

Open Education Resources (OER)

---

1980

## The Economic Role of the Audit in Free and Regulated Markets

Wanda Wallace

College of William & Mary, [wanda.wallace@mason.wm.edu](mailto:wanda.wallace@mason.wm.edu)

Follow this and additional works at: <https://scholarworks.wm.edu/oer>



Part of the [Accounting Commons](#)

---

### Recommended Citation

Wallace, Wanda, "The Economic Role of the Audit in Free and Regulated Markets" (1980). *Open Education Resources (OER)*. 2.

<https://scholarworks.wm.edu/oer/2>

This Other is brought to you for free and open access by W&M ScholarWorks. It has been accepted for inclusion in Open Education Resources (OER) by an authorized administrator of W&M ScholarWorks. For more information, please contact [scholarworks@wm.edu](mailto:scholarworks@wm.edu).

# **The Economic Role of the Audit in Free and Regulated Markets**

**By Wanda A. Wallace, Ph.D., CPA, CMA**  
Graduate School of Management  
University of Rochester

This teaching tool has been developed through the support  
of the Touche Ross & Co. Aid to Education Program

# The Economic Role of the Audit in Free and Regulated Markets

By Wanda A. Wallace, Ph.D., CPA, CMA  
Graduate School of Management  
University of Rochester

This teaching tool has been developed through the support of the Touche Ross & Co. Aid to Education Program. The object of the project is to promote the wide dissemination and use of the teaching tool in *conjunction* with any auditing text currently in use at both the undergraduate and graduate level. Permission is hereby granted to reproduce this teaching instrument for use in courses of instruction, so long as the source and supporter are indicated in any such reproductions. This teaching supplement is believed to fill a void in the available instruction materials for auditing. It serves as a link between the economics and finance training of the students and the detailed study of auditing by describing auditing as an economic service.

# Preface

This teaching tool relies heavily on the references listed at the end of each section. The text could be liberally footnoted, but such referencing would inhibit readability. Instead, key points in the text are numerically coded to one of the listed references that discusses the issue and will, in turn, direct students to additional sources of information. Those students desiring additional details,

formal proofs, and graphical demonstration of the concepts presented are invited to investigate the references provided; such formalization of the concepts is beyond the scope of this teaching instrument. The purpose of these readings, in part, is to encourage the interested student to become aware of the rich academic literature underlying the study of auditing.

# Acknowledgments

I appreciate the contributions of my friends and associates who reviewed and commented on the manuscript in detail: Geraldine F. Dominiak, Texas Christian University; William R. Kinney, Jr., University of Iowa; Frederick L. Neumann, University of Illinois at Urbana-Champaign; and Jack C. Robertson, University of Texas at Austin. Keith Harrison and Paul Healy, students at the Graduate School of Management, University of Rochester, made useful comments and their efforts are gratefully acknowledged.

The financial assistance provided by the Touche Ross & Co. Aid to Education Program

has made the development and wide dissemination of this teaching tool possible. The comments and advice of Henry C. Korff, Secretary/Treasurer of the Touche Ross Foundation, and of the professional staff of Touche Ross & Co. are most appreciated.

Stephanie Forsythe typed the numerous drafts of the manuscript with great skill and good cheer, which was most appreciated.

Finally, I thank James J. Wallace, Rochester Institute of Technology, for his assistance and encouragement.

Wanda A. Wallace

# Table of Contents

TOPIC	Page
I. Introduction	7
References	8
II. The Market Evidence	9
A. Pre-SEC	9
B. Pre-U.S.	10
C. Non-SEC	10
D. Synopsis	10
Questions for Discussion	10
References	11
III. Agency Theory: The Stewardship (Monitoring) Hypothesis	12
A. The Agency Relationship	12
B. Rational Expectations	13
C. The Stewardship (Monitoring) Hypothesis	13
Questions for Discussion	14
References	15
IV. The Information Hypothesis	16
A. The Benefits of Information	16
B. Information Value	18
C. The Public Good Argument	18
D. Synopsis	20
Questions for Discussion	20
References	20
V. The Insurance Hypothesis	21
A. Overlapping Hypotheses	22
B. Political Insurance	22
Questions for Discussion	23
References	23
VI. Product Attributes of the Audit	24
A. Control Attributes	24
B. Complementary Services	25
C. Reliability Attributes	25
D. Regulatory Compliance	26
E. Synopsis	26
Questions for Discussion	27
References	27
VII. Information Economics: The Costs and Benefits of Auditing	28
A. The Necessary Role of Information	28
1. A Basic Premise of Contracting	28
2. The Moral Hazard Phenomenon	30
3. The Adverse Selection Phenomenon	30
4. Signalling Theory	30
5. Synopsis	31
B. Information Attributes	31
C. Private and Public Information Production	32

D. The Costs of Auditing	34
E. Synopsis	35
Questions for Discussion	36
References	37
VIII. The Supply of Audits	38
A. Inputs and Outputs	38
B. Effects of Asymmetrical Information	39
C. Potential Barriers to Entry	40
D. Synopsis	40
Questions for Discussion	41
References	41
IX. A Look at Regulation	42
A. A Price Floor Effect	42
B. Input or Tax Subsidization	42
C. Rationing Effect	43
D. Auditing Standards	43
E. Regulators: Self-Interest Maximizers?	44
F. "Free-Riders": A Tax Effect	45
G. Publicity and Attention	46
H. Old Laws Never Die?	46
I. A Means of Forestalling Regulation	46
J. Synopsis	47
Questions for Discussion	47
References	47
X. Summary	49
About the Author	51



# I.

## Introduction

Before studying the details of auditing, a clarification of the role of the audit in both the free market and a regulated environment is important. Understanding the role of auditing is facilitated by prior courses in economics and finance. Your understanding of these tools will serve as a basis for describing auditing as an economic service. Recent developments in agency theory and information theory and well-known financial/economic concepts will be explained and applied to provide a theoretical framework for viewing the audit function. An important facet of your study of auditing is to understand the product. By clarifying the incentives of the parties involved in the decision to have and to supply an audit, as well as the attributes of the audit, you will be able to understand the role of the audit. As you go into practice or other business positions, education, or government, you will have an analytical base which will prove to be useful in

1. explaining audit services,
2. marketing audit services,
3. deciding to contract for audits, and
4. resolving political and regulatory issues related to audits.

The text first summarizes the observed demand for and supply of auditing services in unregulated environments. The framework for evaluating determinants of demand is then presented as a set of alternative hypotheses (tentative solutions to the problem of understanding and predicting the demand for audits).

Existing auditing literature discusses the role of hypotheses in furthering theory development.<sup>1</sup> Hypotheses attempt to abstract essential features of reality that are useful in predicting what is or what would be *under a specified set of conditions*. By definition, hypotheses are not realistic descriptions of the numerous details which might affect a phenomenon of interest. Instead, hypotheses are simplistic positive or objective statements, typically in IF/THEN form (given certain conditions, then these events can be expected to occur). The degree to which IF conditions accurately describe reality is unimportant, given that the resulting predictions are reasonably accurate.<sup>2</sup> For example, it is unimportant that the theoretical phrase "given a perfectly divisible commodity" in economics does not describe any real commodity; the assumption merely suggests what influences are being ignored in forming predictions. Further, if experience differs from predictions, it is possible that such differences stem from an attempted application of a hypothesis with this condition to an almost indivisible commodity. In other words, an attempt to apply a theory in a domain where it is known an assumption is *wrong* (as distinct from merely simplified) is likely to give wrong answers.<sup>3</sup>

The hypotheses that describe the demand for audits have underlying assumptions which may not correspond to reality or to your perception of the nature of man. Such a lack of correspondence is not the appropriate cri-

terion for selecting among alternative hypotheses. Instead, the degree to which the predictions of hypotheses are consistent with available evidence on auditing practices is the appropriate criterion for tentatively accepting a hypothesis as valid or for rejecting a hypothesis. The reader, aware of the IF/THEN form of a hypothesis and its tentative, evolving nature as a basis for explaining and predicting events, can select between the hypotheses presented or formulate some alternative, perhaps hybrid, theory describing the market for auditing services. The intention of this instrument is to introduce the alternative hypotheses present in the literature which appear to be consistent with available evidence on the demand for audits under varying conditions. The hypotheses represent the most reasonable explanations available in existing literature that account for observed auditing practices.

The hypotheses presented extend key concepts ingrained in the traditional auditing literature, as exemplified by the list of four conditions that create a demand for auditing provided by the Committee on Basic Auditing Concepts in 1973:<sup>4</sup>

1. Conflict of Interest—conflict between an information preparer and a user can result in biased information production
2. Consequence—information can have substantial economic consequences to a decision maker
3. Complexity—expertise is often required for information preparation and verification
4. Remoteness—users are frequently prevented from directly assessing the quality of information.

The astute reader will recognize these conditions in each of the hypotheses outlined.

In addition to describing the three key hypotheses that explain and predict the observed demand for auditing services, the by-products of an audit, which may be influential in determining whether a party contracts for an audit, are described. To formally support the basic concepts which underlie the hypotheses presented, a brief introduction to information economics is provided.

The supply of audits is described in very general terms, since the nature of the audit production function will be studied in depth throughout the auditing course. The purpose of this text is to provide a framework to evaluate the implications of observed audit practices and the effects of changes in the production function.

Finally, the effect of regulation on the demand for and supply of audits is consid-

ered, with analogies drawn to the effect of more general economic regulation. Now, inductive reasoning will be applied to observed auditing practices to infer the demand for auditing services in the absence of regulation.

#### References

1. Mautz, R.K. and Hussein A. Sharaf, *The Philosophy of Auditing*. American Accounting Association Monograph No. 6, Sarasota, Florida, 1961.
2. Friedman, Milton, "The Methodology of Positive Economics." *Essays in Positive Economics*, Chicago, 1953.
3. Nagel, Ernest, "Assumptions in Economic Theory." *American Economic Review*, May 1963, pp. 211-219.
4. Committee on Basic Auditing Concepts, *A Statement of Basic Auditing Concepts*. Sarasota, Florida: American Accounting Association, 1973.



## II. The Market Evidence

In microeconomics, or price theory, you studied the allocation of scarce resources to satisfy competing demands. You acquired knowledge of the price system of a free-enterprise exchange economy which determines

1. what is produced,
2. how it is produced, and
3. how it is distributed.

You learned that the desire of individuals for more preferred situations causes market exchanges which shift property rights to the highest valued use, thereby guiding productive resources toward an efficient allocation of their services. Thus, the presence or absence of output of a given commodity is the consequence of market forces that reflect the valuation of the good by consumers.<sup>1</sup>

You are aware that auditing services are currently provided to a large number of business and government units. This observed production alone suggests that auditing services are valued by consumers. If they were not, the resources currently expended for audits would be shifted toward competing, preferred products. However, those of you familiar with the Securities & Exchange Commission (SEC), an agency that regulates the United States (U.S.) securities markets, are probably aware that preparation and "certification" of financial statements are required by the Securities Act of 1934. Based on this regulatory fact, some people often assert that auditing exists solely because of regulation. However, the political process is

not the only explanation for the apparent demand for auditing. One can observe the free market prior to SEC requirements. Also, unregulated segments of the economy today which are voluntarily audited provide evidence that the audit is valued apart from regulatory compliance concerns. The additional question of whether regulation is in the public interest, reflecting the valuation of goods by consumers, will be answered differently by each of you depending on your perception of how political decisions are made.

### A. Pre-SEC

The securities acts were not passed until 1933 and 1934, yet in 1926, according to *Moody's Manuals*, 82 percent of the firms traded on the New York Stock Exchange (NYSE) were already audited by CPAs.<sup>2</sup> That percentage had increased to 94 percent before the commencement of hearings on the Securities Exchange Act of 1934. The NYSE in conjunction with the American Institute of Accountants [now the American Institute of Certified Public Accountants (AICPA)] developed reporting and auditing guidelines from 1930 to 1932 and required audited financial statements in 1933 prior to the Securities Exchange Acts. The American Stock Exchange (AMEX) had similar disclosure rules. The exchange rules prior to government legislation suggest the member companies valued the audit requirement.<sup>3</sup>

Evidence of substantial market demand for audits is also available in the years prior to the NYSE requirements. In the 1880s and 1890s U.S. companies were voluntarily contracting for audits. By 1882 the supply of accountants was sufficient to lead to the organization of the first society of accountants in this country. By 1886 the American Association of Public Accountants (predecessor to the AICPA) was formed. That organization's early attempts to set education and examination standards for admission<sup>4</sup> resulted in August 1896 in the first certified public accountants law in New York State. By 1899, 183 public accountants practiced in New York City and 71 practiced in Chicago, all primarily involved in performing audits.<sup>5</sup>

## B. Pre-U.S.

If the scope of market evidence is extended beyond the U.S., audits can be identified as early as 500 to 300 B.C. in the Greek city-state of Athens. State revenues and expenditures were verified by three boards of state accountants.<sup>6</sup> Later, auditing developed in Italy as a means of verifying the accountability of the sailing-ship captains returning to Europe from the Old World with riches. In 1394, the city of Pisa underwent an audit, similar in kind to that applied in ancient Greece. From 1500 to 1850 auditing was expanded in scope to include the early manufacturing activities of the Industrial Revolution.<sup>7</sup> In 1844, the United Kingdom (U.K.) required audits through regulation, albeit by stockholders, with or without the assistance of outside auditors. Yet, rather than creating a new reporting requirement, the law simply formalized the common practice of voluntary company audits.<sup>8</sup> While it cannot be denied that the law caused audits in companies which previously did not have them, the 1844 law was not responsible for creating the demand for audit services by corporations; it only marginally increased the demand for audits by increasing the cost of not having an audit.

## C. Non-SEC

Because the Securities Act requirement for an outside audit has not been lifted since its imposition, it is difficult to collect evidence regarding the persistence of audits in the absence of regulation. However, audits are not uncommon in segments of the economy that are not subject to the SEC. For example, the municipal sector is not subject to the SEC requirements, yet auditing of municipalities by outside parties is typical. While many states mandate audits, evidence exists that

most local units in Missouri, Georgia, and South Carolina—three states with no such legislation—voluntarily contract for audits with independent public accountants.<sup>9</sup> Similar evidence of widespread voluntary audits is provided by the fact that 80 percent of the corporate audit clients of Price Waterhouse & Co. are not registered with the SEC. Price Waterhouse & Co. is one of the "Big Eight" (the largest international public accounting firms, which together audit 92 percent of the companies listed on the NYSE and 76 percent of those on the AMEX).<sup>10</sup>

## D. Synopsis

The persistence of audits through time in unregulated environments provides evidence of the valuation of auditing services in excess of their perceived costs by consumers. However, the critical question for an understanding of the audit function is *why* have audits been requested, i.e., what characteristics of the product are valued? Users of audits of SEC companies are likely to differ from the users of audits of small corporations and municipalities, resulting in different valuations of the product attributes of an audit. However, the three alternative (or complementary) hypotheses to explain the existence of auditing, discussed in the following sections, are believed to encompass the varying concerns of such diverse user groups.

## Questions for Discussion

1. Increasingly complex and extensive reporting requirements have made the securities statutes the accountants' full employment acts. Do you agree?
2. If the SEC requirement for auditors' certification of public companies' financial statements was eliminated, would the observed frequency of audits decline substantially?
3. The simple existence of continued demand for auditors, assuming consumers are rational self-interest maximizers, suggests the audit has value. Critically comment on this claim.

## References

1. Alchian, Armen A. and William R. Allen, *Exchange and Production Theory in Use*. California: Wadsworth Publishing Co., 1964.
2. Benston, George, "The Value of the SEC's Accounting Disclosure Requirements." *The Accounting Review*, July 1969, pp. 515-532.
3. Benston, George J., *Corporate Financial Disclosure in the UK and the USA*. England and Wales: Saxon House and Lexington Books, Institute of Chartered Accountants in England and Wales, 1976.
4. Edwards, James Don, "The Emergence of Public Accounting in the United States, 1748-1895." *The Accounting Review*, January 1954, pp. 52-63.
5. Moyer, C.A., "Early Developments in American Auditing." *The Accounting Review*, January 1951, pp. 3-8.
6. Costouros, George J., "Auditing in the Athenian State of the Golden Age (500-300 B.C.)." *The Accounting Historians Journal*, Spring 1978, pp. 41-50.
7. Brown, R. Gene, "Changing Audit Objectives and Techniques." *The Accounting Review*, October 1962, pp. 696-703.
8. Pixley, Francis William, *Auditors: Their Duties and Responsibilities Under the Joint-Stock Companies Acts and the Friendly Societies and Industrial and Provident Societies Acts*. 1881, reprinted New York: Arno Press, 1976.
9. Wallace, Wanda A., "Required Disclosure and the Municipal Market: An Evaluation of the Need for Extension of the Securities Law to Municipalities." Working paper, University of Rochester, 1979.
10. Biegler, John C., "Statement Before the Subcommittee on Reports, Accounting and Management of the Committee on Governmental Affairs, United States Senate, 96th Congress, 1st Session, May 10, 1977." Reprinted in *Hearings*, 1978, pp. 488-617.

