larger set which is concerned with describing why observed auditing activities are what they are. If this view of auditing theory appears limited, there is an additional discussion of auditing theory in a subsequent section of this paper which should expand the horizon.

The remaining sections of this paper are organized in the following way. A discussion and review of developments in auditing theory is presented along with a description of the characteristics appropriate for an auditing theory. The two subsequent sections contain a more specific discussion and development of ways in which auditing theory can impact education and practice. The final section is a prospective on future developments in auditing theory.

### **Where are We in Auditing Theory?**

Before a role for auditing theory can be identified there exists the steps of

identifying where we are in auditing theory. If it is found that no auditing theory exists then there is extreme difficulty in an identification of the role for theory. At that point the process turns to identifying a role for an auditing theory if only there were one like the theory under consideration. If the existing theory is so underdeveloped that it is difficult to show its value, then the issue is one of identifying the characteristics of a theory which would likely be of value. The second view is the one that obtains for much of what follows, yet the prospective indicates some reasons why such a theory can be and is likely to be produced.

Looking to a closely related discipline for support revealed that there exists *The Theory of Finance* (Fama and Miller, 1972\*). The claim is that "The theory of finance is concerned with how individuals and firms allocate resources through time. In particular, it seeks to explain how solutions to the problems faced in allocating resources through time are facilitated by the existence of capital markets, . . . and of firms . . ." If the view of auditing theorists is consistent with these finance theorists then it could be expected that the theory of auditing would seek to explain how solutions to problems faced in allocating resources through time are facilitated by the existence of auditors, audit firms, and auditing institutions. While it may not be the final word on the subject of the theory of auditing, the preceding description provides a sufficient starting point. In a simple form, the theory of auditing would explain the auditing activities in the world around us. The theory may not provide explanations as precise as may be desired, e.g., why some auditors wear vests and others do not. The theory may not tell auditors what they should do in every conceivable situation, and at the beginning the predictions of the theory may be surprising and the reasons may be counter-intuitive. Only through significant exposure to the reasoning and by continued testing and refinement of the theory can it be subjected to evaluation by individuals who may accept or reject the theory. More is reported on these points in the next section of this paper. For the moment, the focus is on the review of existing developments in auditing theory.

No lengthy history is provided as there are numerous reports on the history of developments in auditing which are more complete than is possible within the scope of this paper. The additional consideration that there should be continued improvements in theory suggests that a review of history would wisely begin as late as possible so as to avoid a lot of changes which are not applicable. Our review of auditing theory will begin with the publication of *The Philosophy of Auditing* (Mautz and Sharaf) and conclude with recent working papers. *A Statement of Basic Auditing Concepts* (ASOBAC, 1972) is the second major audit theory publication during this time period. Numerous papers have developed and studied major elements of an auditing theory, but none are as complete as the two cited works.

In *The Philosophy of Auditing* it is stated that:

It is our contention that there is a theory of auditing, that there exist a number of basic assumptions and a body of integrated ideas, the

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\* See "References" at the conclusion of this paper for this and all other references similarly cited.

understanding of which will be of direct assistance in the development and practice of the art of auditing. (Mautz and Sharaf, 1961, p. 1.)

The authors' development proceeds from eight tentative postulates to the description of five auditing concepts: evidence, due audit care, fair presentation, independence, and ethical conduct. The process of conceptualizing in *ASOBAC*, (p. 16), on the other hand, ". . . ends with a normative description and the pragmatic benefits may not be immediately apparent." How does either of these two works provide a basis for a theory of auditing? The first is represented as the **philosophy** of auditing and therefore it seems inappropriate to consider it as an auditing **theory**. In *ASOBAC* (p. 16) there is a representation that "This study is an attempt to contribute to the development of a theory of auditing" and therefore it seems inappropriate to consider it to be a completed auditing theory. If the characteristics of a theory are present in either of these works, there has been sufficient time to refine and test the theory. What has been the recent history?

