Strategic Accounting Disclosure

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Phillip C. Stocken

Tuck School of Business at Dartmouth College
USA
Phillip.C.Stocken@Dartmouth.edu

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Foundations and Trends® in Accounting

Published, sold and distributed by:
now Publishers Inc.
PO Box 1024
Hanover, MA 02339
USA
Tel. +1-781-985-4510
www.nowpublishers.com
sales@nowpublishers.com

Outside North America:
now Publishers Inc.
PO Box 179
2600 AD Delft
The Netherlands
Tel. +31-6-51115274

The preferred citation for this publication is P. C. Stocken, Strategic Accounting Disclosure, Foundations and Trends® in Accounting, vol 7, no 4, pp 197–291, 2012

ISBN: 978-1-60198-692-4

Full text available at: http://dx.doi.org/10.1561/1400000027

Foundations and Trends® in Accounting

Volume 7 Issue 4, 2012

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Foundations and Trends® in Accounting, 2012, Volume 7, 4 issues. ISSN paper version 1554-0642. ISSN online version 1554-0650. Also available as a combined paper and online subscription.

Foundations and Trends® in
Accounting
Vol. 7, No. 4 (2012) 197–291

DOI: 10.1561/1400000027

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Phillip C. Stocken

Tuck School of Business at Dartmouth College, USA,
Phillip.C.Stocken@Dartmouth.edu

Abstract

This monograph surveys the analytic accounting disclosure literature in which firms strategically communicate information to investors. Its purpose is to identify guidelines that firm management might consider when voluntarily disclosing or mandatorily reporting information to investors and also factors that investors might recognize when using a firm's disclosure. It discusses persuasion games, costless signaling games, and costly signaling games. The monograph highlights the primary features of the equilibria in these games and how communication varies in each of these settings. It then surveys work that uses these frameworks. This work suggests that a firm's disclosure policy depends on the features of its environment. The monograph concludes that characterizing firm disclosure policies for a set of generic features of the reporting environment awaits further research.

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1

Introduction

Accounting disclosure occurs in an environment in which a firm transmits information to an investor who takes an action. A key feature of the financial reporting environment is that market participants are asymmetrically informed about the firm. Consequently, the firm manager can strategically manage the communication of information. A rational investor, of course, anticipates the manager's self-interested behavior when valuing the firm. Accordingly, a firm's strategy for optimally transmitting information and the investor's response to the firm's disclosure need to be carefully considered. This monograph examines the analytic accounting disclosure literature in which firms strategically communicate information to investors. Its purpose is to identify guidelines that firm management should consider when voluntarily disclosing or mandatorily reporting information to investors and factors that investors might recognize when using a firm's accounting disclosure. It also suggests characteristics of useful information that policy-makers and regulators should keep in mind as they specify the information sets firms should disclose to investors, lenders, and other providers of capital.

The Securities Act of 1933 and the Securities Exchange Act of 1934 specify the Securities and Exchange Commission's (SEC) required filings for firms; further, the law of a firm's state of incorporation, the rules of the stock exchange on which the firm's shares might be listed, the firm's articles of incorporation also define a firm's required disclosure. To comply with these reporting requirements and the provisions of the Sarbanes–Oxley Act of 2002 and the Dodd–Frank Act of 2010, firms install accounting information systems together with the related internal controls. These systems provide firm management with a proprietary information set. The federal securities laws require firms to mandatorily report some elements of this information set. In addition, management can decide whether to voluntarily release other elements of its information set that investors might find useful for valuing the firm.