### III.

## Agency Theory: The Stewardship (Monitoring) Hypothesis

"The origin of auditing goes back to times scarcely less remote than that of accounting. . . . Whenever the advance of civilization brought about the necessity of one man being entrusted to some extent with the property of another the advisability of some kind of check upon the fidelity of the former would become apparent."<sup>1</sup>

The "stewardship" function of the audit that is implied in the above quote has recently been formally analyzed as an agency problem. An agency relationship is a contract under which one or more principals engage another person as their steward (agent) to perform some service on their behalf, the performance of which requires the delegation of some decision making authority to the steward. The money-handlers for the state were agents of the people of the ancient state of Greece, the ship captains to Europe were agents of the investors in ships, and managers have always been the agents of company shareholders. Audits have been commonly observed in each of these settings.

#### A. The Agency Relationship

If both parties to the agency relationship are assumed to attempt to maximize their self-interests and if the monitoring of performance is not costless, then good reason exists to believe that the agent will not always act in the best interests of the principal. The self-interest of each individual depends on his utility function and wealth position, which are

unlikely to be identical for any given principal and agent. However, a principal can obtain some protection by adjusting the price paid for agents' services.

For example, if an owner expects a manager to overspend on non-pecuniary benefits such as a plush office for himself, the owner will attempt to negotiate a reduced wage to offset this expected overspending. Similarly, if the self-interests of an agent are maximized through charitable activities (due to a personal utility function that values giving rather than self-indulgent perquisites), the principal will reduce the agent's wages to offset the amount of expenditures to charity from the principal's resources that exceed the level of expenditures desired by the principal. A manager, anticipating that the wage reduction could be greater than the value to him of the plush office or the pleasure received from charitable activities, will have an incentive to contract to not overspend on either a plush office or charities, or to write contracts in which he has incentives to not consume such non-pecuniary benefits. If no such arrangement was possible, the manager would probably leave his position to locate a more palatable arrangement with other principals. In other words, to preserve his compensation the manager will be willing to expend resources up to the amount by which the wage adjustment exceeds the value of non-pecuniary benefits, in order to guarantee that he will not take certain actions which would

harm the principal or to ensure that the principal will be compensated if the agent (manager) does take such actions.

Since the principal's expenditures for monitoring (expenditures to control the agent's behavior, including costs of measuring and observing the agent's behavior) are reflected in reductions of the wages paid to the manager, the manager's interest is served by seeing that the monitoring is performed at the lowest cost. For example, suppose the manager collects financial statement information for internal decision making purposes. He would be better off paying the cost of providing financial statements to the principals and having the accuracy of those statements attested to by an independent outside auditor, rather than incurring the larger cost of having each principal collect such information individually and adjust the price paid to the agent accordingly.<sup>2</sup> The profit figure and resource allocation decisions of the agents implicit in the financial statements provide useful performance measures. Operational audits (that focus on managers' efficiency and effectiveness) and auditors' special engagements to search for fraud are alternative means of assessing managements' performance and the degree to which agents' actions differ from the principals' preferences.

## **B. Rational Expectations**

An important concept that underlies an analysis of why audited financial statements will be demanded is the relatively new economic theory of "rational expectations." This economic concept assumes that people take into account all available information that influences the outcome of their decisions, that they utilize this information intelligently, and therefore that they do not systematically make mistakes. The term "systematically" means that since people will learn from past mistakes and experience, on average they cannot be consistently fooled; in other words, principals will not be consistently "ripped off" by agents.

The implication of rational expectations theory for agents is that principals will: (1) expect agents' self-interests to diverge from the principals' interests, (2) be able to estimate the effect of such divergence, and (3) adjust prices (wages offered) to reflect the related costs of the agents' expected activities. The ability of principals to protect themselves through a downward adjustment of prices causes the agent to generate demand for monitoring activities. Hence, the

agent rather than the principal is the source of demand for monitoring activities, since principals are basically indifferent due to their ability to protect themselves from the risk of loss perceived in an agency relationship by merely paying less for the agent's services. This adjustment capability causes agents to demand monitoring as a means of avoiding the downward adjustment of their wages. Of course, whenever the principals' price adjustment exceeds the costs of monitoring an agent, all parties could share the savings realized from contracting for audits or from using similar means to reveal the agent's performance.<sup>3</sup>

## **C. The Stewardship (Monitoring) Hypothesis**

While the means of monitoring a steward can take a variety of forms—owner-manager involvement, contingent compensation contracts, periodic reports on performance, etc.—the means of primary interest for continuous performance reporting is a set of a company's financial statements. Substantial evidence exists that earnings announcements by companies often result in stock price adjustments,<sup>4</sup> that accounting information is related to the market value of a corporation's shares,<sup>5</sup> and that accounting ratios can be used to estimate the probability of bankruptcy<sup>6</sup> and the risk of owning a company's stock.<sup>7</sup> These facts suggest that reported earnings have information content<sup>8</sup> and are useful in the assessment of an agent's performance. The use of accounting information in management compensation and bond indenture contracts<sup>9</sup> demonstrates the use of reported earnings in performance evaluation. From the discussion of agency theory and the implications of rational expectations, incentives clearly exist for agents to provide financial statements to facilitate monitoring activities by principals. However, if the principals do not trust the numbers provided by an agent they will insist on compensation (through adjustment of the agent's wage) for the risk of loss they perceive. Hence, in addition to providing financial reports, the steward will agree to provide evidence that the reported numbers are carefully prepared to avoid accidental error and are free of material fraud. The product which provides this assurance, with acknowledged limitations with respect to fraud discovery, is the independent audit.

While the discussion has focused on the relationship between owner and manager, as principal and agent, it is not difficult to draw analogies to the stewardship relationship between

1. employer and employee,
2. creditors and shareholders,
3. different levels of management in firms and agencies,
4. government and taxpayers,<sup>10</sup> and
5. all parties to cooperative efforts in all organizations.

In other words, the stewardship (monitoring) hypothesis states that when one party is delegated decision making power, he has an incentive to agree to be checked *if* the benefits from such monitoring activities exceed the related costs. As one imagines the potential extraction of resources possible in the absence of monitoring, e.g., the stealing and reselling of assets by managers, one can understand that outside ownership would not be observed if control mechanisms were unavailable. (The price adjustment demanded to compensate for such undesirable and expected actions would generate a zero wage for the agent's services.) Yet, ownership by numerous outside stockholders and investments by outside creditors are common, as are audits, implying that control mechanisms are available to facilitate an acceptable wage level for owner-managers and for managers holding no ownership shares. Further, the growth in audits of U.S. companies from 1885 to 1900 coincided with a substantial expansion in the number of firms with publicly traded securities and the number of corporate mergers and consolidations,<sup>11</sup> suggesting that audits are valued control mechanisms that facilitate outside investment. In fact, evidence shows that the likelihood of a firm voluntarily hiring an auditor increases with (1) the ratio of total debt to total assets, presumably to address the steward relationship of management to creditors, and (2) the total number of employees, presumably to address the steward relationship of lower management to higher management.<sup>12</sup> The implication of this evidence is that the monitoring capability of an audit is one characteristic valued by stockholders, creditors, and top management.

Although agency theory focuses on the expectation that principals' self-interests will differ from those of agents, it does not imply that agents are always expected to be evil. In fact, as already suggested, agents may be good in the context of being charitable, and yet not perform in line with the wishes of their principals. It cannot be denied that a probability of misbehavior—in the sense that

managers' actions will not always maximize their principals' interests—exists, and that means of lowering this probability are of economic value. These means can be termed monitoring activities and necessarily include the audit as one possible means of preventing or detecting such misbehavior.

## Questions for Discussion

1. a. Provide an example of how an employer could find an external auditor useful in monitoring employees.  
b. If the employer chose not to hire an external auditor, who would bear the employer/employee agency cost of this decision?  
c. Would it be the wrong decision not to hire an external auditor?
2. An owner-manager says, "If the banker wants a set of audited financial statements, he'll have to pay for the audit." Comment on the owner-manager's understanding of agency theory.
3. Monitoring contracts will be written (1) when the agent has incentives to take actions which will diverge from those actions preferred by principals, and (2) when the cost to the party taking the actions (in terms of price or wages) exceeds the benefits of such divergent actions.
  - a. What is then suggested by the commonality of monitoring contracts and of audits specifically?
  - b. Cite agency settings in which audits are not observed and explain the likely reason why such monitoring contracts are not utilized.
4. Give some examples of monitoring contracts tied to audited accounting numbers.
5. a. What are the differences in market setting in the political and private market? (Focus on the costs of transacting in both markets.)  
b. What are the implications of these differences in market setting for the demand for audit services by private business and government agencies (or state and local governmental units)?  
c. Why would politicians contract for an audit?

(See reference 10 for a formal discussion of related issues.)



## References

1. Brown, Richard, *A History of Accounting and Accountants*. T.T. and E.C. Jack, 1905, p. 75.
2. Jensen, Michael C. and William H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics*, October 1976, pp. 305-360.
3. Alchian, Armen A. and Harold Demsetz, "Production, Information Costs, and Economic Organization." *American Economic Review*, December 1972, pp. 777-795.
4. Ball, R. and P. Brown, "An Empirical Evaluation of Accounting Numbers." *Journal of Accounting Research*, Autumn 1968, pp. 159-177.
5. Beaver, William H., "Market Prices, Financial Ratios, and the Prediction of Failure." *Journal of Accounting Research*, Autumn 1968, pp. 179-192.
6. Beaver, William H., "Financial Ratios As Predictors of Failure." *Empirical Research in Accounting: Selected Studies 1966*. *Journal of Accounting Research*, Supplement, 1966, pp. 71-127.
7. Beaver, W.H., P. Kettler, and M. Scholes, "The Association Between Market-Determined and Accounting-Determined Risk Measures." *The Accounting Review*, October 1970, pp. 654-682.
8. Foster, George, *Financial Statement Analysis*. New Jersey: Prentice-Hall, 1978.
9. Smith, Jr., Clifford W. and Jerold B. Warner, "On Financial Contracting: An Analysis of Bond Covenants." *Journal of Financial Economics*, July 1979, pp. 117-161.
10. Zimmerman, Jerold L., "The Municipal Accounting Maze: An Analysis of Political Incentives." *Journal of Accounting Research*, Supplement, 1977.
11. Moyer, C.A., "Early Developments in American Auditing." *The Accounting Review*, January 1951, pp. 3-8.
12. Chow, Chee W., "The Function of External Auditors—Analysis and Preliminary Evidence." Working paper, University of Washington, April 1, 1977.

## IV. The Information Hypothesis

An alternative (or complement) to the stewardship hypothesis is the information hypothesis. It is argued that investors demand audited financial statements because they provide information that is useful in their investment decisions. The common investment decision models in the finance literature value a firm by computing the present value of future net cash flows, which have been observed to be highly correlated with financial statement information. The audit is valued as a means of improving the quality of the financial information.

The information hypothesis appears to overlap the monitoring hypothesis. Presumably some of the same information that is useful in monitoring contracts is also useful to the investor in making investment decisions. Note, however, that the monitoring hypothesis would predict explicit contracting with principals to provide audited financial statements for monitoring over the life of the contract as part of the agent control mechanism. This commitment to provide audited information would be made when the agency relationship is initiated. In contrast, the information hypothesis emphasizes that financial information is needed to determine market values, which are means of making rational investment decisions, even in the absence of the ability to explicitly contract with the agent.

### A. The Benefits of Information

The literature in finance, economics, and accounting discusses three major sources of benefits from information:

1. reduction of risk,
2. improvement of decision making, and
3. earnings of trading profits.<sup>1</sup>

Audited financial statements can be related to each benefit.

Presuming investors tend to be risk-averse, by definition they will demand a higher return for higher levels of risk, or alternatively they will pay a higher price in the form of a risk premium to reduce the level of uncertainty or risk of an investment. Assume for purposes of this analysis that the risk premium represents the individual's assessment of how much an audit will decrease the uncertainty concerning reported financial information. If the risk premiums of each investor in a firm were added together and the sum exceeded the cost to the firm of an audit, then all parties would be better off if uncertainty was lowered by issuing audited financial statements.

Some investors could lower their risk exposure to an individual firm by forming a portfolio of audited and unaudited investment opportunities, thereby decreasing the risk premium available to offset any single entity's audit cost. However, the systematic uncertainty as to the quality of unaudited financial

information would increase the variability of the market as a whole, demanding an undiversifiable market risk premium against which the cost of auditing could be balanced. In addition, barriers to diversification can exist which result in larger risk premiums to compensate for the unsystematic risk of unaudited data (peculiarities of a particular firm's unaudited data apart from its relation to the market as a whole). The audit can reduce both market-related (systematic) and firm-specific (unsystematic) risk.<sup>2</sup>

An audit is also valued as a means of improving the financial data utilized by managers in decision models. An auditor can improve input data either by finding errors or by making employees more careful in preparing records in anticipation of an audit. More accurate data for capital budgeting, inventory planning, and break-even analysis (as a basis for production and pricing decisions) will improve internal decision making. The implication of the numerous decision models which utilize financial information is that audited information could be demanded for management decision making alone. External use of more accurate data for credit and investment analysis, labor negotiations, or regulation decisions will likewise improve managers' performance.

The third use of information cited refers to gains from trade by investors with private access to new information. To evaluate properly the possibility of audits yielding gains from trade you need to recall the concept of rational expectations described in Section III. B.

One implication of the assumption of rational behavior is market efficiency, i.e., asset prices reflect all available relevant information. Observed behavior over time and extensive testing of stock markets, commodities markets, and foreign-exchange markets provide empirical support for the rational expectations theory. Since asset prices impound each investor's judgments, which reflect all publicly available information, there is no way another investor can utilize such publicly available information to earn a return in excess of the normal expected return. The numerous studies which have searched for a trading rule that systematically earns returns in excess of the normal expected return by utilizing public information have repeatedly supported market efficiency. The individuals who are first to discover new information relevant to the current valuation of a corporation's securities can trade on that information and increase their wealth. They will trade until the

price of the corporation's securities adjusts to the equilibrium price, or expected return, of the securities, *given* the information. However, once this information is impounded in the price as a result of these trading activities, other investors cannot be rewarded for using the same information.<sup>3</sup> This is why the information benefit of profits from trading is only realized by investors with private access to new information. The market is so efficient that it adjusts to new information almost instantaneously, implying that unless an investor is purchasing or selling stock at the very minute a public announcement of information is made, no abnormal returns will be realized.

With this background, the audit function can be evaluated with respect to the benefit of trading gains. The commonly observed practice in situations of public ownership is for management to contract for an audit and make the audited financial statements publicly available; this practice was observed prior to the securities acts. Private corporations typically contract with the auditor and make the audit results available to owners and creditors. The likelihood of managers or any other party earning excess returns will depend on the ability to maintain private access to the audited data. Although the manager will likely be the first party aware of the audit results, managers have interests similar to those of auditors, who are precluded from trading on the information due to concerns for professional independence. Managers are concerned with how their trading gains at the expense of their principals might affect the value of their human capital as agents. In fact, in the presence of regulation, managers are typically precluded from trading on such "inside information." Further, at public announcement of the audit results, the price of the securities will adjust to the information so quickly that no third party is likely to systematically earn abnormal gains from trade.

As a matter of fact, no price adjustment may result from the audit itself: the findings could be discovered by outsiders at an earlier date, or the audit results could be replaced by surrogate information available prior to the audit. In other words, the announced audit findings may do little other than confirm investors' expectations and existing market valuations. However, the relative absence of gains from trade on audit results does not imply a lack of value for audited information.

## B. Information Value

The distinction between information value and the ability to gain from trade is important. For example, empirical evidence exists that unpublished financial results by business segments (lines-of-business or sub-entities), as opposed to consolidated financial statistics, if made available to an investor would lead to improved forecasting and better trading rules.<sup>4</sup> Similarly, if information on audited earnings per share<sup>5</sup> and similar financial results are obtained before the market gains the knowledge, excess returns can be earned. In other words, information available to an individual and *not yet public* indeed leads to above normal trading gains, suggesting such information has value. However, the efficient markets evidence demonstrates that no above normal trading returns would be expected once the information is publicly available and prices have adjusted to their expected equilibrium levels.