Both of these works have been widely quoted and cited in subsequent reports on studies of auditing so that a broad exposure to the ideas and conclusions contained in both *ASOBAC* and *The Philosophy of Auditing* appears to have resulted. Have these works led to tests of their ideas and conclusions? I am unaware of any reported empirical test in auditing which has directly used the ideas and conclusions in these works as a means to theoretically support the tested hypotheses. Instead most, if not all, of the auditing research which uses observations of audit or audit-related activities has formulated hypotheses in an *ad hoc* manner. Consider, for example, Warren's (1975) test of the uniformity of auditing standards. In this case, there were a number of hypotheses, each one of which would provide an hypothesis that the incidence of qualified opinions would be uniform across CPA firms. Two of the hypotheses were competition among CPA firms and uniformity in application of auditing standards. Furthermore, it was assumed that there was no selection process taking place so that audit conditions were considered to be randomly distributed throughout the firms being studied. None of these necessary theoretical underpinnings come from the existing theories of auditing.

The point here is not to single out the Warren study for criticism. Instead, the study is presented to provide an example, among many others, where it can be seen that auditing theory has not been directly beneficial in providing theoretical support for a tested hypothesis. It is beyond the scope of this paper, however, to demonstrate that existing research has not used the existing theoretical structure in auditing for underpinnings. The issue here is whether it can be used, not that there is no current use.

### **Refinements of Existing Theory**

In the second area of questioning, i.e., has the existing theory led to further refinements, there is also a lack of direct connections. One area that has received considerable attention is the theory of evidence (Kissinger, 1977; Toba, 1975) as it has been further refined and logically examined from the beginnings of the concept of evidence as presented in *The Philosophy of Auditing*. *ASOBAC*

has been extended by Will (1974) to consider the environment which feeds into and is fed by the audit process. Yet neither of these areas has spawned underpinnings for empirical research. The further refinements in the theory of evidence lack specific relationships to the way in which particular levels of reliability are determined and thus have a significant ambiguity which precludes testing. The systems approach presented in Will (1974) adds the consideration of important environmental variables but does not provide for an operational specification sufficient for testing. While the preceding remarks may appear critical of auditing theory developments and testing, there is room for an interpretation that the existing work is exploratory, and significant verifiable results are possible, but a long way off. Before turning to a discussion of the properties of a theory of auditing, the following remark made in *The Philosophy of Auditing* (p. 65) is worthy of consideration:

. . . conceptual models, even without empirical support, can be extremely effective in the development of theory. This fact is important to us because we find the development of mathematical models, except possibly the most simple type, to be inapplicable in auditing at this stage of development.

Whether this statement would be different if it had been written in 1978 instead of in 1961 is of interest. Is there reason to believe that movement away from procedures effective in developing theory to those effective for testing and validating theories has taken place? Is auditing research still in the exploratory stage where existing research has the direction of future research activities as its goals, or is auditing research providing some knowledge about the world around us? In the final section on prospectives for auditing theory the more recent developments will be described. A look at the properties for a theory of auditing and its value is next considered.

### **Properties of a Theory of Auditing**

One general problem impeding the development and acceptance of auditing theory is its residence in the social sciences. Numerous arguments have been recorded to suggest that social science theory is different and more difficult to produce than is theory in the physical sciences. After a physical scientist presents the theory for behavior of a type of molecule and shows it to be supported by observation, there is not generally an outcry raised by molecules to reveal their thoughts that they really do not behave as the model says they do. Yet, if we look to the social sciences, we often find that this situation applies. Whether the difference in the social sciences is supportive or detractive for theory development is an open question. I suggest, however, that the developments in the physical sciences would have been slower if protesting atoms had caused the attention of researchers to focus on detailed idiosyncracies of their behavior. In attempts to explain the finest detail, there is often a lost concentration on more general and likely more readily explainable phenomena. It is merely an issue of first things first.

What qualities should an auditing theory have? It is obvious that the answer depends on the context in which the theory is to be used. In a sense,

the production of auditing theory is like the production of technologies for use in converting the factors of production into consumer goods. The desirability of qualities for an auditing theory then depends on what products it will produce and how the products are valued. Auditing education and audit practice are examined later as to their use of the products of auditing theory. At this point, a general examination of the properties of a theory of auditing is briefly conducted.