For several decades, accountants have struggled to identify and characterize the properties of useful information. The American Accounting Association published an influential monograph in 1966 that identified *usefulness* as being the "all inclusive" criterion. This criterion was then partitioned into criteria that were "more susceptible to measurement and implementation" (American Accounting Association, 1966, 3). The four essential criteria for evaluating information were relevance, verifiability, freedom from bias, and quantifiability. Snavely (1967) extended this work and offered a hierarchy of criteria that identified four levels: The first-level criterion was usefulness, which was identified as being applicable to any information. The second-level criteria were relevance, reliability, understandability, significance, sufficiency, and practicality. The third and fourth levels specified supporting characteristics of the second-level criteria. Snavely (1967) did not explicitly use a model to serve as an organizing framework in the development of this hierarchy. Subsequently, Feltham (1968) considered the value of changes in an information system within a setting containing a single investor using Bayes' Theorem as an organizing framework. He considered information having the attributes of relevance, timeliness, and accuracy to be desirable. This literature seems to have suggested the ingredients for the hierarchy of qualitative characteristics developed in Statement of Financial Accounting Concepts No. 2 — *Qualitative Characteristics of Accounting Information* — issued in 1980.

This early work considered the properties of accounting information within a *single* decision-maker context. Within this context, Blackwell's Theorem provides a relation that allows for a partial ordering over alternative information systems. This theorem in casual terms states that one information system is more valuable than another information system if it has less randomness or uncertainty in the association between the set of states and the set of signals than the other information system (see Blackwell and Girshick, 1954). In a similar vein, Laffont (1993) established that one information system is more valuable than another if it provides a finer partition of the state space than the other information system. Thus, in an environment in which the firm is the only provider of accounting information and the firm's sole preoccupation is with maximizing the usefulness of accounting information for the benefit of investors, then finer accounting information is more useful to the investor. Indeed, the view that the usefulness of information for decision-making is increasing in its precision is fairly pervasive. The revised criteria for evaluating information characterized in Statement of Financial Accounting Concepts No. 8 — *Qualitative Characteristics of Useful Financial Information* — released in 2010 seem to reflect this view.

The financial reporting environment, however, features *several* decision-makers. Investors gather information from various sources, including a firm, the firm's competitors, analysts, trade journals, and government statistical releases. Firm management, therefore, needs to consider not only the effect of reporting its information to its investors, but also the influence of its disclosure on the behavior of other market participants. Management needs to recognize that its disclosure will affect the behavior of other firms and how they choose to disclose their information; it needs to anticipate that its disclosure will influence the behavior of financial analysts and the information they provide investors. Further, management must be cognizant of the scrutiny of policy-makers and regulators and also of investors' rights to take legal action in the event of fraudulent material misstatement or omission of required information. In short, the accounting information environment is populated with many strategic players making payoff maximizing decisions.

Blackwell's Theorem does not hold when multiple decision-makers interact strategically.[1] Thus, the notion that providers of capital would prefer finer information over less fine information offers little guidance to firms when deciding on their disclosure policy. In contrast, the extant literature emphasizes that a firm's optimal disclosure policy is sensitive to the features of the information environment. Consequently, in the absence of precisely characterizing the environment, the desirable properties of accounting disclosure cannot be characterized.

The literature that investigates the equilibrium properties of accounting reports within a strategic setting can be bisected depending on whether the Revelation Principle applies. The *Revelation Principle* is often invoked when analyzing the contractual relation between a sender and receiver; the contractual design problem is commonly termed a principal–agent problem. Loosely speaking, the Revelation Principle states that when identifying the optimal contract, without loss of generality the principal can restrict attention to contracts with the form that: (i) the agent must report which state has occurred, (ii) the contract specifies an outcome (e.g., an agent wage and effort level) for each possible report, and (iii) the agent finds it optimal to truthfully report the state. The Revelation Principle is often used to analyze contracting problems because it greatly simplifies the analysis: in particular, it allows a principal to restrict attention to those contracts in which an agent truthfully reveals information instead of having to evaluate the entire set of truthful and non-truthful reports that an agent might offer. See Mas-Colell et al. (1995) for further discussion and a formal proof of the Revelation Principle.