In spite of the inability to earn abnormal returns from publicly available information, evidence exists that public information releases have value to individual investors since such releases generally cause updating of beliefs and clarification of some unresolved uncertainty which may lead to increased trading. Through trading, individuals can shift to a preferred portfolio investment position, thereby increasing their utility (well-offness). Each individual has a utility function that reflects his tastes with respect to the desired risk and return relationship in the optimal investment portfolio. In finance theory the optimal portfolio is at the point of tangency (where two lines meet) between an indifference curve (or utility curve) and the efficient set of investments (or the boundary of the opportunity set). The efficient set or boundary of the opportunity set includes all feasible combinations of investments not dominated by some other combination of investments; the boundary merely reflects different risk/return relationships. The individual can utilize information to adjust his portfolio investments to a position of greater utility, whether or not the particular piece of information resulted in a stock price adjustment. (In other words, the second benefit described in Section IV. A. holds in the absence of the third benefit.)

An example of the role of audited data is provided by research results which demonstrate an improvement in the estimation of risk through the use of accounting information.<sup>6</sup> While this "better estimate" of risk and expected return does not mean that one could earn an abnormal rate of return in the

market, it does suggest that an individual can reevaluate his investments and shift toward more preferred investment combinations. For example, an investor approaching retirement may prefer a portfolio with a market risk lower than average, and if he finds he is holding a riskier asset than he personally desires based on the "better estimate" of risk, he can benefit from that information. Similarly, a corporation may prefer dividend-paying corporate investments due to the fact that 85 percent of corporate dividends are not subject to corporate income tax. Information on expected returns and their relation to dividend policy, while unlikely to lead to gains from trade, can increase the individual's total utility.

The inference which can be drawn from the portfolio investment activities of individuals is that while the audit could be neutral in the sense of not changing the expectations of the market as a whole, it could greatly alter the expectations of *individuals* concerning risk and return. Hence the audit can improve investment decisions by an individual.

## C. The Public Good Argument

Analysts and regulators claim that since audited financial statements are available to nonstockholders at no cost, the value to them for portfolio rebalancing (shifting to a preferred investment position based on improved estimates of risk and return) is not considered by companies when deciding whether to provide audited information. The nonstockholders are referred to as free-riders since they benefit from the information without paying for it. However, analysts and regulators argue that everyone is harmed by the underproduction of information that results from information producers, such as managers, not explicitly considering the value of financial data to nonpurchasers. Recognition of the portfolio rebalancing benefits of financial information which can be unaccompanied by stock price adjustment has led, in turn, to a claim that regulation in the form of mandatory information disclosures is required to curb the underproduction of information. This demand for regulation which arises from the information hypothesis will be briefly analyzed before turning to the third hypothesis explaining the demand for audit services.

Free-riders are considered to be an acute problem in assessing the demand for information because of (1) discovery problems (detection of information content is frequently possible by simply observing the actions of

some party who is in possession of the information) and (2) the inability to effectively exclude nonpurchasers from having access to information once it becomes available through unauthorized resale by purchasers. Moreover, there is a theoretical basis for opposing the exclusion of any information user from access to financial statistics once they are produced: audited financial statements have public good attributes. (A public good exists whenever one person's consumption of a good does not reduce another person's consumption. It is often described in economics by providing the example of national defense as a public good.) Since the use of information by one individual to rebalance his portfolio does not diminish the value of that same information to other users for rearranging their portfolios, efficiency would seem to dictate that no user who values the information should be excluded from access to audited financial statements.

However, if nonpurchasing users are not excluded from access to financial statements, the number of free-riders will increase. Managers may underproduce audited financial data based on the purchasers' demands, relative to the level of production which would reflect the *total* demand for audited information by users. Yet, the *total* demand for audited financial statements, if the demand of all free-riders was measurable, can be only a slight increase, if any, over the total production of audited financial statements observed in the absence of regulatory intervention. The pre-1934 market evidence (before enactment of the securities laws) suggests that audited data were widely produced without regulation. Since financial statements are either audited or unaudited in the presence of generally accepted accounting and auditing standards, and purchasers' valuations obviously are sufficient to motivate companies to be audited, the marginal effect of free-riders' additional demand is unlikely to have a substantive effect on auditing practices.

Not only is it questionable how much underproduction actually results from free-rider/public good aspects of information, it is also an erroneous claim that regulation is required to reach the desired level of information production (both the quantity of information available and the breadth of its distribution). Alternative means of increasing the amount of information produced do exist, such as using a market mechanism to reach the target output. In other words, just as a group of regulators can set a desired level of information production by mandating specific disclosures, based on available information

about the demand for a product by non-stockholders, a private coalition, such as a firm, can assess this demand and increase the level of disclosure by slightly altering the structure of property rights through contracting.<sup>7</sup> One means of assessing demand through contracting is to set a price for the information made available to nonstockholders. Frequently, regulators claim that this approach is impractical since it is difficult to exclude nonpurchasers and therefore difficult to arrive at the appropriate price which will encourage the increased information production. Nonstockholders will claim no value for the information resulting in a low or zero price if they can acquire the information without payment.

Having difficulties with nonpurchasers is not synonymous with being unable to exclude such parties. With effective exclusions through contracting, enforcement activities, and appropriate pricing, all users that value the information will presumably purchase it, and the free-rider and waste problems potentially related to public goods will be solved. Private contracting as a means for effective exclusion would be possible, although costly to enforce. Sources of information to nonstockholders, including libraries, could be charged for audited data at a price which presumably reflects the value of the information to users of the data. Unauthorized resale of the data could be prohibited. Due to imperfections in contracting and enforcement techniques, some users of audited financial data could remain free-riders, not having their valuation of financial data reflected in the information production decision. However, the total effect of these free-riders on the supply of information must be compared with the cost of perfect or extended contracting and enforcement activities; the market mechanism has failed only if the benefits from increased information production exceed such costs.

The extent to which a market mechanism failure justifies intervention by regulators will, in turn, depend on the cost of regulation relative to the combined cost of private contracting, enforcement, and lowered information production attributable to free-riders. Since intervention by regulators will involve an estimate of nonpurchasers' information (without the added information available from private contracting with prices set to reflect each individual user's valuation of the information), it is not obvious that the resulting level of information production will be preferred to the level of production in private markets.<sup>8</sup>

## D. Synopsis

The information hypothesis predicts a demand for audited information as a means of reducing the risk of investments, improving internal and external decision making, enhancing gains from trade, and improving the portfolio investment position of individuals. Although this hypothesis has been used to justify mandatory disclosure policies, it is not obvious that a cost-benefit comparison of available private market mechanisms and regulation would recommend government intervention.

## Questions for Discussion

1. Compare and contrast the information hypothesis and the stewardship (monitoring) hypothesis as possible explanations of the demand for auditing.
2. Would the public good characteristics of information influence the demand for audits generated from existing agency relationships? If so, how?
3.
  - a. If asset prices impound each investor's judgments, which reflect all publicly available information, why would an investor expend resources to produce other information?
  - b. "The best estimate of an asset's value is today's price." Comment on the validity of this statement.
4. "If stock prices are not affected by the public release of information, that information lacks value." Critically evaluate this statement.

## References

1. Fama, Eugene F., and Arthur B. Laffer, "Information and Capital Markets." *Journal of Business*, July 1971, pp. 289-298.
2. Shakun, Melvin F., *Cost-Benefit Analysis of Auditing*. Research Study No. 3, Commission on Auditors' Responsibilities. New York: American Institute of Certified Public Accountants, Inc., 1978.
3. Fama, Eugene F. and Merton H. Miller, *The Theory of Finance*. Hinsdale, Illinois: Dryden Press, 1972.
4. Collins, Daniel W., "Predicting Earnings With Sub-Entity Data: Some Further Evidence." *Journal of Accounting Research*, Spring 1976, pp. 163-177.
5. Beaver, William H., "The Information Content of Annual Earnings Announcements." *Empirical Research in Accounting: Selected Studies*, 1968, pp. 67-92.
6. Beaver, W.H., P. Kettler, and M.Scholes, "The Association Between Market-Determined and Accounting-Determined Risk Measures." *The Accounting Review*, October 1970, pp. 654-682.
7. Demsetz, Harold, "The Exchange and Enforcement of Property Rights." *Journal of Law and Economics*, October 1964, pp. 11-26.
8. Gonedes, Nicholas J., Nicholas Dopuch, and Stephen H. Penman, "Disclosure Rules, Information-Production, and Capital Market Equilibrium: The Case of Forecast Disclosure Rules." *Journal of Accounting Research*, Spring 1976, pp. 89-137.



## V.

# The Insurance Hypothesis

In addition to the monitoring and information rationales for audit demand, a third and recently popular explanation of how managers choose whether or not to have an audit relates to management's liability exposure.<sup>1</sup> Under the securities acts, the auditor and auditee are jointly and severally liable to third parties for losses attributable to defective financial statements. Under common law, the auditor is generally liable to only identifiable third parties. The details of auditors' professional liability are beyond the scope of this text. (An in-depth discussion of liability under common law and the securities acts is readily available in existing auditing textbooks.) However, the breadth of auditors' legal responsibilities is substantial, as is the number of cases litigated since the mid-1960s. Investment bankers, trustees, underwriters, lawyers, and managers who have professional liability exposure for their participation in financial activities involving disclosure practices have incentives to insure themselves via auditors' participation. The Securities Exchange Act of 1933 specifically provides the defense of "expert reliance"<sup>2</sup> to any party being prosecuted. The ability to shift financial responsibility for reported data to an auditor lowers the expected loss from litigation or related settlements to managers, creditors, and other professionals involved in the securities market. As potential litigation awards increase, this "insurance" demand for an audit from managers and professional participants in financial activities can be expected to grow.

The question arises as to why managers and other professionals would look to the auditors for insurance, rather than or in addition to an insurance company. At least four possibilities exist. First, the auditor's involvement may be so ingrained in a society that a professional who does *not* require an auditor's participation may be unable to substantiate that he exercised adequate professional care. The absence of the good faith gesture of independent attestation may be more likely to imply negligence or fraud on the part of managers or other professionals.

Second, accounting firms have begun to hire in-house general counsels, to develop full legal staffs for defending against professional liability suits, and even to market the legal services developed for the accounting firm's use. Accountants' specialization in disclosure problems and the recently reported successes of their legal branches in deterring the filing of cases and even gaining remedies against the SEC suggest that the auditor may provide more efficient insurance coverage as a codefendant than an insurance company could provide as a third party.

Third, the auditor facing a litigation suit is concerned about his reputation as well as the dollars he might lose in a settlement. Similarly, managers value their reputation and the company's reputation as a well-run firm which distributes reliable information to the market. While an insurance company will make a cost-benefit choice of legal defense versus settlement out of court based on monetary loss, the common interests of the

auditor and manager (or some other professional) will insure the proper consideration of the effect of litigation on the reputations of the parties involved.

Fourth, the managers of a firm represent the stockholders, trustees represent creditors, and, in general, professionals represent potential claimants in the event of financial loss from business failure, misleading disclosures, or an investment's overall poor performance. Auditors have "deep pockets" relative to a bankrupt or ailing corporation that cannot pay. Based on courts' inclinations, auditors can provide protection from an otherwise uninsurable business risk of investment. The courts have tended to assume that the auditor is the guarantor of the accuracy of financial statements to consumers (investors) who are deserving of protection from financial loss. The courts appear to view the auditor as a means of socializing risk. In other words, because he is held responsible for business failures, the auditor in turn shifts this cost to clients through higher fees and then to society through higher prices and lower returns on investment. Risks otherwise faced by investors are borne by society.

The astute reader may recognize this socializing process to be analogous to the typical diversification argument that supports the decision to purchase insurance. An insurance company, by insuring a large number of clients, can diversify its risk and pass on the savings to its customers and investors. But why is the auditor necessary as a means of spreading risk? First, evidence exists that insurance companies do not adequately diversify professional liability risks and frequently charge back court losses directly, through insurance premiums, to those companies and/or professionals under coverage. While there is a one-time option to change insurance firms to prevent the subsequent recovery of litigation losses by an insurance company, it is unlikely that a party could continue to obtain liability insurance coverage at a reasonable price if this practice of terminating a policy immediately after a claim was known to insurance market participants. The typical diversification advantage of acquiring insurance company coverage appears relatively minor with respect to liability suits concerning financial statement disclosures. Second, insurance for protection from bad business decisions is generally unavailable. The complement to typical insurance company policies of protection via auditors' involvement can offer a

socialization of investment risks that are otherwise uninsurable.<sup>3</sup>

### **A. Overlapping Hypotheses**

Of course, the insurance hypothesis overlaps with the monitoring and information rationales for audit demand. Presumably monitoring costs include a means of settling up for divergent actions of an agent, and the auditors' "deep pockets" (ability to pay) provide one means of settlement. Since auditors can be liable for the full amount of losses that investors may have incurred upon buying (under the SEC Acts of 1933 and 1934) or selling (under the SEC Act of 1934) securities,<sup>4</sup> the auditors have a stake in financial statement reliability. Investors, knowing the auditors' responsibilities, can be expected to perceive audited financial statements as having more reliability than unaudited data, and value these inputs to investment decision models, including portfolio rebalancing decisions.

Of course, one could argue that alternative means of monitoring and sources of information exist to fulfill the monitoring and information hypotheses. But only an auditor (1) can fulfill the expectation that professional due care involves independent attestation, (2) can provide the specialized knowledge of disclosure problems and related defense approaches developed by in-house general counsels, (3) can be expected to share the common interest in the effect of disclosure-related litigation on reputation, and (4) can insure against business risk in a manner that socializes risk. The auditor's insurance-related capabilities imply a separable demand by managers and other participants in financial markets for auditing, which stems from the professional liability exposure of auditors.

### **B. Political Insurance**

Another dimension of the insurance hypothesis relates to the incentives of politicians to require audits. When the SEC was established, the government could have become the target for criticism whenever a fraud was discovered in the securities market or a large corporation failed financially. Instead, the SEC prescribed audits by independent public accountants and extended the auditor's professional responsibilities. The claim was made that "adequate disclosures" would preclude a future stock market crash similar to the 1929 disaster. Yet, no support was provided for the claim that inadequate disclosure practices, even in part, caused the crash. In fact, the claim is suspect because, as shown earlier, voluntary disclos-

ures in the form of audited financial statements prior to regulation paralleled subsequent reporting requirements. However, the SEC was an overt government reaction which could be claimed to be the solution to a clear "disaster." This solution would have little cost to the government sector if the SEC could shift responsibility for future, politically costly events to the private sector. Through the years the auditors have served as a convenient scapegoat whenever a Penn Central, Equity Funding, or similar financial failure and fraud has occurred. Instead of asking "why wasn't the SEC aware of the situation," the focus has become "why didn't the auditor discover and disclose the problems?"<sup>5</sup>

Audit failures do occur, and SEC reliance on private auditors is most likely the preferred means of assuring adequate disclosure. However, in spite of these facts, an added insurance benefit to politicians accrues from the current method of regulation. Political benefits are derived from mandating audits, increasing liability exposure of auditors to provide greater remedies to individual investors who lose money in the market, and focusing attention on audit failures which place auditors in the defendant's chair. Government regulators and politicians can insure themselves against blame by requiring that SEC companies be audited by public accounting firms.

## Questions for Discussion

1. The American Law Institute's (ALI) proposed Federal Securities Code would limit damages on non-fraud actions to the greater of \$100,000 or one percent of the defendant's gross revenues per defendant, to a maximum of \$1,000,000.
  - a. What would such a limitation on litigation damages from an auditor imply about the demand for an audit according to the insurance hypothesis?
  - b. What would the limitation on litigation damages from an auditee imply about the demand for an audit according to the insurance hypothesis?
2. Despite the SEC's statutory authority to prescribe accounting principles and audit procedures, in general the private sector has been permitted to set generally accepted accounting and auditing standards.

Apply the insurance hypothesis to explain this action by the SEC.