A theory of auditing which facilitates comparison with other competing and complementary theories, which is presented so as to make validation possible and which provides results of interest to auditing educators and practitioners would be a significant addition to the current state of auditing theory. The existing theoretical base in auditing appears not to satisfy these constraints. Use of a loose conceptualizing approach has hindered comparison and made validation difficult. If one looks at Toba's theory of audit evidence, its explicit development did facilitate the response by Kissinger which has provided a clearer and more cogent relationship between the theory of evidence and auditors' reporting alternatives. Yet there is still a way to see if the theory of evidence explains the actual reporting behavior of auditors. The reason is that the theory of evidence has developed in isolation of the institutional arrangements which reward and penalize auditors, clients, and others. It is much closer to a description of one way in which an auditor may use evidence, and if the other alternatives are as explicitly developed, then there is the possibility of testing to see which theory best explains the way in which auditors behave. The question of how they should behave is then an issue in the design of the institutional arrangements.

If a theory of auditing is to be forthcoming it should include a systematic consideration of the major elements in the practice of auditing: the institutional structure, the market for audited information, the characteristics of agents doing auditing, being audited, and using audited information, and consider the available auditing technology. What would be the details for the components of an auditing theory? A simple statement is that it would explain the demand for and the supply of auditors. Such a theory would permit an analysis of the effects on the supply of auditing of changing institutional arrangements, of expanding the subject matter of auditing, and of new technologies for producing audits.

### **A Simplified View of Auditing Theory**

At a minimum, the theory should provide a way to characterize the previously mentioned items and to identify the effects due to their interacting. In this regard, consider the following simplified view of auditing theory: If there exists a government to enforce contracts, and due to differences in wealth endowments, *inter. alia.*, individual agents in an economy find it advantageous to put their wealth in the charge of others, then contracts which reward performance may be based on numbers reported by the manager. If the owner of the wealth does not have a way to ensure the compliance of the reports with the contractual provisions or if the manager does not have a way to convince the owner of this, then certain contracts may not take place. If an auditor is incorporated into the arrangement to ascertain compliance and if the auditor is motivated to do so because of associated rewards and penalties, then valuable contracts could be formed and all will be better off. The preceding is a brief and terse explanation

of how a theory of auditing may be developed. The theory would include the technology available to the auditor and the way in which the information being audited affects the wealth of the owner and manager. This simple setting is more clearly developed and extended elsewhere (Hamilton, 1975; Magee, 1977).

The essential characteristic of this approach is to rely heavily upon the tools of economic analysis to provide an explanation of this economic phenomenon—auditing activity. It should not be that the economic analysis is accepted solely on the basis of its rigor, but also on its relevance in rigorously explaining auditing activities. To provide details on how a theory with these characteristics would assist educators and practitioners, the next two major sections of this paper will provide a description of major issues that may be explained.

### **Assistance to Auditing Education**

On one hand, the area of auditing education may benefit more from psychological theories of learning which say something about the production of education of any type. Yet a careful description of the nature of the learning requirements for auditing is necessary to make valid applications of the theories of learning. It is in this realm that auditing theory should be helpful. If, for example, one is trying to help students understand how to make decisions about the use of compliance and substantive tests, how does auditing theory help? Do sufficiently unambiguous definitions exist to permit an observer, armed with the definitions, to categorize actual audit activities into these two types of tests? Can auditing theory demonstrate why it is important to make this choice? From an economic standpoint, these tests are two different inputs for the production of an audit. It appears that standard analysis would lead to a simple view of the production possibilities set and explain why the tests should be made a certain way. If students have an understanding of economic analysis from prerequisite courses, then it would be an appropriate language for conveying an audit issue to students.

One advantage in having a theory of auditing is that it can provide a structure for course content. An overall view—the theory—can be outlined and then developed in detail. The critical points of the theory can guide the time allocations for courses and the detailed interrelationships among the theory's elements can help to avoid misinterpretations based on considering only part of the problem. For example, the choice of penalty structure for auditors may be considered as a factor in determining what is a reasonable amount of assurance. Then it is possible to say that within this penalty structure the auditor will disclaim if he cannot obtain enough assurance. Understanding this relationship provides insights into how the auditor (or a coalition of auditors) would respond to a proposal which eliminates the option of reporting a disclaimer.

A concern for time allocation to various coverages in an auditing course could be aided by a theory of auditing which identifies the major determinants of the auditor's decision process and how they are affected by changes in the environment. Those critical points of influence on audit decisions could be given sufficient time to assure that they are well understood, with the more sensitive variables studied in depth. Audit choice variables of a more technological character, e.g. electronic data processing and statistical sampling techniques,

could then become topics of much more detailed and specialized courses.