In the financial reporting environment, formal contractual relations often do not exist between market participants and also firms, from time to time, withhold or misrepresent their information. Thus, it can be problematic describing accounting reporting behavior using a revelation

[1] To illustrate, within a contracting setting, Christensen (1982) established that the principal may be worse off when the principal and agent observe additional information before the agent takes an action; analogously, within a non-contracting setting, Fischer and Stocken (2001) show that the receiver's and sender's payoffs might decline as the quality of the sender's information increases.

mechanism in which an agent reports truthfully.[2] As a consequence, models of the disclosure environment commonly preclude application of the Revelation Principle by assuming either: (i) a sender's communication is restricted, (ii) the form of the contract is restricted, or (iii) the receiver's ability to commit to how the sender's report is to be used is restricted.

This monograph focusses on accounting disclosure within a non-contractual setting in which Revelation Principle does *not* apply. It examines a setting featuring a sender — a firm manager or a sell-side equity analyst — who has some information about a firm to communicate to a receiver — an investor — to help value the firm. It considers models that assume there are constraints on the sender's communication, or if there are no constraints on the sender, the receiver cannot commit to use the sender's report in a particular way.

With this assumption in place, this monograph surveys the strategic mandatory and voluntary disclosure literature and partitions it into three types of disclosure regimes:

- First, and on one end of the continuum, the monograph outlines the primary frameworks in *persuasion games*. In these games, the sender's report is restricted to be truthful although the sender may withhold information. The monograph characterizes the work of Jovanovic (1982), Verrecchia (1983), Dye (1985), and Jung and Kwon (1988) and surveys the accounting literature that extends this seminal work.
- Second, and on the other end of the continuum, the monograph describes *costless signaling games*. In these games, the sender is free to issue vague or even misleading reports. The monograph illustrates the "cheap talk" model in Crawford and Sobel (1982). It then discusses research

[2] Indeed, Dye (1988, 200) claims the "Revelation Principle is a nemesis to the study of earnings management: when it applies, any contract which encourages earnings management can be viewed as arbitrary, since another contract can be constructed which does not induce earnings management and which provides the same utility to all contracting parties as the original contract."

that has extended this framework to better understand communication within the financial reporting environment.

- Third, and between the two ends of the continuum, the monograph discusses *costly signaling games*. In these games, the sender can misreport the signal but only at some cost. The monograph describes the work of Narayanan (1985), Stein (1989), and Fischer and Verrecchia (2000) in detail. It then turns to survey the subsequent work based on these studies.

These three primary frameworks have provided the catalyst for much of the mandatory and voluntary disclosure research in accounting aimed at better understanding strategic communication. This monograph distills the key ingredients in these frameworks and uses common notation to emphasize the relation between the frameworks and the innovation in each framework. For each of these primary frameworks, it surveys subsequent work that uses these frameworks to deepen our understanding of firm communication. The monograph emphasizes that the specific characteristics of the institutional environment affect the equilibrium properties of a firm's disclosure policy and an investor's information set. The motivation for simply representing these frameworks and then outlining the related literature that applies these primary frameworks is to make the accounting disclosure literature more accessible to doctoral students for whom this monograph is written.

This survey is not exhaustive. It focuses on studies that illustrate the concepts in the primary disclosure frameworks. Further, it does not consider analytic work in the accounting literature in which the stochastic process that generates the sender's public report is exogenous. For instance, several papers in the noisy rational expectations literature examine how a firm's public report affects properties of stock pricing through its effect on private information acquisition activities (e.g., Diamond, 1985; Demski and Feltham, 1994; Kim and Verrecchia, 1994; McNichols and Trueman, 1994). This work exogenously specifies the stochastic process that generates the firm's public report and then focuses on the market participants' information gathering and trading activities rather than on the firm's decision how to report privately observed information, which is the focus of this survey.

This monograph proceeds as follows: Section 2 outlines persuasion games, Section 3 considers costless signaling games, Section 4 discusses costly signaling games, and Section 5 concludes. The Appendix illustrates a model that is commonly used to characterize the effect of asymmetrically informed investors on stock prices.

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