## References

1. Hamilton, Robert, "An Examination and Clarification of the Role for Auditing in the Production and Dissemination of Capital Market Information." Unpublished D.B.A. dissertation, University of Southern California, 1975.
2. Skousen, K. Fred, *An Introduction to the SEC*. Cincinnati, Ohio: South-Western Publishing Co., 1976.
3. Jaenicke, Henry R., *The Effect of Litigation on Independent Auditors*. Research Study No. 1, Commission on Auditors' Responsibilities. New York: American Institute of Certified Public Accountants, Inc., 1977.
4. Leas, Philip J., "The Measure of Damages in Rule 10b-5 Cases Involving Actively Traded Securities." *Stanford Law Review*, January 1974, pp. 371-398.
5. Benston, George J., *Corporate Financial Disclosure in the UK and the USA*. England and Wales: Saxon House and Lexington Books, Institute of Chartered Accountants in England and Wales, 1976.

## VI.

# Product Attributes of the Audit

Regardless of the primary rationale for the audit, several product attributes are automatically obtained, all of which will influence the total number of audits and related services that are demanded.<sup>1</sup> The attributes may be considered joint products or by-products of the audit. Some of the by-products require further processing, but each of the attributes shares joint costs with the audit permitting the auditor to provide the complementary service at lower marginal costs than would be incurred if the service was performed by someone other than the entity's auditor.<sup>2</sup> How the benefit from the lowered marginal cost is (or should be) distributed between the auditor and the client is a question for future research. However, regardless of the distribution, the cost savings benefit society and can be expected to result in a higher level of demand for auditors' services.

### A. Control Attributes

The control dimension of the audit was the focus under the stewardship hypothesis, but is part of the auditor's product even when the information or insurance hypothesis is the primary motivation for contracting with an auditor. The audit itself acts as a deterrent to fraud and reporting abuses. The threat of discovery will presumably provide an incentive for the employee not to extract resources illegally from an employer. Similarly, this threat deters managers from redistributing

the stockholders' claims to the creditors, or vice versa. While managers may not be prone to illegal acts, what they deem "minor abuses" could continue without detection if not discouraged by an independent party's check on reporting practices.

One such abuse might be the "smoothing" of income,<sup>3</sup> or the understating of income in good years and the overstating of income in bad years to smooth performance measures over time. In the popular literature this practice has been termed "window-dressing" by managers. The efficient markets evidence implies that stockholders and creditors cannot be systematically fooled by such practices, so why would managers bother to smooth income? At least two real effects of smoothing, regardless of stock price effects, provide an incentive for managers to "window-dress." The first relates to incentive compensation practices. Bonus payments are typically tied to some income number, with a floor and a ceiling applied through a percentage formula. By smoothing incomes to lie between the floor (for example, five percent of the average consolidated capital investment of the firm) and the ceiling (for example, 10 percent of the amount by which the net consolidated earnings as attested by the independent accountant exceed the floor), managers can maximize their bonus payments. The second real effect relates to restrictive bond covenants. Through smoothing activities, managers can have

short-term relief from constraints imposed by covenants tied to accounting numbers. These incentives to smooth income can lead to the distortion of both performance measures and the information content of financial statements. However, if managers know the financial statements are to be subjected to an independent review by an auditor, the incentives to smooth can be offset by the fear of discovery by an auditor.

In addition to the control dimension of the audit which deters fraud and reporting abuses due to fear of discovery, an additional control attribute of the audit relates to the improvement of internal control over operations. As controls over resource flow improve, the probability of loss from error or fraud declines. Similarly, carelessness in performing one's assigned duties is less likely to occur or pass unnoticed when one knows that an external auditor will test whether these duties were properly performed and will report on any substantial deviations. Currently an auditor has a choice whether or not to test internal controls. But the controls must at least be reviewed, and it is uncommon for the auditor to do no testing of them. Further, a separate report on internal accounting controls based on audit tests (or based on an extended engagement to review controls) can be issued, itemizing weaknesses in controls and recommending improvements.

Even in the absence of a separate report on internal accounting control, the auditor typically recommends means of improving existing internal controls through verbal communication or through a management letter. In addition, an auditor frequently suggests ways of increasing the efficiency of operations, such as changing the physical lay-out of a plant to simplify the transfer of goods-in-process, adopting inventory control models (Economic Order Quantity or EOQ) and other sophisticated decision approaches, and constructing cost systems, budgets, and performance evaluation measures that motivate personnel. Recommendations on improving internal accounting control and productive efficiency are side benefits of an audit which can result in cost savings in operations, lower costs for property and bonding insurance, and less loss from fraud and errors.

## **B. Complementary Services**

Current proxy statements for SEC firms provide a description of the audit services performed by independent certified public accountants (CPAs). A typical description follows: the company's auditors provide

services related to filings with the SEC, conduct reviews in connection with acquisitions and mergers, examine and report on accounts and records of employee benefit plan trusts, and consult and provide other assistance in connection with various accounting and financial reporting matters. Professional services by the independent CPAs which might be considered "non-audit" in nature and are commonly described in current proxy statements for SEC firms include: corporate tax consultation, preparation of corporate tax returns, preparation of foreign service employee tax returns on behalf of the company, advice and assistance related to development and security of computer-based systems, and various surveys, studies, consultations, acquisition reviews, and other services. These descriptions typify the products available from the auditor that have at least some costs in common with the audit. Once the financial statements have been examined for fairness, the auditor has substantial knowledge of a client's transactions. Such knowledge eases the planning of corporate tax matters and the preparation of tax returns as well as the performance of the other described services. Studies by regulators and numerous policy groups suggest that economies are obtained by using one public accounting firm to audit, to provide tax services, and to provide management advisory services as well.

The interest of regulator and policy groups in the offering of multiple client services by an auditor stems from concern for the effects on an auditor's independence of providing complementary client services. If an auditor's independence was jeopardized, the monitoring value of an audit would decline, as would the information value of the financial statements. In fact, the insurance value of the audit would decline, due to the selection of an auditor who is perceived to lack independence. While questions of independence persist as complementary services by an auditor have become commonplace, little evidence exists that maintenance of independence has become a problem. In contrast to the questionable costs of multiple services, the economies available from using multiple services from the same accounting firm are apparent.<sup>4</sup>

## **C. Reliability Attributes**

The control mechanisms and by-product savings which are made available by an audit are accompanied by other attributes which improve the reliability of financial statements. In addition to increasing the trustworthiness

of the numbers as performance measures for agents, the audit provides an error check that makes the financial statements more reliable. An investor can compare the reliability of information produced by one firm relative to information produced by its competitors. Presumably, stockholders and creditors will "vote with their feet" by purchasing securities in a manner that rewards those firms which issue more reliable audited information. The amount of the reward will depend on the net benefits from using audited rather than unaudited data for decision making.<sup>5</sup> The "voting with their feet" actions of investors are more likely to be observed when the price adjustment process assumed under the stewardship hypothesis is somehow constrained. The constraint might be a usury ceiling or a set budget for loans that is allocated to a fixed group of borrowers without permitting competition across classes of borrowers. In the absence of constraints on price protection and diversification, the importance of the individual company's audit to a diversified investor is minimal.

However, as audits are perceived to lessen the probability of major financial frauds, the independent attestation can contribute to the general perception of risk over a large number of risky investments and affect the level of savings and investment in the economy at the market level.<sup>6</sup> The result is a lowering of systematic risk for investors.

The auditor's function in determining the fairness of financial statements includes the enforcement of generally accepted accounting principles and compliance with the increased number of footnote disclosure requirements. These attributes decrease the information risk of any financial data presented to managers, stockholders, and creditors and thereby can enhance decision making.

#### **D. Regulatory Compliance**

The regulatory compliance attributes of an audit cannot be ignored as demand determinants. "Going public" increases the marketability of a company's securities, but it is only possible through compliance with existing audit requirements. If this greater marketability stems from the ability of certain firms to distinguish themselves as high quality firms by means of the audit, then the audit would be valued apart from the minimum compliance requirement for the regulated firm. In addition, going public typically results in a greater number of agency relationships, increasing the agency costs of equity. Therefore, an increased

monitoring demand for auditing can be expected to accompany the legislative compliance demand for an audit.

As do stockholders, product purchasers often wish to distinguish between high and low quality suppliers, and the audit has been utilized as an information source to assist in selecting a supplier. For example, the Department of Transportation in Florida requires audited financial statements for contractors bidding on construction. Assuming the customer base to which a company has access is effectively constrained by such customers' restrictions, the audit is a means of broadening a company's customer base. If audited statements are a prerequisite to going public, or to providing a firm's product or services for certain customer groups (for example, state agencies), then there is derived demand for the audit.

#### **E. Synopsis**

In the discussion of the stewardship, information, and insurance hypotheses, valued attributes of an audit were presented in the context of each hypothesis. However, the audit represents a *package* of services (with numerous joint products available) which is automatically received when a party contracts with an independent auditor, regardless of the primary rationale for being audited. Product attributes of the audit include:

1. an ability to deter fraud and reporting abuses through
  - a. fear of discovery and
  - b. improved internal controls,
2. a means of improving operating efficiency by implementing auditors' recommendations based on a review of operations during an audit,
3. a common cost contribution toward complementary services when the same accounting firm is used for multiple services,
4. improved reliability of financial information which can reduce unsystematic and systematic risks of information and improve decision making,
5. a means of complying with regulations, and
6. a means of increasing the customer base to which a company has access.

Each of these attributes will influence the total number of audits and related services that are demanded.



## Questions for Discussion

1. Provide some specific examples of the "efficiency benefits" of an audit. Compare the nature and cost of such benefits to the alternative of hiring an outside management consulting firm for advice.
2. The SEC has frequently stated its concern over the possible effect on the auditor's independence of providing management advisory services. If the SEC were to mandate that auditors not provide management advisory services, how would such a ruling affect product attributes of the audit?
3. Why would consumers of audited financial statements value the auditor's enforcement of generally accepted accounting principles for reporting purposes?

## References

1. Arrow, Kenneth J., *Social Choice and Individual Values*. Second edition. New York: John Wiley & Sons, Inc., 1963.
2. Burton, J.C. and W. Roberts, "A Study of Auditor Changes." *Journal of Accountancy*, April 1967, pp. 31-36.
3. Copeland, Ronald M., "Income Smoothing." Empirical Research in Accounting: Selected Studies. *Journal of Accounting Research*, Vol. VI, Supplement, 1968, pp. 101-116.
4. *The Commission on Auditors' Responsibilities: Report of Tentative Conclusions*. An independent commission established by the American Institute of Certified Public Accountants, 1977. Also, *Report Conclusions and Recommendations*, 1978.
5. Lev, B., "On the Adequacy of Publicly Available Financial Information for Security Analysis." Presented at the Duke Symposium in December 1975. February 1977.
6. May, Robert G. and Gary L. Sundem, "Cost of Information and Security Prices Market Association Tests for Accounting Policy Decisions." *The Accounting Review*, January 1973, pp. 80-94.

## VII.

# Information Economics: The Costs and Benefits of Auditing

A substantial body of literature exists concerning information theory (the economics of information including its production, dissemination, and manipulation in a market context as well as its role in bargaining and in macro theory) and the modeling of demand for audits in an information economics framework. The literature formally supports the basic concepts underlying the stewardship, information, and insurance hypotheses. An introduction to the terminology and critical concepts explored in these studies, as well as a summary of conclusions drawn, will provide additional insight as to the conditions which lead to a demand for auditing services.

First, the necessary role of information in contracting and the incentives for sellers of a commodity to provide information on the commodity's quality are described. Second, the attributes of information that can be provided are described, as are the effects of the audit on these attributes. Third, an overview of all parties' incentives to provide information supports the classification of an audit as public, rather than private, information and assists in explaining the authentication value of the audit in the market for information. Finally, the information concepts developed to support the demand for auditing are applied to describe cost fluctuations in an audit. Since the investment in audit services in the absence of regulation can be expected to continue up to the point where marginal

benefits equal marginal costs, it is relevant to assess the relationship of information theory to the benefits and costs to the auditee of an audit.

### A. The Necessary Role of Information

Information theory distinguishes between two classes of information: (1) foreknowledge, or information that is expected in advance and determined without further effort, such as weather information, which will in time be revealed by Nature herself; and (2) discovery, or information on hidden properties of Nature that only human action can extract,<sup>1</sup> such as a variance analysis of operations to pinpoint the sources of production inefficiencies in a plant. One of these types of information must exist to facilitate contracting.

#### 1. A Basic Premise of Contracting

The theory of contracts requires that the service contracted be described in a manner that permits the parties to observe whether or not the contract has been fulfilled. If the fulfillment of the contract is not measurable or observable, the contract cannot be enforced. Obviously the terms of the contract which make its fulfillment demonstrable can relate to an outcome, the absence of an event, observed performance, or measured performance (either directly or by surrogate). Performance does not have to be observable, as long as some performance result or some event is observable.

In other words, foreknowledge can be the basis for a contract. For example, a contract could state that the manager will be paid if the company does not go bankrupt within a specified period. However, it typically would be costly to wait for such foreknowledge to reveal itself. Although the manager's compensation is contingent on no bankruptcy, additional losses associated with a bankrupt operation might be avoided with earlier detection of the probable failure of the firm. Further, there is nothing to prevent the manager from being compensated and the company from going bankrupt the next day! Practical considerations dictate that the fulfillment of contractual terms be subject to detection at the relevant point in time (generally during the term of the contract, or at completion of the contractual service). The cost of having to wait for Nature to reveal herself beyond the desired time frame can deter contracting activities.

Rather than wait for Nature's revelation, contracting parties will pay for discovery information to facilitate efficient contracting. In business, contracts are typically tied to some form of financial information. The parties to the contract implicitly determine the nature of the output or service by their selection of contract terms.

Each party to a contract will try to maximize his own utility, and an efficient contract will consider ways of ensuring that the output from a contract will be as desired by both parties. For example, a manager who contracts to work for a set wage may place a positive value on leisure and may shirk some activities that could improve an owner's return. The owner of the firm being managed would like to hold the manager responsible for shirking or to provide incentives for the manager to work in order to maximize the owner's utility.

A means of holding the manager responsible for shirking would be to set a desirable return to the owner as fixed and permit the manager to retain all of the excess return. However, the manager or agent is unlikely to be indifferent to accepting all of the residual risk of operations. In the face of uncontrollable business risks which cannot be fully shifted through diversification or through the purchase of insurance coverage, such an arrangement will be unacceptable to a risk-averse manager without appropriate compensation for the increased risk. To find a mutually acceptable agreement, risk-sharing and incentive effects have to be balanced.<sup>2</sup>

Incentives for managers not to shirk exist in a market economy, regardless of whether the terms of the contract explicitly restrict

shirking. The first incentive relates to the securities market. If a manager performs very poorly and that information becomes known, rational expectations theory dictates a downward valuation of the firm's securities. At some point the firm will become the target of a takeover and the new set of owners may well remove the present managers. The threat of takeover provides an incentive to managers not to shirk.

The second incentive relates to the market for management labor. The present value of the future wage which a manager can get from alternative employment takes into consideration past and present company performance. Hence, a manager has a strong stake in the company's performance and overall success. Not only is he likely not to shirk his responsibilities, but he is also likely to monitor the activities of his associates in both higher and lower management to assure against their shirking. The importance of adjustments to future income available *elsewhere* and adjustments to current wages depends on how easily management can be replaced by competing managers and on whether the market for management labor is functioning well. If a manager is approaching retirement, the prospect of an adjustment to future income is an ineffective deterrent to shirking unless, of course, pensions are subject to adjustment.<sup>3</sup>

Given that the markets for securities and for management labor operate to provide incentives for managers to behave in a manner consistent with the owners' interests, are explicit terms in contracts and more detailed performance measures required? Applying inductive reasoning, financial statements and auditing evolved as cost-beneficial monitoring devices before regulation in 1933 and 1934 and persist in unregulated environments today. Hence, even in the presence of efficient securities markets and a relatively sophisticated managerial labor market, additional measures of performance are demanded. Further, bonding covenants requiring external audits are common, as is the use of earnings-based bonus payments.

Of course, unaudited companies and compensation contracts which have set wages are also observed. However, this fact is consistent with the theory of contracts presented since alternative sources of information are available to market participants. A principal may know that the utility function of an agent includes a highly valued work ethic and a moralistic attitude which precludes divergent actions. Or, substitutes for the external audit in the form of internal audits

and owner involvement in operations may be applied in the agency setting. Furthermore, high-performing managers may enjoy non-wage privileges separate from an earnings-based arrangement which supply adequate motivation to managers to act in their owners' interest. Given the fact that some contracts are not accompanied by the production of audited financial statements, what factors determine whether a contract will explicitly provide for the production of discovery information in the form of audited financial data?

## 2. The Moral Hazard Phenomenon

Discovery information as to the performance of contractual terms will be demanded in situations in which the moral hazard phenomenon arises. Whenever the agent in question, e.g., a manager, may be personally motivated to take actions other than those that would have been specified in the contract by the owner *if such specification had been possible*, this phenomenon arises.