A second advantage is that a theory of auditing should quickly highlight the differences in subject matter and environment for the different types of auditing, e.g. internal, external, and governmental. From this, then, a common core of knowledge could be identified and specialized aspects of these different areas recognized and covered in courses which detail the specialized environmental features and how audit decisions are affected thereby.

A third advantage which stems from having a theory of auditing is that it enables a systematic interpretation of evidence produced by researchers such that it can be communicated to students. When a student leaves an auditing class, does the student know what researchers have found as descriptions of audit activities? A theory of auditing which structures the learning process would more readily permit an integration of research findings into the classroom. For example, if auditing theory can describe the effect of audit penalties on audit decisions, then alternative sampling approaches can be described in terms of the effect of the approach on the auditor's likelihood of having penalties imposed upon him. When alternative confirmation techniques are discussed, as in Professor Sorokin's paper that is included in the proceedings of this symposium, then evidence about the reliability and costs of using different approaches can be conveyed to students within the theoretical structure. A major point to be emphasized here is that as a theory of auditing is systematically developed, then researchers' results will be related to the theory and this will hasten the introduction of those results into the classroom.

A fourth educational advantage derived from auditing theory is that it provides a rather complete, compact, and precise view of auditing which then enables a clear focus on the elements which explain why audit activities are what they are. The emphasis here is on providing an explanation which can serve as an aid to identifying and convincing students why activities which may at first seem counterintuitive are not necessarily so. The theory takes simple and familiar constructs and shows how they lead to the results. Errors of intuition may be uncovered and/or errors in the theory may surface. If the theory of audits is too simple, this advantage may be lost. My guess is that when a theory of auditing is developed it will be valuable in permitting a communication of the complexities of the factors which determine audit activities. Conversely, it will be difficult to comprehend some of the more important complexities in the absence of a theory of auditing.

#### **Additional Advantages Related to Education**

Two remaining advantages deserve attention. Other, less direct, effects may also be of importance in education. First, it is likely that a rather general theory which involves general phenomena will be at the base of a theory of auditing and that the communication and understanding of this theory will be of importance to a general business student audience. The economics of contracting and the attendant moral hazard and information asymmetry issues appear to be affected by auditing mechanisms. With a generic structure of the problem there is the possibility that much of this general theory can be covered in an introductory course with external auditing, internal auditing and govern-



mental auditing as special cases within the theory of auditing. Jensen and Meckling (1976) report on a theory of agency which considers the incentives for monitoring and bonding activities of managers. It is a preliminary start on what might be the foundation of a theory of auditing. The theory then should be capable eventually of explaining the conditions which result in auditing activities being done in different ways within different organizational settings. Just as micro-economics provides explanations about the production decisions of firms under different conditions, a theory of auditing would explain the effects on auditing activities that result from different conditions in the environment.

In "The Role of Securities in the Optimal Allocation of Risk-bearing," Arrow (1964) provides an explanation as to the reason why securities are introduced into a society. Within the study of auditing, it would seem that, at a minimum, a theory of auditing should show why an economy will be better off if auditors can provide their services. Yet, there is currently no well detailed exposition of this matter, and a theory of auditing which does so will provide a basis for a body of knowledge of wide applicability. Many activities in society involve contracting which critically depends on costly verification or observation mechanisms. Radner (1968) has shown that without mutual observation of states, there is little to suggest that claims on those states will be traded. At issue is the simultaneous consideration of the costs to verify states of the world and the value from being able to contract and exchange resource claims. Audit-like activities are a significant resource-consuming process of state verification which is assumed in most models of resource allocation mechanisms. An understanding of the nature of these activities is essential to understanding why one mechanism is preferred to another.

The second effect of having a theory of auditing which indirectly affects education is identified with research in auditing. With a theory, there should be clearer focus on the major unsolved issues and an easier identification of untested claims so that researchers can more readily identify interesting problems. By making it easier to do research in auditing, the supply of high quality research should increase (possibly along with the supply of low quality research as well) and should enhance the flow of knowledge about the world of auditing to the student of auditing.

