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Voluntary disclosure under imperfect competition: experimental evidence

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Abstract

This study investigates disclosure behavior when a firm has incentives to influence the actions of a product market rival in a Cournot quantity game. Using an experimental economics method, we find that when the firm receives private information about industry-wide cost, unfavorable (favorable) information is disclosed (withheld) and the rival adjusts production accordingly. In contrast, when the firm receives private information about firm-specific cost, disclosure behavior is not affected by the favorableness of the information and the rival's production decision is insensitive to the firm's disclosure choice.

Keywords: Information disclosure; Private information; Product market competitors

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1. Introduction

This paper reports the results of two experiments designed to examine firms' disclosure strategies and the resulting reaction of product market competitors. Numerous theoretical studies examine the firm's incentives to voluntarily disclose

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private information. Early papers find that full disclosure is the only possible equilibrium outcome when the discloser is known to possess information and disclosure is costless (Grossman, 1981; Milgrom, 1981). Later researchers relax the assumption of costless disclosure (Jovanovic, 1982; Darrough and Stoughton, 1990; Feltham and Xie, 1992) and allow for the possibility that the discloser is uninformed (Dye, 1985; Jung and Kwon, 1988). In either case, a threshold level for disclosure obtains and partial disclosure may result. When the cost of disclosure is endodenously determined under imperfect competition, the firm considers the reactions of rivals in choosing a disclosure strategy to maximize profit. For example, the firm may disclose favorable news in an attempt to maximize profits, but such disclosure may prompt a rival to take actions that impose proprietary costs on the firm.

Theoretical studies recognize that disclosure and information-sharing incentives are sensitive to the precise context, including the competitiveness of the market, the nature of private information, and the market's uncertainty about whether the discloser is informed. Darrough (1993) shows that incentives to disclose are affected by whether firms are engaged in Cournot or Bertrand competition. Sankar (1995) looks at a Cournot setting and demonstrates that firms' incentives differ depending on whether they receive information about industry-wide or firm-specific conditions.[1] Dye (1985) and Jung and Kwon (1988) show that partial disclosure results when firms are not informed with certainty.

The empirical literature on voluntary disclosure has produced mixed results. Early accounting studies (e.g. Patell, 1976; Penman, 1980) find a positive bias in management's earnings forecasts and conclude that only firms with good news release forecasts. Later studies (e.g. Lev and Penman, 1990; Clarkson et al., 1994) find that forecasts are unbiased on average. Unbiasedness suggests that firms disclose good news *and* bad news, the effects of which may offset each other. The mixed findings may arise because it is difficult to determine (control for) the proprietary costs resulting from the actions of rival firms.

Other empirical studies use experimental methods to examine information disclosure behavior in settings with investors. King and Wallin (1990, 1991a,b) conduct a series of experiments in which a manager is endowed with an asset and, in some cases, receives private information about its value. The manager makes a disclosure choice and then investors bid on the asset. Experimental findings support full disclosure when the manager is known to possess private information and antifraud rules are in place (see also Forsythe et al., 1989). The findings

[1] The industrial organization literature recognizes that the nature of the information impacts whether competitive firms agree to share information. Vives (1990) points out that the United States courts' views of information sharing by rival firms is affected by the nature of the information. The sharing of firm-specific information has been viewed with suspicion, whereas the sharing of aggregate information has raised few objections.