The moral hazard phenomenon has been discussed extensively in textbooks concerning insurance. For example, the moral hazard from the typical fire insurance contract is the increased likelihood that the managers of the insured company will expend less effort or money on safety precautions. (The costs of precautions fall directly on them, whereas the cost of a fire falls primarily on the insurer.) The insurance company, as do any principals, select information systems that balance the gains from improved contracting (e.g., providing incentives to take precautions) against the increased information costs (e.g., the cost of monitoring—making observable—whether such precautions are actually taken). The presumption in this setting is that principals cannot adequately price-protect themselves in a mutually agreeable insurance contract without some monitoring mechanism. The moral hazard phenomenon provides a rationale for producing discovery information. Without such information production, the total amount of contracting would decline.

## 3. The Adverse Selection Phenomenon

The phenomenon identified as “adverse selection” could result whenever information is not produced and it is difficult or impossible for one party to otherwise assess the fulfillment of contractual terms. Consider the relation between security holders and managers in the securities market. If security buyers cannot distinguish high quality from low quality securities, the market prices will be adjusted to reflect the average expected quality of securities available for sale. This

implies that high quality firms would systematically receive such low prices that they would not find it attractive to offer their securities for sale and would withdraw from the market. Only inferior quality securities would remain. Since buyers would recognize the incentive of sellers of high quality securities to withdraw from the market, the investors would adjust the price of all securities downward to again reflect the average expected quality. More securities would consequently be withdrawn from the market, leaving only the lowest quality of security available for investors.<sup>4</sup>

If the sellers of securities can observe the relative quality of their securities, there are incentives for these sellers to take steps to make it known that their securities are of higher than average quality. In other words, the asymmetry of information whereby managers know the quality of their performance, while principals do not, will cause total contracting to decline unless discovery information is made available to principals.

## 4. Signalling Theory

The steps taken by managers to obtain recognition of their high quality securities have been formally described as “signals.” “Signalling” is a kind of implicit guarantee. The seller (or other party giving a signal) engages in some supplemental activity that would be irrational were his claims not correct. One signal available to the firm is the providing of financial statements. Such signalling makes it possible for more high quality securities to be offered for sale at higher prices and reduces the effects of the adverse selection problem in the securities market.<sup>5</sup>

However, the asymmetry-of-information argument can also be applied to markets in which some suppliers of financial statements are dishonest<sup>6</sup> and users of the reports are unable to distinguish dishonest from honest financial reports. Given, initially, that all companies provide financial statements, dishonest reporting can drive out honest reporting unless there is some means for purchasers to identify the honest reports. Ex-post legal liability for false statements could serve as a deterrent, but a means of discovering the falsity of those reports not revealed by Nature is required.

The institution which arose to counteract the effects of uncertainty about the quality (or reliability) of financial reporting was the independent audit. Since the auditing profession faced the same potential problem of dishonest auditors driving out honest auditors in the absence of some observable

means of distinguishing between the two groups, licensing practices arose with certification to indicate the attainment of a recognized level of proficiency. A code of ethics was created and enforced to deter subsequent abuse.<sup>7</sup> Also, the legal liability of professional auditors under common law (and later under the securities acts) serves as an additional deterrent to dishonesty.

The perceived importance of the quality differentiation role of auditing is supported in numerous surveys of shareholders. For example, 94 percent of 711 investors in Australia stated they would buy shares in a public company *only if* it was audited. In addition, 93 percent of this same random sample from stockholders of two major Australian companies stated they would expect the auditor to be a member of a professional accounting society as evidence of his competence.<sup>8</sup>

### 5. Synopsis

This section introduced the concepts of essential elements for contract enforcement, shortcomings of foreknowledge as a basis for contracting, and consequent demands for discovery information. The requirement that a mutually acceptable agreement balance both risk-sharing and incentive effects implies that a role exists for contract terms tied to performance measures. The efficient securities market and the operation of the managerial labor market are admitted to constrain the degree to which agents' actions can diverge from principals' preferences. However, such constraints are inadequate substitutes for alternative performance measures in most agency relationships based on the observed demand for audited financial information. The factors that predict a demand for discovery information on performance include the existence of a moral hazard situation and the asymmetry of information between contracting parties. The demand for discovery information in the form of audited financial statements is a consequence of the effects of the adverse selection phenomenon upon the securities market due to the signalling behavior of dishonest managers. The adverse selection phenomenon is also applied to the market for auditors to explain the observed professional activities of licensing and self-regulation.

Having discussed the necessary role of information, the attributes of the information typically provided for contracting will be described. An understanding of how these attributes are enhanced by the performance of an audit will clarify the value of the audit as described by information theory.

## B. Information Attributes

A number of attributes affect the value of information to potential users or producers. The certainty of the information, the extent of its dissemination, its applicability (i.e., particular to a single economic agent or of general applicability), its content (i.e., is the information about the physical environment or about the strategies or behavior of other individuals; does it concern tastes, resources, production functions, or market characteristics like price and quality), and its decision-relevance all affect the economic significance of information.<sup>9</sup> Three major attributes of information have been the center of analysis in applications of information theory to accounting: noise, bias, and fineness.

*Noise* refers to unintentional error in the accounting process. The error reduces the reliability of accounting information (given that some reliability is expected). Specifically, noise reduces the degree to which accounting messages correspond to underlying economic events. The more noise in a piece of information, the less useful it is as a basis for assessing performance. Whenever the ability to assess the fulfillment of a contract's terms is lessened due to noise in the selected performance measures, the total set of contracting opportunities found to be mutually acceptable will be reduced. Further, the inability to clearly distinguish noise from valid information contributes to the adverse selection problem in the markets for securities and commodities.

*Bias* refers to managers' incentive to "window-dress" financial statements in their favor. If compensation is tied to earnings, managers would have incentives to overstate performance measures (until discovery) in order to be systematically overpaid. Or, if managers and their principals are facing retaliation for large profits by regulators, an incentive would exist to understate performance measures. (Although the theft of assets by management can result in the misstatement of financial position, such theft is not defined as a *source* of biased information. Theft is a source of physical asset loss, the incorrect accounting of which would bias the financial statements.)

The *fineness* of accounting information relates to its information content in the absence of unintentional errors. A reporting function is finer than another coarser reporting function if it provides more information to the owner of an entity.<sup>10</sup> An example is provided by comparing the aggregate, rather coarse account titles that were once permissible in financial reporting (like an Appropria-

tion for Contingencies) to the detail now required in finer, more informative titles (such as Appropriation for Litigation and Appropriation for Contract Disputes).

Based on analytical evaluations of the three major attributes of accounting information, the literature supports several conclusions concerning the relationship of the audit to each attribute. The first of these conclusions relates to a necessary role for the audit. It is demonstrable that only a pure wage agreement (a set dollar compensation with no dependence on performance measures) will *induce* managers to report truthfully, i.e., without bias. Yet, a pure wage payment provides neither incentives for an agent to perform nor a basis for risk-sharing between parties to a contract. In a moral hazard situation the optimum contract will try to balance risk-sharing and incentive effects. To facilitate this balance, some auditing services and a related penalty function tied to the discovery of bias in reporting are required to decrease the probable bias of the information produced by managers.<sup>11</sup>

The second conclusion relates to the audit's effect on signalling. There is a signalling effect in a manager's selection of reporting methods. Stockholders may utilize the fineness of the reporting method chosen as one of the criteria for judging managers. The auditor's certification as to the conformity of financial statements with generally accepted accounting principles (GAAP) provides a minimum signal of fineness which, alone, gives the audit function value. However, additional signals are emitted by managers' selections of reporting techniques within GAAP, and the auditor provides the service of attesting to the overall fairness of the footnote description of key accounting policies.<sup>12</sup> For example, if an owner is primarily interested in total earnings as a basis for predicting a company's future cash flows, LIFO may provide more information to the owner during a period of inflation than a FIFO inventory valuation method. Similarly, more detailed data provided in the form of additional and supplementary disclosures and the voluntary provision of management forecasts are likely to provide more information to the owners and signal good performance by the managers. In contrast, coarser disclosures are more likely to be issued by managers who are hedging themselves from the owners' detection of poor performance.

The third conclusion relates to noise. Auditors will require the correction of accidental errors which are material, when discovered through the audit process. The correction of errors will lower the noise in

accounting information. Even if no errors are discovered, the principals are assured by the auditor that there is no material noise in the financial statements. The availability of a less noisy measure of performance will increase the total set of contracting opportunities and will be a deterrent to the adverse selection phenomenon.

The fourth conclusion relates to the overall benefits of lowered noise, bias, and coarseness in accounting data that accrue from an audit. The improved quality of financial reports will improve managers' decision making since the risk and return of investment projects can be more accurately assessed. To the extent that the audit facilitates the use of wage schemes tied to performance measures, it can motivate managers to expend more effort. In fact, firms utilizing other than pure wage contracts have performed better in the stock market, implying favorable effects on real output.<sup>13</sup>

Having introduced the valued attributes of information and how they are enhanced by an audit, the question arises as to who produces the audited financial statements and whether they are typically produced as private or as public information.

### C. Private and Public Information Production

The incentives of private individuals to produce information for their own use or for distribution to others stem from the ability to speculate and/or resell the information. The resale or publicizing of the information is the means of making the information sufficiently public to obtain the price shift necessary to receive trading gains. In addition to the mere transfer of resources among traders (which results in distributive gains and losses), productive gains can be realized by the individual from investing in more productive opportunities. Further, as privately produced information is disseminated, other individuals will adapt to the information and will shift their commitment of resources toward more productive investments. Distributive gains and losses do not affect the total wealth, but simply shift resources away from those without information to individuals with information. In contrast, productive gains enhance the total allocation of resources.

As opposed to the *eventual* publicizing of private information, public information results in an immediate adjustment of prices and a shift in productive resources. Given the efficiency of the securities market, little if any value accrues to the private individual from direct trading activities on public information.



However, the *perceived* relative gain from taking speculative positions is not as apparent. As differences in tastes or beliefs concerning economic activities arise, people are likely to believe that such disagreements in taste really stem from their own possession of superior information. The perception that they are right will encourage them to invest and to then expend resources generating public information to convince others of their opinion. The same thought process results in the production of public information by parties holding opposite opinions. In addition to the parties honestly wishing to convey public information in support of their own opinions, fraud perpetrators will expend resources to convey inauthentic public information in an attempt to reap profits. While disincentives to producing fraudulent information exist (in the form of criminal penalties), such production can be expected to occur, although not extensively.

The effect of *perceived* relative gains and desired profits by both honest and fraudulent information producers is that the production of public information tends to be excessive relative to its social value. An implication of this excessive production is that an independent attestation as to the performance of a company can be valuable. The auditor can assist in identifying information as being either authentic or inauthentic. Further, auditors can assess the information content of information generated to support opposing opinions. (For example, auditors would compare optimistic forecasts by management to industry forecasts, predictions concerning the general economy, and other sources of information concerning future company performance.) Due to the intention to persuade, the information producers may claim to have proven some opinion although in actuality the data produced are devoid of, or are at best neutral in, information content. Auditors can help to sift through such information and avoid the nonproductive effects of relying on misleading information. The audit increases the value of public information as an effective signal of its quality by increasing the precision of the information.

Information theory analytically relates the size of expenditures on information monitoring and evaluation (such as the expenditures on an audit) to a consensus judgment by market participants as to the degree of precision associated with the information. The implication of the observed expenditures on auditing is that the audit is a valued device for making the financial report more precise. Information theory predicts that when a firm's financial statements are believed to have a

greater degree of precision, they will be weighted more heavily by decision makers and can be expected to improve investment decisions.

Public information has been classified as good news and bad news. Obviously, from a distributive gain or loss perspective, one's personal investment position makes news good or bad. However, from a total productivity perspective, it is possible to identify good news which increases total output and bad news which decreases total output. Although there are incentives for individuals to produce public information, if that information is bad news of a discovery type, incentives exist for individuals to suppress the dissemination of the information. (Foreknowledge bad news presumably cannot be suppressed.) In fact, since individuals on the whole are assumed to be risk-averse, they would be willing to pay something to suppress the bad information until they have hedged themselves against the impact of the information. Without effective hedging, large distributive losses will be incurred, with a greater number of losers from the wealth transfers than winners. The distributive losses have formed the basis for claims in the literature that bad news through public information may have a negative social value. However, the redirection of total productive resources toward more productive investment based on bad news can yield returns apart from losses due to wealth transfers and may even offset the distributive losses. The point is analogous to the detection of bankruptcy at an earlier date leaving investors better off by permitting investors to shift their resources either to improve operations or to alternative investment opportunities.

A practical barrier exists to suppressing discovery bad news which relates to individuals' maximization of their own utility. Whenever information is suppressed, the private value of the information will necessarily increase. The suppression attempts can backfire and as individuals have increased incentives to find out the information and trade on it for large gains, the distributive risk of loss for the majority of individuals increases. By applying the more losers than winners argument, actions by market participants to reduce secrecy and the suppression of information through demands for public dissemination of information can be understood as an effective means of lowering the distributive risks of investment.

An example of one regulation which makes the concern for distributive risk explicit is the restriction on insider trading by corporate managers. Typically investments by

managers in their own company's stock, such as investments through stock option plans, must be held at least six months before reselling the shares. The rationale for holding period restrictions is that in an efficient market suppression of inside information is unlikely to be effective over the long term; hence large distributive losses to the public from managers' trading activities are unlikely.

Given that private incentives exist to produce and to disseminate both good and bad news, it is unclear that regulations mandating the production of information are appropriate. Unless a market failure can be demonstrated, the absence of a particular piece of information is likely to reflect the consensus judgment that the costs of generating that information exceed the benefits of its production and use, since otherwise incentives would exist for someone to produce the desired information.

The SEC mandated the production and dissemination of audit reports by corporations, yet most of the corporations had voluntarily disseminated that information prior to the regulation. The implication of voluntary production of public information is that the reallocation of productive resources and the automatic reduction of the distributional effects otherwise possible from generating private information (for which investors are willing to pay higher wages to management) adequately compensate companies for the production of audit reports. A contributing factor to the classification of audit reports as public rather than private information is the cost of information production. Initially, British auditors were hired by British businessmen to monitor investments in the United States. However, as soon as the auditors developed professional societies in the United States, companies themselves began hiring auditors, making the audited information available to investors. Often the information was made public to noninvestors as well. The implication of this historical development of audited statements is that companies have cost advantages in generating and disseminating audited financial statements relative to individual investors. These cost advantages coupled with managers' valuation of the signalling effects of audited financial statements on the total public help to explain the commonality of making audit results public information.

The benefits of producing audited information have been explored with little discussion of the related costs. The interaction of auditee attributes and cost fluctuations in an audit reflects the basic concepts of information theory already introduced. Since the

investment in audit services will be based on a cost-benefit comparison, it is relevant to complete the information economics framework by briefly discussing the cost side of the audit decision.

#### **D. The Costs of Auditing**

The contract between an auditee and auditor must have terms which can be enforced. However, an asymmetrical information problem exists. While the auditor knows whether he has performed a professional audit, it is difficult for the auditee (or principal of the auditee) to distinguish a good audit from a poor audit. To deter the adverse selection phenomenon, CPAs have organized professional societies, have set examination, experience, and education requirements for certification, and have actively enforced a code of ethics as a means of making it possible for an auditee to determine expertise. Accounting firms have established well-known reputations and have participated in peer review and continuing education programs to further demonstrate their commitment to performing professional audits. The production of information by the auditor as to his competence, necessary in light of information theory, increases the cost of the audit to an auditee. Obviously, the auditee has the option of expending resources on private information as to the competence of an auditor and may be able to lower total costs by, for example, choosing an auditor who has a less well established national reputation but is known to be of similar quality (based on private information sources).

The reputation of an auditor is only one component of audit costs. The costs of the audit have been analytically and empirically tied to the following factors:

1. the legal environment with respect to auditor/auditee third party liability, affected in part by the following characteristics:
  - a. the proportion of public versus closely held auditees in an auditor's portfolio of clients,
  - b. auditee size,<sup>14</sup>
  - c. evidence of clients being in financial distress, and
  - d. the loss experience of the auditor;
2. internal characteristics of the audit engagement which may be called the determinants of the degree of audit difficulty:
  - a. internal control of the auditee,

- b. auditee complexity, e.g., degree of decentralization and extent of foreign operations, and
- c. characteristics of the accounting, such as industry peculiarities;
- 3. the economies of staff specialization, particularly available to large auditing firms; and
- 4. the economies from industry specialization by an audit firm.<sup>15</sup>

The general media distribute public information on the loss experience of the auditor, including losses from litigation and client losses due to SEC-administered penalties and voluntary client turnover. The auditees have private information on their internal characteristics that are likely to influence the audit costs. Auditing firms have incentives to distribute public information as to who their clients are as a means of attracting auditees who value the auditors' industry specialization. The available public information and the opportunity to generate private information on the relevant cost factors imply that auditees can select an auditor based on a cost-benefit analysis.

