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Product market advertising and new equity issues ☆

Thomas Chemmanur [a,*], An Yan [b]

[a] Carroll School of Management, Boston College, Chestnut Hill, MA 02467, USA
[b] Graduate School of Business Administration, Fordham University, New York, NY 10023, USA

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ABSTRACT

We analyze the interaction between a firm's product market advertising and its corporate financing decisions. We consider a firm that faces asymmetric information in both the product and financial markets and that needs to raise external financing to fund its growth opportunity (new project). Any product market advertising undertaken by the firm is visible to the financial market as well. In equilibrium, the firm uses a combination of product market advertising, equity underpricing, and underfinancing (raising a smaller amount of external capital than the full information optimum) to convey its true product quality and the intrinsic value of its projects to consumers and investors. The following two predictions arise from our theoretical analysis for the relation between product market advertising and equity underpricing around new equity issues. First, firms choose a higher level of product market advertising when they are planning to issue new equity, compared with situations in which they have no immediate plans to do so. Second, product market advertising and equity underpricing are substitutes for a firm issuing new equity. We empirically test the above two predictions and find supporting evidence in the context of firms making initial public offerings and seasoned equity offerings.

1. Introduction

The role of the underpricing of initial public offerings (IPOs) in signaling firm insiders' private information to the equity market has been extensively analyzed (see, e.g., Allen and Faulhaber, 1989; or Welch, 1989). However, recently, some authors have questioned whether underpricing is the most efficient way to signal firm value, and they have raised the possibility that it could be more efficient for firms to use other signals around new equity issues. For example, Ritter and Welch (2002) comment in their review of the IPO literature: "On theoretical grounds, however, it is unclear why underpricing is a more efficient signal than, say, advertising."

Advertising is a particularly interesting signaling alternative to underpricing, because some anecdotal evidence exists that, in practice, some managers could attempt to convey their firm's intrinsic value to the financial market by making use of product market advertising (particularly in the context of an upcoming IPO). Consider, for example, this quote (Wall Street Journal, 1999): "As they plaster ads everywhere consumers might turn, companies are hoping to catch investors' eyes too. Businesses are often as interested in selling stock as in selling products; a high voltage advertising spree could serve as a critical prelude to an initial public offering." Another article (Boston Globe, 2000) deals with

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* Corresponding author.
E-mail address: chemmanu@bc.edu (T. Chemmanur).

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television advertising during the Super Bowl: "Hoping to impress Wall Street as well as fans, advertisers with names such as Pets.com, Lifeminders.com, and Ourbeginning.com will pony up at least $2.2 million for each 30 second slot on next Sunday's football game. Skip Pile, of Pile and Co., a Boston firm that helps companies hire ad agencies, offers the following appraisal: 'A Super Bowl ad can legitimize a brand among multiple constituencies: the company's employees, venture capitalists, the investment community, and lastly, the target audience of football fans.'" Whether these and similar anecdotes reflect the special situation, during a special time period, of only a few companies (e.g., Internet firms going public during the bubble period), or whether they reflect the general situation of firms making equity issues (either an IPO or a seasoned equity offering (SEO)), is an empirical question that has been unanswered so far in the literature.

The objective of this paper is to explore how the extent of product market advertising undertaken by a firm could affect (and be affected by) the prospect of an upcoming new equity issue. The economic environment that we analyze is a setting where insiders of a firm, with information about its intrinsic value superior to outsiders, raise external financing to fund a positive net present value (NPV) project by making a new equity issue. We address several related questions in the above setting. First, how will a firm choose the extent of its product market advertising in a setting where this advertising is visible to the financial market as well as the product market? Second, will the equilibrium level of advertising chosen by a firm be different in situations in which the firm plans to make a public offering of new equity (either an IPO or an SEO) compared with a situation in which it has no immediate plans to make such an offering of equity or other financial assets?[1] Third, of three alternative signals easily available to firm insiders, namely, underpricing, advertising, and underfinancing (raising a smaller amount of equity than the optimal amount in a full information setting), under what conditions will each signal be employed (either individually or in combination with the other signals)? In particular, are advertising and underpricing substitutes for a firm in the context of new equity issues? While our primary objective in this paper is to answer these questions empirically, we first briefly develop a theoretical analysis that generates testable hypotheses that we subsequently test. We empirically show how firms alter the extent of their advertising in the context of an upcoming new equity issue and how the extent of advertising relates to the extent of underpricing in IPOs as well as SEOs.

We consider a firm that has an existing product, an ongoing project, and a growth opportunity (new project). Firm insiders have private information not only about the quality of the firm's product, but also about the true value of its projects. In other words, the firm faces asymmetric information in both the product and financial markets. While the firm has some internal capital available, this capital is not adequate to cover both the investment required in its ongoing project and to fund its growth opportunity. The firm therefore needs to raise external financing for investment by making a new equity issue. We assume that any product market advertising undertaken by the firm is visible to financial market investors as well.

In this setting, product market advertising can be thought of as playing two different roles. The first role played by advertising is that of signaling quality to the product market, thereby allowing consumers to price the firm's products correctly in equilibrium. This product market role of advertising in our analysis is similar to the role played by advertising in the industrial organization literature, which has long argued that product market advertising can help convey information about product quality to consumers (see, e.g., Nelson, 1974; Kihlstrom and Riordan, 1984; or Milgrom and Roberts, 1986). In our setting, however, product market advertising plays a second role; that of signaling the true value of a firm's projects to potential stock market investors, thus allowing them to price the firm's equity correctly in equilibrium. Because a firm's product quality and the value of its projects might not be perfectly correlated, an outsider (consumer or potential investor) who knows only the true quality of a firm's existing product cannot infer the true value of its projects. Conversely, an outsider who knows only the true value of its projects cannot infer existing product quality. However, the firm needs not to use product market advertising alone as a signal, either to the product market or to the financial market. In a setting where the firm interacts with the equity market as well as the product market, it can also signal by underpricing equity in its new equity issue or by underfinancing.

In equilibrium, the firm uses the least-cost combination of the three signals to convey its product quality and project value to outsiders. The equilibrium choice of signaling mix by the firm depends on the extent of asymmetric information facing the firm and the internal capital available to it. First consider when the extent of asymmetric information facing the firm is relatively small. In this case, firms with superior quality products and higher intrinsic value projects (which we refer to as higher type firms) use underfinancing alone as a signal, because, by itself, underfinancing is a less costly signal for the higher type firm to use than either advertising or underpricing. While underfinancing requires the higher type firm to scale back its investment in its growth opportunity, the cost of this underinvestment is partially offset by the reduced dilution in insiders' equity holdings (which results from its raising a smaller amount of external financing).[2] Therefore, if the extent of underfinancing

[1] For concreteness, we present much of our theoretical analysis in the context of a private firm raising external capital by making an IPO of equity. However, our analysis goes through with minor modifications for the case of a publicly traded firm making a seasoned issue of equity or other information-sensitive financial assets. Our theory therefore has implications for these situations as well, and we test the implications of our model not only for IPOs, but also for SEOs.

[2] By dilution, we refer to the fact that, when a firm sells equity at a lower price, insiders have to give up a greater share of the firm's equity to new investors in return for external financing. If the firm raises only a smaller amount of external financing, this dilution in insiders' equity holdings is smaller.