There are many advantages of a theory of auditing for audit education. Each is dependent upon that theory to generate a complete, compact, and consistent story about auditing activities. When a theory of auditing comes into existence, there will be a change in the approach for viewing many aspects of auditing. A Statement on Auditing Standards will not be the subject of direct theoretical validation. Instead, there will be a concern for identifying the factors which explain why the actions described in the statement are consistent with the theory of auditing and for evaluating the effect of the statement on the supply and demand for audits.

### **Effect on Auditing Practice**

A recent view of accounting theory production has been that it creates a product aimed at "the market for excuses" (Watts and Zimmerman, 1977). A similar possibility exists for auditing theory. When there are changes in the

“rules of the game” which reallocate resources, then there is an incentive for providing “theory” to support the allocation which favors one group. An affected group seeks the “theory” that will support a resulting allocation that will be in their favor.

To understand the incentives for buying excuses it is necessary to have a theory to explain how the activities of the world would change as the “rules of the game” are changed. This type of theory is not of the excusing type but of the explaining variety. This theory would explain which groups will buy which excuses. A theory of auditing would, in general, seek to explain why auditing is a preferred social activity, and in the process identify the specific nature of the effects of introducing auditing as these effects relate to resource allocations and production plans.

In audit practice, there are at least four aspects of choice problems concerned with auditing: the individual auditor, the CPA firm, the auditing profession, and the social choice mechanism. A theory of auditing would seek to explain how these choice problems are resolved. For example, at the individual auditor level there are numerous problems of choice that are dependent upon an individual’s position in the firm. One of the more important types of individual auditor activities is concerned with characterizing different client settings and selecting from among alternative ways of obtaining evidence. At this level of choice, there is essentially a production technology problem. The assistance would come in the form of a theory which identified the major distinct characteristics of clients and related them to their effects on the cost and reliability of alternative types of evidence.

At the individual choice level, it would be expected that the theory of auditing would identify the advantages of using both local (or individual) auditor knowledge and the advantages of using specialists in other types of knowledge to aid in the acquisition of evidence. At the individual auditor level, the theory would be heavily embedded in the technology of evidence collection. Evaluation of the evidence and choosing specific forms of evidence would likely be subject to significant influences from elsewhere.

In a CPA firm wherein there is a sharing of risks, there would be benefit to including a theory of risk sharing to assist in explaining how firms are organized. Do monetary incentives to auditors improve the risk sharing, or are quality control reviews and admonitions more effective? Are the clients in the CPA firm’s portfolio of clients consistent with the firm’s members’ attitudes toward risk? Recent advances in team theory, syndicate theory and other areas provide a structure for evaluating this type of firm policy. An understanding of portfolio theory can provide the basis for examining the effects of client mix on audit risk, although this is a difficult application since the major step involves characterizing audit risks in the portfolio context. Obvious advantages from specialization also influence the solution to the client mix problem. The characteristics (or attributes) of individual auditors within the CPA firm are another dimension which is the subject of a firm’s recruiting and training policies. The structure and size of CPA firms make them a rather interesting and unique object for research.

At the professional level there is a choice problem concerning the activities

of the profession and its ability to serve its constituency. Essentially, coalition actions are taken, and they should likely be in the best interests of the coalitions. When they are not, there is an increasing likelihood that the coalition will splinter, as has been the recent experience of the AICPA with respect to a revision in its structure to recognize two different types of practice. Professional activities include other functions such as the efficient production and dissemination of specialized knowledge. These activities are also capable of analysis in economic terms. When the total professional fund is unequally provided by members and the services are unevenly valued, there is a concern for the stability of the coalition.

A theory of auditing can assist the profession in at least one other way. With the profession serving to represent its members' activities to others, there is an advantage stemming from having a tested theory which explains what goes on in the profession. A well constructed and tested descriptive theory of concentration within the CPA industry would have been very useful in the recent Metcalf hearings. Extensive economic studies of concentration have been done for other industries. Why has such a study not been done for CPAs? One problem is a lack of data, and one advantage of a professional association is that it can give anonymity to individual data and at the same time report significant research results.