In addition to selecting an auditor, the auditee has some latitude in specifying the extent of auditing. Although generally accepted auditing standards (GAAS) represent a minimum "extent of auditing" below which the auditee is penalized by the issuance of an audit report that has a scope limitation type of qualification, the auditee can contract for extended audit tests.

The minimum standard of GAAS can be described as an additional means of avoiding the adverse selection phenomenon and providing one basis for the auditee to evaluate an auditor's performance. In addition, GAAS represents a minimum standard below which an auditor faces legal liability responsibilities. The inference is that GAAS is a minimum risk-sharing basis for audit contracts and complies with the basic premise of contracting discussed in Section VII. A. 1.

The extent of auditing has been viewed analytically as first increasing the auditee's efforts to perform productively in the interests of his principals and then decreasing such efforts beyond a certain point. Such a motivation effect infers some optimal extent of auditing with respect to the criterion of how much effort is expended by auditees. To tie in the prior discussion of information theory, the degree to which the bias of information is deterred by the audit will increase up to a certain level of auditing and then will decline. In other words, the threat value of the audit is limited.

An economic rationale for the level of auditing not deterring bias beyond a certain point is provided by the law of diminishing returns. Discovery of material errors, bias, and noncompliance with GAAP is most likely to occur up to some reasonable level of auditing beyond which the costs are unlikely to justify the low probability of subsequent discovery of material misstatement of financial reports.

The final cost choice of the auditee, other than an information and extent-of-auditing choice, relates to internal control. The amount of audit tests required to reach the minimum GAAS compliance level varies with the quality of the internal control system of an auditee. Since the CPAs have responsibilities for maintaining their expertise over a broad scope of services and face substantial legal liability exposure, the costs of their services are likely to be high relative to the cost of having those same services performed by an auditee's employees. The client can improve the cost-benefit decision of contracting with an auditor by performing an on-going analysis of the trade-offs between the improvement of internal controls (including the use of internal auditors) and the extent of the external audit. Information theory clearly suggests concern for bias when parties lacking independence generate information. Similarly, the fineness of information can be decreased if there is insufficient overview by an independent party. However, theory also supports the ability of the auditor to rely on good internal control systems as a mechanism for decreasing the noise in the accounting information, thereby lowering the quantity of testing required by the external auditor.

## E. Synopsis

The inability of principals to easily assess firms' performance, managers' efforts, and auditors' performance contributes toward a demand for professionally organized certified public accountants to perform independent examinations of financial statements. Without audits, the total amount of contracting activities would decline and the adverse selection phenomenon would increase in severity. Information dissemination arrangements that balance the gains from improved contracting (i.e., decrease the moral hazard) against information costs have evolved in business, and they typically incorporate audited financial statements and incentive schemes tied to audited performance measures.

Signalling theory formally describes the

ability of sellers to make the quality of their products known to investors as a means of improving the basis for contracting. Specifically, an audit can signal less noise or error in the financial report, greater fineness in the reporting methods (including compliance with GAAP), and unbiased performance measures. Improved information affects managers' optimal decisions in addition to influencing the quality and selection of financial reporting practices. While the assumption of rational expectations, the existence of an efficient securities market, and the operation of the managerial labor market constrain the degree to which agents' actions can diverge from principals' preferences, auditing evolved as a cost-beneficial monitoring device before SEC regulation and persists in the non-SEC sectors to provide an improved means of narrowing such a divergence by increasing the principals' ability to assess agents' performance.

While incentives exist to produce both private and public audit information, the cost advantages to the manager in providing such information, the legal restrictions on insider trading, the difficulty in suppressing information dissemination, the negative effects on most individuals from the distributive effects of private information, and the signalling benefits imply that audits primarily represent the production of public information. The incentive to overproduce public information and the existence of fraudulent public information increase the authentication value of the audit.

The costs of the audit reflect auditors' actions to distinguish good audits from poor audits, auditors' professional liability experience and current exposure to litigation, auditees' characteristics, and the degree to which the auditors' professional staffs specialize over time and by industry. Each of these cost determinants relates to information theory and can be assessed by using available public information or by generating private information. Analytical examination of the audit function and empirical evidence suggests an optimal extent of auditing for an auditee exists which encompasses a preferred trade-off of internal controls and the extent of the external audit, as well as an optimum level of motivation for the auditee to act in the principals' best interests.

## Questions for Discussion

1.
  - a. How do the essentials of contracting influence the demand for audits?
  - b. Compare foreknowledge and discovery information as means for specifying contracting terms.
  - c. If *only* foreknowledge was available, what would be the likely effect on contracting activities?
2. Pure wage contracts are observed. Are such contracts inconsistent with the claim that contracting parties will attempt to balance risk-sharing and incentive effects? Explain.
3. "Substantial long-term divergence in managers' actions and owners' preferences can persist in today's market if the entity is unaudited." Critically comment on the validity of this claim.
4. Provide an example of a market which appears to exemplify a severe case of adverse selection. Suggest a parallel to the audit that could improve the market, i.e., that could decrease the severity of the adverse selection phenomenon.
5. Describe the signalling behavior of auditors and of corporate managers. Provide specific examples.
6. What information attributes of a corporation's financial statements are influenced by the audit? Be specific, applying appropriate terminology in your explanations.
7. Based on your background in financial accounting, discuss how fineness relates to the development of accounting principles and financial reporting techniques through time. Provide specific examples.
8. Are distributive risks relevant to both private and public information production? Explain.
9. "While companies can be relied upon to disseminate good news, they cannot be expected to voluntarily disseminate bad news." Critically comment on the validity of this statement. Apply the theories of rational expectations and signalling in your analysis.
10. How does information production in the private markets of venture capital equity securities and of private placement for debt securities relate to public information production?
11. "It is not possible to overproduce public information because it is a public good." Critically evaluate this claim.

12. Only two companies disseminated accountants' reports on internal accounting controls as public information prior to 1979. In 1979 the SEC issued a proposal to require such reports. Due to overwhelming, negative reactions from the public (including companies, auditors, and report users in the private sector), the Commission withdrew the proposal for a three-year waiting period. This period is intended to give the accounting profession adequate time to develop their own guidelines for such reports and to encourage production of this form of public information.
- Is the absence of internal accounting control reports a market failure? Explain.
  - What are the likely effects of the SEC proposal and its subsequent withdrawal?
  - What changes would you predict in the cost characteristics of an audit if the SEC proposal had been implemented?

#### References

- Hirshleifer, Jack, "The Private and Social Value of Information and the Reward to Inventive Activity." *The American Economic Review*, September 1971, pp. 561-574.
- Demski, Joel S. and Gerald A. Feltham, "Economic Incentives in Budgetary Control Systems." *The Accounting Review*, April 1978, pp. 336-359.
- Alchian, Armen A., "Corporate Management and Property Rights." *Economic Policy and the Regulation of Corporate Securities*, H. Manne, ed., Washington, D.C., 1969, pp. 337-348. (In addition, see Fama, Eugene F., "Agency Problems and the Theory of the Firm." *Journal of Political Economy*, Vol. 88, No. 2, 1980.)
- Akerlof, George A., "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism." *Quarterly Journal of Economics*, August 1970.
- Hamilton, Robert, "A Model of External Auditing: Signalling by Managers." Working paper, University of Minnesota, 1977.
- Gonedes, Nicholas J., "Corporate Signalling, External Accounting, and Capital Market Equilibrium: Evidence on Dividends, Income, and Extraordinary Items." *Journal of Accounting Research*, Spring 1978.
- Edwards, James Don, "The Emergence of Public Accounting in the United States, 1748-1895." *The Accounting Review*, January 1954, pp. 52-63.
- Beck, G.W., "The Role of the Auditor in Modern Society: An Empirical Appraisal." *Accounting and Business Research*, Spring 1973, pp. 117-122.
- Hirshleifer, Jack, "Where Are We in the Theory of Information?" *American Economic Association*, May 1973, pp. 31-39.
- Ng, David S., "Supply and Demand for Auditing Services and the Nature of Regulations in Auditing." *The Accounting Establishment in Perspective—Proceedings of the Arthur Young Professors' Roundtable 1978*, Sidney Davidson, ed., Virginia: The Council of Arthur Young Professors, 1979.
- Ng, David S. and Jan Stoechenius, "Auditing, Incentives and Truthful Reporting." Working paper, Graduate School of Business, Stanford University, July 1978.
- Ng, David S., "An Information Economics Analysis of Financial Reporting and External Auditing." *The Accounting Review*, October 1978, pp. 910-920.
- Masson, Robert Tempest, "Executive Motivations, Earnings, and Consequent Equity Performance." *Journal of Political Economy*, November 1971, pp. 1278-1292.
- Elliott, Robert K. and Alan R. Korpi, "Factors Affecting Audit Fees." In Shakun, Melvin F., *Cost-Benefit Analysis of Auditing*, Research Study No. 3, Commission on Auditors' Responsibilities. New York: American Institute of Certified Public Accountants, Inc., 1978.
- Simunic, Dan A., "The Pricing of Audit Services: Theory and Evidence." *Journal of Accounting Research*, Spring 1980, pp. 161-190.

## VIII.

# The Supply of Audits

The text has presented alternative (or complementary) explanations for the observed demand for auditing services and the specific attributes of the audit product which are of value to consumers. The information economics theory that underlies the description of the determinants of a demand for auditing provides formal support for the hypotheses. Although the determinants of cost fluctuations related to the auditing service have been briefly described, the nature of the supply of audits has not been explored.

The standard economic analysis of the nature of supply of a commodity typically begins with the identification of the firm's production function for the commodity. A production function defines the quantity of output as a function of various inputs, e.g., capital and labor. The production function presupposes technical efficiency and managers' selection of the best combination of inputs to produce a particular level of output.

### A. Inputs and Outputs

The audit report is valued by consumers. The value is based on the amount by which an audit increases the probability of detection of material errors and nonconformity with GAAP and provides insurance to interested parties. A by-product already cited is the improvement of operating efficiency which results from auditors' suggestions concerning internal control and production operations.

Private incentives and the presence of regulation imply the output of a "certification" which facilitates public trading of securities, expansion of the customer base, and qualification for revenue sharing and similar programs.

The inputs to the audit production function will be studied in depth throughout the auditing course but can be typified as a highly labor-intensive application of generally accepted auditing standards (GAAS). The general factors of production, labor and capital, are reflected in varied proportions in the available auditing techniques. The factor mix decision emphasized here focuses on the mix of audit tests applied, given an auditee. There is variability in the task of GAAS compliance which permits the selection of a factor mix, with some constraints on particular inputs.

Three characteristics of any production operation particularly affect its cost: the output rate, the contemplated total volume, and the programmed delivery dates. Economic theory predicts that as the output rate increases, costs increase; as total volume increases, unit costs decrease; and the more distant the calendar date of delivery, the smaller the cost—within the normal range of operations.<sup>1</sup> Since auditing is primarily performed on an annual basis, with auditees commonly reporting on a calendar year-end, the total volume of output (number of audit reports) is concentrated in the months of



January through April. However, efforts to lower audit costs by both auditees and auditors are exemplified by auditees switching to other fiscal year-ends, by the auditor's increased application of *interim* review and compliance testing techniques, and by the reduction of fees to auditees that do not impose a tight constraint on the delivery date of the auditor's report. Regulators prescribe reporting deadlines which lead to increased audit costs. The infamous "busy season" with substantial overtime costs (demonstrating the increased costs that accompany an increased rate of production) is to some extent a result of such regulation. While a timely audit is admittedly of greater information value, the regulations preclude a cost-benefit assessment of an optimal delivery date by the consumer and producer.

Large costs are involved in an initial audit: these costs relate to learning about the enterprise. For this reason auditees have an incentive to retain the same auditor over time. Auditor retention creates appropriable quasi-rents (payments that have no effect on the amount of the good in existence now, but which do affect the current rate of production and hence the amount that will exist in the future) to auditors and auditees, depending on how the audit fees are paid—lump sum or annualized. The compliance with GAAS (meaning all established standards including specific requirements as to audit techniques, as found in some official pronouncements) imposes a floor below which costs cannot fall. However, the floor is influenced by the length of the audit relationship. For example, the taking of physical inventory, the distribution of confirmations, the identification of illegal payments, and the review of internal controls are all required under GAAS and are some of the determinants of a floor to auditing costs. However, prior performance of these auditing procedures will increase the efficiency of a subsequent year's audit. The time involved in an initial review of internal controls relative to the time involved in a review of changes in controls since the last audit is one demonstration of the increased efficiency of ongoing audit relationships. In addition to the duration of an audit relationship, the auditor and auditee characteristics discussed in Section VII affect auditing costs. For example, the auditor's extent of reliance on the auditee's internal control is a factor mix decision by the auditor that contributes to the variability of the GAAS-compliance audit task and influences the cost of the audit.

Auditing standards constrain the producers in making their factor employment

decision. The best quantity of an input, such as a particular auditing technique, for the accounting firm to employ will vary with the costs and returns of employing that input. For example, the extent to which tests of an internal accounting control system are valued auditing procedures depends on the costs of performing compliance tests and on the extent to which the tests provide an evidential basis for issuing an audit report relative to time spent on competing inputs, such as substantive tests (i.e., audit tests of year-end financial statement balances). If a standard were set that required compliance tests of internal accounting control *regardless* of whether the tests were cost-beneficial to the auditor, the costs of production would increase relative to the firm's market-determined choice of factors (provided this market is efficient). The extent of the increase in costs due to auditing standards will depend on the extent to which those setting standards have full information on auditing firms. The costs will increase by the loss from employing inefficient methods.<sup>2</sup>

The probability of discovery of material error will eventually begin to diminish when the extent of auditing increases. In addition there will be a diminishing positive effect on managers' incentives once a certain point is reached. These two observations imply that the supply production function will not result in the full discovery of misstated financial statements. In other words, an "optimal" level of fraud and misstatement in financial statements exists for which the costs of detection exceed the related benefits.

## **B. Effects of Asymmetrical Information**

The characteristics of the output of the audit production function, as suggested earlier, lead to an asymmetry of information between the auditor and the auditee (or its principals) concerning the quality of an audit. This factor explains, in part, the pricing of audit services. Audit fees are largely a function of the observable inputs of the production, i.e., the number of hours spent by the auditors on an engagement. In addition to numerous standards on the form of audit reports, the input process of the audit is emphasized in audit standard-setting with respect to the necessary means for gathering sufficient audit evidence and the preparation of working papers. The evidence upon which auditors rely in determining their assessment of the probability of material error is recorded in working papers as one means of making the probability of detection more observable.<sup>3</sup>



The working papers provide a road map of the auditor's decision process and the auditing techniques applied. The current emphasis on statistical sampling and analytical review strengthens the ability to determine quantitatively how the samples investigated during an audit affect the probability of material errors going undetected.

Other means to assure that the essential inputs, such as compliance with GAAS, actually enter the audit process and are made observable via the working papers' record of evidence are the enforcement of licensing requirements and professional ethics and the process of peer review. Although quality issues are the primary focus of GAAS, little doubt exists that the working paper evidence provides a basis for determining whether the quantity and quality of the audit work are adequate. Further, some of the GAAS requirements relate to observable inputs which provide overt evidence to the auditee that an audit has been performed, including confirmation and inventory procedures. In fact, the typical practice of the auditors performing most of the audit procedures on the premises of the auditee, while primarily explained by practicality and convenience, enhances the observability of the audit as well as the threat value of the audit to the auditee's employees.

### C. Potential Barriers to Entry

It would be inappropriate to highlight the observability qualities of licensing requirements without acknowledging that such practices can have anti-competitive effects. However, the "certified" accountants historically have competed with other accountants, suggesting that the certification is primarily a signalling device, rather than a restrictive barrier to entry.<sup>4</sup> The economics literature formally supports the concept that an agency which certifies that a private individual has certain skills, yet does not prevent, in any way, the practice of these skills in any occupation by people who do not have a certificate provides a quality signal that does not result in the special producer group (e.g., CPAs) holding a monopoly position at the expense of the rest of the public.<sup>5</sup> Although the practices of non-CPAs are constricted under current legislation, an historical perspective suggests non-CPAs have been allowed to compete with CPAs.

Not only is there no *prevention* of practice by non-CPAs, there is ample opportunity to become a CPA. The requirements to become certified do not represent substantial barriers to entry in the sense that the requirements would likely be met by typical professional

training and practice in the absence of the certification standards. An effective monopoly position for CPAs via barriers to entry will not evolve under conditions of competition by non-CPAs and the setting of licensing standards at an average level of expected professional knowledge.

Ironically, a barrier to entry into the CPA profession has evolved as a by-product of regulation. This barrier relates to the development and support of current expertise for audits and related specialized services. Just to keep up with the regulators' pronouncements requires a substantial commitment to training, support facilities with reference materials, and elaborate information systems. This commitment, which grows with government regulation, can make it difficult for small accounting firms to be economically feasible operations. In addition, since the awards for legal liability are unrelated to the auditor's fees, a small auditing firm with physical limitations to diversifying its risk (particularly given the aforementioned limitations on professional liability insurance coverage available to an auditor at reasonable cost) can find it extremely difficult to provide auditing services. The difficulty increases as the regulation of client companies increases. While in the absence of regulation small auditing firms would face competition from larger firms with economies of scale,<sup>6</sup> intervention by government, including numerous disclosure requirements, has increased such economies.

Even the effective barrier to the entry of small accounting firms imposed by the quantity of government regulation and the resultant prevalence of large auditing firms in both the unregulated and regulated markets does not suggest an absence of competition. In fact, no evidence exists of price fixing or market-sharing, and empirically there is evidence of price competition among firms<sup>7</sup> and a number of auditor changes by auditees.<sup>8</sup> The concentration of public accounting firms<sup>9</sup> appears to be largely attributable to economies of scale in serving large auditees, in permitting the industry specialization of professional staff, and in meeting the educational demands that primarily stem from government regulations.

### D. Synopsis

The audit was an economically feasible method of monitoring that was demanded before 1934. The total supply of auditing services obviously has fluctuated with the availability and cost of labor inputs— influenced by such factors as competing

offers from purchasers of accounting labor other than auditing firms and the availability of accounting training at universities—and the total growth in economic transactions.<sup>10</sup> The nature of the supply of audits has been briefly described, including the claimed anti-competitive effects of licensing and of government regulation. Having focused primarily on the demand for and supply of audits in an unregulated environment, attention must be paid to the general effects of regulation to gain a thorough understanding of the economic role of the audit in both free and regulated markets.

Growth in regulation has been claimed to be an important determinant of demand and has undeniably led to an increase in the number of audits by regulated companies. Whether regulation increases the total supply of auditing depends on the strength of two opposing forces. Since regulation simultaneously raises the cost of production and increases the demand for audits, it is theoretically ambiguous as to what overall effect regulation has had on the quantity of auditing services. However, effects of specific types of accounting and auditing regulations on the quantity of auditing (and complementary) services demanded can be identified, as discussed in Section IX.

### Questions for Discussion

1. List the primary inputs to the audit production function. Do capital investments pose a barrier to entry into the auditing profession? Elaborate.
2. Regulation has increased the amount of audit services produced in the economy. Critically comment.
3. a. Assume that the government eliminated all non-common law regulations affecting auditing services. How would this action affect the market for auditing services?  
b. Assume that private standard-setting was also eliminated. How would this affect the market for auditing services?

### References

1. Alchian, Armen A., "Costs and Outputs." *The Allocation of Economic Resources*, Moses Abramovitz et al., ed., California: Stanford University Press, 1959, pp. 23-40. (Also, *Microeconomics* by William Breit and Harold Hockman.)
2. Alchian, Armen A., and William R. Allen, *Exchange and Production Theory in Use*, Belmont, California: UCLA Wadsworth Publishing Co., Inc., 1964.

3. Ng, David S., "Supply and Demand for Auditing Services and the Nature of Regulations in Auditing." *The Accounting Establishment in Perspective—Proceedings of the Arthur Young Professors' Roundtable 1978*, Sidney Davidson, ed., Virginia: The Council of Arthur Young Professors, 1979.
4. Edwards, James Don, "The Emergence of Public Accounting in the United States, 1748-1895." *The Accounting Review*, January 1954, pp. 52-63.
5. Friedman, Milton, "Occupational Licensure." *Capitalism and Freedom*, Chicago: University of Chicago Press, 1962.
6. Hirshleifer, Jack, *Price Theory*, California: Prentice-Hall, Inc., 1976.
7. Rhode, John Grant and Paul A. Griffin, "Professional Performance of Certified Public Accountants: Evidence on the Quality of Auditing Services." Research Paper No. 455, Stanford University, June 1978.
8. Coe, Teddy L. and Dan Palmon, "Some Consideration on Auditor Turnover" (and "Discussant's Comments" by Wanda A. Wallace). *Collected Papers of the American Accounting Association's Annual Meeting*, Honolulu, Hawaii: August 21-25, 1979, pp. 484-496.
9. Rhode, John Grant, Gary M. Whitsell, and Richard L. Kelsey, "An Analysis of Client-Industry Concentrations for Large Public Accounting Firms." *The Accounting Review*, October 1974, pp. 772-787.
10. Pashigian, Peter, "The Market for Lawyers: The Determinants of the Demand for and Supply of Lawyers." *The Journal of Law and Economics*, April 1977, pp. 53-85.

# IX.

## A Look at Regulation

While it is not possible theoretically to state the effect of regulation on the total demand for auditing services, it is possible to draw analogies between the nature of regulation in the auditing sector and other government regulation. Such analogies facilitate an understanding of regulation's influence on the market for auditing services. The purpose of this section is to make the reader cognizant of a possible divergence in the intent of regulation and the effect of regulation, as well as a possible divergence in politicians' self-interests and the public interest. The issues raised are oversimplified and the consideration of additional economic issues with an application of other analytical tools would generate a more powerful analysis. However, a brief introduction to the economics of regulation in general and to SEC and accounting regulation in particular (with a focus on how regulation affects auditing) is provided in the hopes that the interested reader will further investigate relevant issues.

### A. A Price Floor Effect

An audit requirement, particularly when combined with increases in minimum auditing standards, can be expected to have a market effect similar to a price floor (a price above the price in an unregulated market). When a price floor is set and is operative, the quantity demanded will decline. The decline in the demand for audit services could be reflected in a greater number of companies

choosing not to "go public" or in a decrease in demand for complementary services, such as budget planning. Empirical evidence demonstrates that the quantity of private (direct) placements increased rapidly after the SEC Act of 1934.<sup>1</sup>

### B. Input or Tax Subsidization

Changes in auditing standards can be compared to a subsidy by government of one of the inputs to production or to a tax subsidy by government, depending on the nature of the auditing standard being prescribed. Any input subsidy will alter the nature and shape of the audit production function. If the subsidy is an input (an audit procedure) that is not effective in generating greater output in the form of a greater probability of detecting misstatements, the subsidy can have an effect similar to rationing. In other words, if the price pressure on total auditors' services is sufficient to preclude compliance with the ineffective standard by carrying out current auditing procedures, the requirement can operate as a physical rationing of available audit assurance and decrease the well-offness of consumers. (Of course the possibility exists of noncompliance with required ineffective standards as an alternative to providing lower overall audit assurance. However, any deviation from GAAS could cause the auditor difficulty in demonstrating that he had performed an examination with due audit care.)

Evidence suggests that price pressure does exist. Survey findings that 93 percent of corporate respondents in the U.S. have an ongoing program to minimize or control the amount of audit fees support a real concern by auditees over the costs of auditing services,<sup>2</sup> and consequently substantial pressure by auditees to reduce audit fees. While the price pressure does not necessarily result from the subsidization of ineffective inputs via GAAS, the mere existence of such pressures implies that increased costs cannot be easily passed on to consumers.

If GAAS merely reinforces existing practice and requires that an essential effective procedure be performed, the regulation would be more analogous to a tax subsidy by government. Given that a procedure is already performed, a legal requirement for its performance would tend to make the demand for it inelastic and could yield increased output. Further, an effective procedure, applied more frequently, can lead to lower prices.<sup>3</sup> (The lowered prices would reflect the lower cost from imposing effective audit procedures on otherwise inefficient auditors.) The critical determinant of whether GAAS that prescribe specific auditing techniques decrease or increase the total demand for audits depends on the wisdom of the regulators in their selection of auditing techniques to mandate.

### C. Rationing Effect

Explicit rationing has been observed in government actions which officially discourage the provision of certain services. For example, until 1973 SEC companies were not permitted to provide forecasts. In fact, the SEC has with few exceptions suppressed projections, values, and other soft information. This attitude has only changed *recently* with the SEC's encouragement, and sometimes requirement, of forward-looking information on replacement accounting, forecasts, reserve accounting, and price-level adjustments.

The SEC has had a preoccupation with insider trading, and inequitable information dissemination has led to enactment of the "theology of jumping the gun." By actively restricting the early dissemination of information (sometimes called market conditioning), the SEC has, in effect, ignored the reality of outside information and the temporal advantage of early dissemination (*viz.*, earlier reallocation of resources). In addition, if such suppression motivates outsiders to produce information that they would otherwise not produce (since they produce it less efficient-

ly), the regulatory action induces avoidable information-production costs.

The restriction of certain types of information does not have to be explicit to generate a rationing effect. If liability exposure is substantial (as is the case for professional parties to security transactions under the securities acts), production of certain information by the most efficient producers may be deterred.<sup>4</sup>

### D. Auditing Standards

Specific auditing standards can have effects upon demand, costs, and supply of auditing services. Analogies drawn between accounting/auditing standard-setting and more general classes of regulation describe a framework for analyzing the effects of a particular standard. However, a more global approach to assessing the effects of standard-setting addresses the decision process of any private or public regulatory body. Rule by committee or board decisions necessarily depends on the wisdom of the selected rule-makers. A mandated disclosure system, as well as a mandated audit process, runs into complicated problems of relevance and choice stemming from the variety of auditees and the different backgrounds and "needs" of the users. These problems are likely to result in the setting of some ineffective standards that either do not fulfill the desired objectives or do so in an inefficient manner. How many ineffective standards result will depend on the extent to which those setting standards have full information. Not only must standard-setters evaluate auditing techniques, but they must also try to balance users' needs. The balance reached is unlikely to compare favorably to the balance that could be reached in the market.

The mandating of audit standards is equivalent to suppressing access to the market and free negotiation of prices. The result is a rise in costs and a reduction in the extent of mutually preferred exchanges among contracting parties. For example, if principals and managers of a small firm are not interested in disclosures concerning pensions, leases, contingencies, and related parties, yet want an unqualified or "clean" audit report, they cannot contract for such a service. The "one GAAP for all" approach of standard-setting, enforced by auditors, precludes such contracting and appears particularly burdensome for the smaller companies.<sup>5</sup> Although a social contract with report users exists, in addition to a technical contract between specific parties, it is doubtful that information found to be largely

irrelevant or not cost-beneficial by contracting parties would be useful to some unidentified third party if costs are appropriately considered.

The extent to which access to the market is suppressed is largely a function of the detail of standard-setting. A characterization of accounting and auditing regulation differs along the specificity-generality continuum. Generality refers to standards that set a reasonable criterion on which to judge relevance. In contrast, specificity refers to rules which withdraw from the decision maker's consideration one or more of the circumstances that would be relevant to the decision according to a standard. The difference between a rule and a standard is a matter of degree—the degree of precision. Accounting guidelines tend to be fairly specific, detailed disclosure requirements, whereas auditing standards are general in the sense of stressing objectives instead of the means of reaching those objectives. While auditors enforce accounting regulations through the reporting of noncompliance, the implication to be drawn from a precision comparison of accounting and auditing standards is that the cost imposed on society by accounting regulation is greater than that imposed by auditing regulation. The larger cost results from allowing less flexibility in the extent to which mutually preferred exchanges are permitted between auditor and auditee regarding reporting and accounting methods *relative to* auditing processes. The requirement of "one GAAP for all" is more of an accounting regulatory constraint than an auditing constraint, although it affects the content of the auditor's report. Since rules are easier and cheaper to enforce than standards,<sup>6</sup> the question arises as to why regulators and the profession have systematically differed in their treatment of accounting and auditing standard-setting.

One argument is that accounting statements are frequently compared for investment decisions whereas audit processes are not, implying some value to detailed uniformity. A second argument is that the nature of the audit, specifically the requirement that the audit be tailored to the client's characteristics, precludes specifying detailed audit procedures. If this is so, why do some specific procedures like inventory observation and accounts receivable confirmation become a part of the standards? The well-known answer to these examples is litigation. The profession mandated these procedures based on the McKesson & Robbins court case, which charged that CPAs had done inadequate audit work by not

performing these particular audit techniques. The standards have been hypothesized to be a means for the auditing profession to establish a legal defense of "due care." Yet the substantial generality in standards causes one to question this hypothesis. Regardless of the degree to which a motivation for detailed standards for legal defense exist, the costs of prescribing detailed audit techniques and the extent to which the techniques are to be applied apparently outweigh, in the view of the private standard-setting board, the benefits of extensive specificity. However, individual firms do set detailed auditing "standards" (rules) which are likely to be an important feature of legal regulation. Such rules represent the generally accepted practice of the profession, a measure of due care.

The question remains: why don't the private and public regulators set detailed standards? According to the insurance hypothesis, the use of standards, as opposed to rules, bears benefits to both private and government regulators. Generality permits the government to claim the inadequacy of auditing procedures in the wake of trouble, and the standard-setting boards can likewise avoid blame, since the litigation claim rests on the auditor's judgment *within* the prescribed standards. Materiality, a concept infamous for its vagueness, has been cited in the literature as a very effective shield used by the SEC against criticism. In fact, the SEC has even argued that any detailed guideline for regulation "would be a blueprint for fraud." The strength of such an insurance motivator for ambiguity in regulations will rest on whether regulators are active in promoting their self-interest or the public interest.

### **E. Regulators: Self-Interest Maximizers?**

Recently, there have been challenges to the argument that government represents the public interest.<sup>7</sup> While politicians have always assumed other individuals act in their own self-interest, they have claimed that they are different and that, as regulators, they act in the public interest. However, the behavior of politicians and regulators is not well explained if a researcher assumes that the regulator acts in the public interest. In fact, recent analyses of the political process which assume politicians maximize their own utility have demonstrated an ability to explain observed behavior.<sup>8</sup> Obviously, the maximization of one's own utility does not preclude actions in the public interest. However, conflicts between the public interest and self-

interest are likely to arise. The inability of public-interest rationales to explain some regulatory behavior suggests that the hypothesis of utility maximization is more consistent with available evidence than is the hypothesis of public interest maximization.<sup>9</sup>

#### F. "Free-Riders": A Tax Effect

The acknowledgment that politicians are self-interest maximizers suggests a free-rider nature of regulation. The free-rider problem, as discussed in an earlier section, refers to the fact that some individuals who have not paid for a commodity cannot be excluded from its use. The commodity most likely has some public good attributes, i.e., use by one party does not diminish use by another party.

The literature has discussed the free-rider incentives of financial analysts.<sup>10</sup> However, the analysts are not the only potential free-riders who request information that might not be produced if subjected to a "public interest" cost-benefit evaluation. Information useful to government in performing its responsibilities, e.g., enforcing anti-trust legislation and monitoring compliance with varied agencies' prescriptions, can be obtained through disclosure regulation with payment imposed on the current and future stockholders of public corporations. These costs, in part, may be passed on to consumers (depending on the elasticity of demand for the corporations' products). Some regulations essentially conscript CPAs for government enforcement activities. With the ability to subsidize government operations by shifting enforcement responsibilities to CPAs, regulators can maximize their utility, including their leisure time and their performance measures, incurring few direct costs, simply by regulating auditors. At the same time, the regulators can justify the expansion of the budget and the power of the SEC by passing numerous guidelines and by reprimanding those CPA firms that are blamed for the financial troubles of auditees or shareholders. While such action would clearly be justified on a cost-benefit basis from the self-interest perspective of legislators, this criterion is unlikely to *match* the "public interest" criterion claimed when implementing regulations. Any divergence of "public interest" and "regulators' self-interest" has the effect of a tax. As always, taxes transfer wealth from both consumers and producers to government. The tax is hidden in the sense that companies don't pay the government directly but instead incur information and auditing costs that reflect the public interest and the regulators' interest. In addition, there

is an efficiency loss due to a reduction in the volume of trade, analogous to any tax effect.