The social or governmental aspect of decision making is characterized by its large, heterogeneous constituency. As government regulations are promulgated, the effects of complying with these "rules of the game" are pervasive in their potential impact. At this level, the major analytic difficulties stem from the problems associated with the construction of a social choice function. On the other hand, empirical problems surface in the difficulties associated with the development of interpretive models for economy-wide phenomena. Yet, the individual or group of individuals that set the "rules of the game" act as if they have made a choice among the alternatives. It would appear that there is room for descriptive models in an auditing theory and that these models would provide for a tested theory which explains the effects of alternatives but does not provide rules for choice.

A warning is provided to close this discussion of auditing practice. There have been significant developments in auditing research, yet if the earlier remarks are correct one can expect that there has not been a very rigorous logical validation and testing of the claims. At the individual auditor or firm level of choice, there is then a danger in using existing theory to design policies when the theory is not well grounded, verified, and supported. Is it not more reasonable to rely on intuition and experience than to shift to untested and possibly invalid theories as a guide for policy making?

The last ten years in accounting research have witnessed a problem in the use of theoretical structure. As the efficient market research developed, the emphasis has been on a continued testing and validation of the theory in that there was concern as to the conclusions that the delayed receipt of a set of financial statements did not impact share prices. Instead of viewing this as a model which did not explain why accounting is a pervasive activity it was, at times, viewed as heresy. After ten years of pursuing a non-explanation, there is an increasing tendency to look elsewhere for explanations. Ross (1977) and

Beaver (1978) provide details on this point. In fact, understanding other uses of accounting numbers such as for compensation contracts, bond indenture provisions and industry regulatory provisions may be likely explanations for the activities taking place in accounting and auditing, and these are not inconsistent with the efficient market results. Hakansson (1977) provides a clear and detailed picture of the comparative advantages of accounting information over other types of information in a market setting. He concludes with the following remark (p. 414):

However, the crucial point is that what is to be defined as a significant event and the amount of auditor involvement that is desirable must be the result of data collection, analysis and calculation. No one is in a position to spell out convincingly in detail what is significant enough to be disclosed immediately and what the auditor's role should be without engaging in . . . cost-benefit analysis.

The cost-benefit analysis suggested is that which looks at the effects on resource allocations and considers the comparative advantage of alternative information producers.

### A Prospective on Auditing Theory

A reader of the proceedings of Auditing Symposium I (Stettler, 1972) may believe that the change in approach over the intervening years has been to now have a paper on "Toward a Theory of Auditing" as distinct from a paper on "Toward a Philosophy of Auditing" (Mautz, 1972). Is there anything new here, or is this merely an unadvertised and well-developed "Columbus Complex" reflecting "Academic Amnesia" (Carmichael, 1976, p. 5)? The change to theory is to emphasize the requirements for testing and validation. As stated in Mautz (1972, p. 85) the archaic definitions of philosophy included reasoned science and the sciences as formerly studied in the universities. On the other hand, included was the non-archaic definition that philosophy is knowledge of the general laws that furnish the rational explanation of anything. This last definition is consistent with part, but not all, of the requirements for a theory.

This point is addressed by Mario Bunge (1967, p. 23) when he states:

In particular, no synthetic formula follows from analytic formulas and no analytic formulas follow from synthetic ones; the mathematician cannot infer anything about the world on the strength of his mathematical knowledge alone and, likewise, the physicist can establish no mathematical theorem on the basis of his factual knowledge.

And, on science, Bunge (p. 29) states that:

What science claims is (i) to be **true** than any non-scientific model of the world, (ii) to be able to **test** such a truth claim, (iii) to be able to **discover its own shortcomings**, and (iv) to be able to **correct its own shortcomings**, i.e., to build more and more adequate partial mappings of the patterns of the world.

In essence, the advantage of theory or science is that it is tested with observations from the world around us. Alternative and conflicting theories can be tried in

the courts of data. Prior to testing, the communication of the logic is presumed to have taken place and to have been verified by others. The logic of the efficient markets research has been the subject of scrutiny and it has been tested. In the process, it has shown where accounting information is not very useful or valuable. Considerable theoretical modeling and testing must likewise be done to show how auditing is of value and the reasons why. Although solid results may be decades away, it is not implied that the goal should not be pursued.