If the insurance hypothesis holds, the numerous regulations that expand the scope of auditors' responsibilities and impose costs of implementation will correspond to the expansion of regulators' perceived responsibilities. If price pressure again precludes a simple addition of the requirements to existing audit procedures (i.e., demand is not perfectly inelastic and the auditor is unwilling to perform the additional procedure at the same price), the diverting of auditors' attention away from the financial statement information can result in less output (either a lower assurance level or fewer audits). The output related to the expanded scope combined with less of the output available prior to the additional regulation, could be of greater net value, but this outcome would imply a cost-benefit justification process in regulation-setting, with an emphasis on the public interest. The self-interest evidence is increasing, and evidence of careful cost-benefit assessments by regulators is lacking.

Not only is the SEC capable of avoiding blame and shifting enforcement responsibility (through the use of private boards as the principal standard-setters), but it is also able to avoid explicit cost-benefit assessment responsibilities through reliance on the private sector. For example, if the SEC had called for segmental financial reporting instead of pressuring the Financial Accounting Standards Board (FASB) to require such reports, it would have been obliged to evaluate alternative reporting schemes, draft a specific proposal, and then invite comments on the draft. Yet, even the draft comment process does not guarantee an objective cost-benefit analysis, since the SEC has been known to pay limited attention to strong opposition in comment letters received, dismissing them as coming from interested parties. A recent example of problems with the cost-benefit evaluation procedures of the SEC is provided by the SEC proposal to require reports on internal accounting control. The initial proposal's time frame was unrealistic as indicated by the decision to table the 1979 reporting requirements. An overwhelming, negative response to the proposal (over 950 letters) and the specific criticisms voiced further suggest that there was inadequate investigation of relevant issues during the proposal formulation stage. Finally, despite a three-year waiting period before further action in this area, the SEC has made it clear that if the private sector does not act, the Commission will. The SEC's



statement of the *need* for internal accounting control reports in spite of preparers', users', and auditors' negative comments on the proposal suggests only limited attention has been paid to public comments.<sup>11</sup>

The free-rider attributes of information<sup>12</sup> provide one explanation for the expanding scope of regulation. In light of the free-rider potential for regulators, the freedom of such regulatory bodies as the SEC to prescribe accounting and auditing regulations could be costly. If the regulators' role was restricted to enforcement rather than standard-setting and enforcement, the costs related to regulators' activities as free-riders could be expected to be lower.

### **G. Publicity and Attention**

The insurance incentive of government to require audits has already been addressed, as has the incentive to subsidize government operations. In addition to these incentives, publicity and attention are important factors that motivate legislators to set regulations.<sup>13</sup> Typically, crusades on moralistic issues like questionable payments and perks have prevailed. For example, the publicity surrounding post-Watergate revelations of questionable or illegal payments apparently precipitated (or at least provided a rationale for) the attention paid by Senator Metcalf and Representative Moss to the accounting profession.<sup>14</sup> The auditing standard regarding illegal payments, the Foreign Corrupt Practices Act (FCPA), and the SEC's proposed reporting on internal control all appear to relate to the attention opportunity provided by the illegal payments issue.<sup>15</sup> The propriety of claiming that the FCPA was a reaction to a moral cause rather than a cost-benefit based decision can be assessed by reviewing subsequent analysis of the Act's effects. The costs of the FCPA have been estimated by a White House task force assigned to study the effects of the 1977 law to include a \$1 billion a year loss from U.S. trade abroad. The offsetting benefits of the Act remain unclear,<sup>16</sup> but there is empirical evidence that the illegal payments had no statistically significant effect on investors.<sup>17</sup>

### **H. Old Laws Never Die?**

The benefits of each auditing regulation require individual study to ascertain whether the requirement is in the "public interest." In contrast, at least one attribute of regulation imposes costs which are evident in all sectors of the political process and can be particularly costly to the auditing production function in light of the dynamic nature of business and

the technological innovations in auditing.<sup>18</sup>

Unlike private companies, regulators do not benefit from resources saved when unnecessary regulations are removed. Regulators appear to be conservative in the sense that old regulations frequently continue even when they appear to be no longer useful. The rigidity of the auditing production function (implied by regulation of inputs) will decrease the auditor's flexibility in adapting to new technology and to shifts in the relative costs of inputs. An even more acute problem could exist in the accounting rule-setting process due to the specificity of rulings. As old standards are retained and new ones added, the prospect and possibility of actual enforcement and enforceability will tend to decline, given constraints on regulators' budgets. This will lead to *selective* enforcement of the law, i.e., discriminatory enforcement by those in power, which results in wealth transfers away from the selected violators of the law. Those selected cannot afford to persist in a disagreement with the Commission due to the high costs of delay and of the adverse publicity surrounding a new stock or bond issue; hence, the costs to selected violators are likely to be substantial.

The magnitude of the cost of a regulator's incentive structure that does not reward for removing regulations is an empirical question. Although the SEC lifted its requirement for replacement cost accounting when price level reporting requirements were set by the private sector, contrary examples of redundant and/or conflicting rules, such as the reported problems of codifying the securities regulations, exist. Regardless of the costs involved, the incentive structure of regulators has a theoretical flaw relative to the private sector. (Note that this analysis assumes that no unidentified benefits exist that equal or exceed such costs.)

### **I. A Means of Forestalling Regulation**

As already discussed, regulation tends to increase the demand for audits as a vehicle to subsidize government operations, to qualify for "going public," and to expand the customer base. However, another potential effect of existing SEC requirements is the encouragement of voluntary audits in the unregulated sector as a means of forestalling regulation and quieting the press. This is a competing explanation of widespread voluntary audits in the municipal sector. Similarly, the privately formed auditing and accounting standards are frequently described as means of deterring SEC regulation. The conclusion to be drawn—and a very important conclu-



sion for one undertaking an analysis of the economics of the audit function—is that it is difficult to extract the effects of regulation from the effects of the free market. However, the historical evidence of pre-regulation audits cannot be attributed to the auditee's desire to forestall regulation, despite the potential explanation of audits observed in the non-SEC sector since 1934.

## J. Synopsis

The benefits of regulation are claimed to center on improved resource allocation issues. For example, the literature is full of claims that regulation restricts the opportunities to exploit inside information, reduces unnecessary duplication of efforts, resolves the free-rider problem that is not resolved by the market due to difficulties in enforcing the rule of excluding nonpurchasers, and resolves issues concerning the discriminatory terms of trade in the market for information due to differential costs of or opportunities for information production (e.g., the firm's monopoly position over information about itself). However, these claims are not necessarily met through existing regulation, nor is regulation the sole means of addressing resource allocation issues. In fact, since regulation requires a mechanism for making optimal (or at least better) information production decisions, which are in turn imposed on firms, and for efficiently disseminating the produced information—*non-trivial tasks*—regulation may not be the preferred arrangement.

By permitting the free market to operate—with voluntary trading and an assessment of the costs of disclosures and auditing procedures in light of the monitoring, information, and insurance benefits derived—the amount of audit services supplied in the unregulated economy could result in an optimal allocation of resources. In addition, the normal operations of a free market system can be expected to enforce contracts on a more uniform basis than government regulators enforce their policies, given budget limitations.

In this "look at regulation" the costs of regulation have been focused upon along with the incentives of regulators in order to understand the specific effects of regulation on the audit product. The choice between a market or a regulatory mechanism for resolving identified problems in reaching the optimal level of information production is a continuing decision process as each issue is considered by the political sector. It is hoped

this instrument will allow you to critically evaluate arguments both for and against proposed regulation.

## Questions for Discussion

1. Explain how regulations over accounting and auditing services are analogous to government programs which impose a price floor, ration output, or assess taxes. What other similarities exist between accounting and auditing regulation and other government activities?
2. Who are the potential free-riders of mandated audits?
3. Compare and contrast accounting regulation with auditing regulation. Suggest a possible explanation for a difference in the regulation of accounting and auditing.
4. Discuss the *plausibility* of the claim that government regulation of accounting and auditing is required due to the "market failures" that arise from public good attributes of information, redundant production of information, and managers' "monopoly" over information. (Refer to Sections IV and VII in formulating your responses.)

## References

1. Benston, George J., "The Value of the SEC's Accounting Disclosure Requirements." *The Accounting Review*, July 1969, pp. 515-532.
2. Miller, Daniel E., "The Annual Audit Revisited." *Financial Executive*, March 1978, pp. 38-44.
3. Hirshleifer, Jack, *Price Theory and Applications*. Englewood, New Jersey: Prentice-Hall, Inc., 1976.
4. Kripke, Homer, *The SEC and Corporate Disclosure: Regulation in Search of a Purpose*. New York: Law & Business, Inc., 1979.
5. Chasen, Charles and Benjamin Benson, "Fitting GAAP to Smaller Business." *The Journal of Accountancy*, February 1978. (See also Falk, H., B.C. Gobdel, and J.H. Naus, "Disclosure for Closely Held Corporations." *The Journal of Accountancy*, October 1976.)
6. Ehrlich, Isaac and Richard A. Posner, "An Economic Analysis of Legal Rulemaking." *The Journal of Legal Studies*, January 1974, pp. 257-286.
7. Stigler, G., "The Theory of Economic Regulation." *Bell Journal of Economics*, Spring 1971, pp. 3-21.
8. Peltzman, S., "Toward a More General Theory of Regulation." *Journal of Law and Economics*, August 1976, pp. 211-240.

9. Posner, R., "Theories of Economic Regulations." *Bell Journal of Economics*, Autumn 1974, pp. 335-358.
10. Beaver, William H., "Current Trends in Corporate Disclosure." *The Journal of Accountancy*, January 1978, pp. 44-52.
11. "Securities and Exchange Commission Statement on Withdrawal of Proposal to Require Reports on Internal Accounting Controls." Release No. 34-16877, June 6, 1980.
12. Gonedes, Nicholas J., Nicholas Dopuch, and Stephen H. Penman, "Disclosure Rules, Information-Production, and Capital Market Equilibrium: The Case of Forecast Disclosure Rules." *Journal of Accounting Research*, Spring 1976, pp. 89-137.
13. Wiesen, Jeremy, *The Securities Acts and Independent Auditors: What Did Congress Intend?* Research Study No. 2, Commission on Auditors' Responsibilities. New York: American Institute of Certified Public Accountants, Inc., 1978.
14. United States Senate Subcommittee on Reports and Management, "The Accounting Establishment." Washington, D.C.: Superintendent of Documents, December 1976.
15. Carmichael, D.R., "Internal Accounting Control—It's the Law." *The Journal of Accountancy*, May 1980, pp. 70-76.
16. Abelson, Alan, "Up & Down Wall Street." *Barron's*, Dow Jones & Co., Inc., June 18, 1979, p.1.
17. Griffin, Paul A., "Sensitive Foreign Payment Disclosures: The Securities Market Impact." *Report of the Advisory Committee on Corporate Disclosure to the Securities and Exchange Commission*, Vol. 1. And "Disclosure Policy and the Securities Market: The Impact of the 1975-76 Sensitive Foreign Payment Disclosures." Summary of a research report prepared at the request of the Advisory Committee on Corporate Disclosure, Securities and Exchange Commission, Washington, D.C. Graduate School of Business working paper, Stanford University, January 1977.
18. Albrecht, William S., "Toward Better and More Efficient Audits." *The Journal of Accountancy*, December 1977, pp. 48-50.

## X. Summary

Economic incentives exist for parties to have and to supply an audit. The auditing process makes the terms of a contract sufficiently observable to facilitate specialization by agents, diversification of principals' resources, and increased productivity. The audit fulfills three explicit demands: a demand for a monitoring mechanism, a demand for information production to improve investors' decisions, and a demand for insurance to protect against losses from distorted information. Joint products of the audit include cost savings in operations stemming from suggestions by the auditor for improved operating efficiency, lower costs from property and bonding insurance, reduced loss from errors, lower costs for complementary services, and regulatory compliance. In explaining, marketing, and deciding to contract for an audit, these insights will provide an analytical basis for describing and evaluating those attributes of the product which are relevant to the decision process. The supply of auditing reflects those attributes of auditing which are valued by consumers, including the "observability" of audit quality. Examples of supply responses to demand in the free market include:

1. professional certification,
2. professional liability responsibilities,
3. the tailoring of the audit to the auditee's system,
4. the trade-offs available to auditees through limited substitution of im-

- proved controls for external audit fees,
5. the provision of complementary services, and
6. the collection and documentation of quantitative evidence that a sufficient amount of auditing was performed to provide the basis for forming an opinion on the fairness of financial statements.

Political and regulatory issues related to the audit frequently stem from claims that market failures have occurred due to the public good nature of information and the monopolistic position of the firm in the production of information about its own performance. Market incentives to produce public information have been outlined. The costs of regulation have been described, with recognition that politicians' activities may not necessarily be in the public interest. Presumably you are now aware of the controversy which surrounds the production of accounting and auditing information and understand the role of the audit in the regulated environment. The mandated audit not only serves as a regulatory tool to disseminate public information, which was similarly disseminated in the unregulated market, but also provides insurance to regulators that information useful to government in performing its responsibilities is automatically provided.

Empirical questions concerning whether regulation has increased the demand for auditing services persist due to the obvious

concurrent increases in the cost of the auditing process that have resulted from regulation. Claims that auditing is prevalent due to regulation are inconsistent with the existence of audits prior to regulation. However, the possibility exists that the government's intervention in formulating accounting and auditing standards and in expanding liability responsibilities has decreased the total demand for audits. Regulations may have made the *current* production process economically unfeasible for smaller, unregulated entities which do not face the inelastic demand curve imposed by regulation. The recent professional standard which permits "compilation and review services" (financial statement preparation and limited review) by CPAs may well evidence a demand by this unregulated sector for some professional services by the CPA as a *limited* substitute for the high priced audits that necessarily reflect production costs imposed by regulators. The analysis of the demand for compilation and review services is just one example of how an understanding of the audit product and its roles in the free market and the regulated environment permits the analysis of current events that affect professional practice.

An important facet of your study of auditing is to understand the product in its current environment. With this theoretical framework for viewing the audit function you will now explore the details of the audit production function which necessarily reflect actions by the private standard-setting boards, regulators, and the courts as they have defined the duties and responsibilities of the auditor. Critically evaluate the degree to which existing guidelines contribute to the various outputs of the auditing process by applying the framework described herein. This approach to learning the details of auditing will insure an in-depth understanding of the audit product and the underlying process of supplying that product.

## About the Author

Wanda A. Wallace is assistant professor of accounting at the Graduate School of Management, University of Rochester. She received her Master of Professional Accountancy from Texas Christian University and her Ph.D. in accounting and finance from the University of Florida. She has been a Certified Public Accountant (Texas) since 1974 and has served on the audit staffs of Arthur Andersen & Co. and Ernst & Whinney. She is also a Certified Management Accountant. Currently Dr. Wallace serves as a consultant on regression analysis and its application to the audit for the national office of Price Waterhouse & Co. In addition, she is developing course materials for an auditing training seminar for the senior, or "in-charge" accountant, with the national office of Peat, Marwick, Mitchell & Co.

Wanda Wallace has primary research and teaching interests in auditing and financial and cost accounting for profit and non-profit organizations. Her publications include articles for the *Accounting Review*, *Journal of Accounting Research*, *The CPA Journal* (all forthcoming), *Bankers Monthly*, *The Woman CPA*, *Public Utilities Fortnightly*, and *The Collegiate Forum*, as well as the proceedings of *The Round Table Conference on Government Regulation of Accounting and Information*, *the Third Symposium of Auditing Research* (and *Fourth*, forthcoming), and the *American Accounting Association's Annual Meetings*. Her research has been supported

through two separate grants under the Research Opportunities in Auditing Program of Peat, Marwick, Mitchell & Co. and a grant from the Deloitte Haskins & Sells Graduate Research Assistant Program.

Her past honors include a Certificate of Distinguished Performance for her total score received on the Certificate in Management Accounting Examination, an Ernst & Ernst (now Ernst & Whinney) Doctoral Dissertation Award, an American Accounting Association Fellowship, and selection as an American Accounting Association Doctoral Consortium Fellow.

Dr. Wallace's professional activities include membership in the American Institute of Certified Public Accountants (AICPA), American Accounting Association (AAA), AAA Auditing Section, the Institute of Management Accounting, the Texas Society of Certified Public Accountants, Beta Gamma Sigma, and Beta Alpha Psi. She has served on the AAA Committee on Trueblood Seminars, an Audit Section Review Subcommittee, and a subcommittee to respond to the FASB. She is currently on a Project Consulting Committee for a research project commissioned by the Director of Research of the AAA, as well as the Auditing Research Bibliography Committee, and is a reviewer for several professional journals.