Questions raised within a philosophy of auditing are recast within a theory of auditing. For what and to whom auditors are responsible depends on answers to questions about the value of auditing and the technology to supply audits. Once a description of the demand for and supply of auditing is forthcoming, individuals can decide whether to produce audits and whether to pay the price for audits. This simplification of the problem to one of demand and supply analysis may appear to be extreme reductionism. On the other hand, a descriptive understanding of the world around us would appear to be a prerequisite to policy making questions.

Someone looking to the recorded auditing research should notice that a complete, logically and empirically defensible theory that explains the auditor's existence in an economy is not present. Yet the same person may observe auditors conducting audits, research reports describing what auditors are and should be doing, and economic explanations of the functioning of an economy. One might reasonably expect that with a wealth of research into the activities of auditors and into descriptions of an economy with uncertainty, that the two could be brought together with valuable results. Can the described auditor activities be shown to enhance the economy's utilization of resources? Can the change in the functioning of the economy with the introduction of auditors be evaluated in terms of social or private benefits? What motivations exist that cause an individual to engage an auditor? These and other interesting questions can be resolved only if the auditor is modeled into the economy in a direct way.

Earlier sections of this paper have omitted many specific references and descriptions of existing research in this area. Hamilton (1978) provides a more complete set of references and explanations and is available upon request. The scope for this paper was too broad to permit the detailed explanations and references, but this is not to say that they are unimportant to the theme contained herein. Recent developments along the lines suggested in this paper are excellently summarized and communicated in Ng (1978). Thus, the focus in this paper has been on explaining some roles for a theory of auditing.

Where are we in auditing theory? What activities in society are viewed as auditing? How can these activities benefit from having a well developed theory of auditing? The preceding questions served as a frame for this paper on the role of auditing theory.

What can one expect from a paper such as this? Describing the current state of auditing theory not only involves a given bibliographical set, but also involves a view as to the meaning of theory. Interpersonal differences in assessing the state of auditing theory may be induced by either one or both of these elements. Identifying the practice of auditing is obviously a definitional problem and establishing the "goodness" of one definition over another ultimately rests in estab-

lishing the usefulness of the definition as a means for improving our understanding of auditing, improving auditing itself, and improving the world around us. With the personalistic nature of the first item, the measurement difficulties associated with the second and the impossibilities for constructing social welfare measures for the third, there is reason to believe that a rigorous proof defending the definition's usefulness could not be provided herein.

Demonstrating the impact of a well developed auditing theory on education and practice is likewise exceedingly equivocal. Anyone who has tried to defend a basic research proposal knows that the process is difficult and that the arguments are generally insufficient for showing that the project should be funded. Yet, funded basic research projects provide a means for informed betting on knowledge changes on the part of the researcher and the funding agency. As in any area, some bets are won, others are lost.

I have developed a description of my betting positions and an explanation of my reasons for taking these positions. I am sure that opening a market for these bets would generate a significant amount of betting. I hope that future developments in auditing theory are such that all of our bets can eventually be settled. Actions taken by CPA firms, auditors, congressional committees, regulatory agencies and others can also be viewed as falling within a betting framework wherein the individuals who take the actions are placing their individual welfare on the line.

### **Concluding Observations**

The preceding sections of this paper have detailed why an auditing theory does not appear to exist and how such a theory would be of value to auditing educators and practitioners. Most basic to the viewpoint expressed here is that the necessary conditions for a solution to all auditing problems have not been established in a theoretical structure which is shown to be consistent with the data from the world around us. These conditions are necessary for resolving auditing problems such as choices among confirmation formats or analytic auditing approaches. A solution to these two problems, for example, requires either that the value of auditing be established (a welfare economics viewpoint) or that the auditor's penalty/reward structure be known (a microeconomic viewpoint). Within a setting where auditing is a valued activity, the penalty/reward structure should be derived from the explanation of the demand for and supply of auditing.

Individuals seeking resolution of auditing problems, whether the problems be governmental, internal, or external will demand that other conditions be established for the variety of problems addressed. If auditing is an area of specialization, then the necessary conditions will explain why auditing is distinguished from other activities. Yet the conditions will be only necessary, and by no means sufficient, for resolving most of the interesting auditing problems. As noted earlier, it is an issue of priorities and the suggestion here is similar to suggesting that climatic and geographic conditions are necessary conditions which must be established before one proceeds to identify the specifics of the problem of choosing a particular type of house and life style which is best for the individual involved.

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