Journal of Financial Economics 111 (2014) 554–577

Contents lists available at ScienceDirect

Journal of Financial Economics

journal homepage: www.elsevier.com/locate/jfec

Learning from peers' stock prices and corporate investment ☆

Thierry Foucault [a,*], Laurent Fresard [b]

[a] HEC, Paris, 1 rue de la Liberation, 78351 Jouy en Josas, France
[b] Robert H. Smith School of Business, University of Maryland, United States

ARTICLE INFO

Article history:
Received 28 March 2013
Received in revised form
23 July 2013
Accepted 4 August 2013
Available online 4 December 2013

JEL classification:
G31
D21
D83

Keywords:
Corporate investment
Managerial learning
Peers
Informed trading

ABSTRACT

Peers' valuation matters for firms' investment: a one standard deviation increase in peers' valuation is associated with a 5.9% increase in corporate investment. This association is stronger when a firm's stock price informativeness is lower or when its managers appear less informed. Also, the sensitivity of a firm's investment to its stock price is lower when its peers' stock price informativeness is higher or when demands for its products and its peers' products are more correlated. Furthermore, the sensitivity of firms' investment to their peers' valuation drops significantly after going public. These findings are uniquely predicted by a model in which managers learn information from their peers' valuation.

1. Introduction

Firms' managers, financial analysts, bankers, or investment professionals often rely on price "multiples" of peer firms (e.g., price-to-book or price-to-earnings ratios) to value new investments. For instance, survey evidence indicates that corporate executives use peers' valuation for capital budgeting decisions (see Graham and Harvey, 2001). Hence, one expects firms' investment to be influenced by the market valuation (stock price) of their peers. Whether and why this influence exists has not received much attention, however. In this paper, we examine these questions.

Specifically, we test the hypothesis that the market valuation of a firm's peers influences its investment because this valuation informs managers about the firm's growth opportunities, complementing thereby other information available to managers, such as the firm's own stock price.[1] For instance, managers might learn additional information about growth opportunities in a particular activity from stock prices of firms focused on this activity.

☆ We thank the referee for extremely useful and insightful comments. We are also grateful to Rui Albuquerque, Laurent Bach, Francois Derrien, Alex Edmans, Maria Guadalupe, Bernard Dumas, Denis Gromb, Alexandre Jeanneret, Pete Kyle, Samuli Knüpfer, Rich Mathews, Sebastien Michenaud, Nagpurnanand Prabhala, Denis Sosyura, Jerome Taillard, David Thesmar, Philip Valta and seminar participants at Aalto University, Babson College, BI Oslo, Copenhagen Business School, McGill University, the University of Maryland, the University of Warwick, the Adam Smith Workshop in Oxford, and the London Business School Corporate Finance Symposium for valuable discussions and suggestions. We also thank Jerry Hoberg and Gordon Phillips for sharing their TNIC data, and Jay Ritter for sharing its IPO data. All errors are ours.

* Corresponding author. Tel.: +33 1 39 67 95 69; fax: +33 1 39 67 70 85.
E-mail address: foucault@hec.fr (T. Foucault).

[1] Subrahmanyam and Titman (1999) argue that stock prices are particularly useful to managers because they aggregate investors' dispersed signals about future product demand. This is the case for peers' stock prices since product demands for related firms are affected by common shocks (e.g., Menzly and Ozbas (2010) show that firms' Return on Assets (ROAs) are positively correlated with related firms' ROAs).

0304-405X/$ - see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.jfineco.2013.11.006

If managers use their peers' valuation to make investment decisions, then firms' investment and their peers' valuation should covary. Evidence thereof is, however, insufficient to conclude that managers learn information from peers' stock prices since stock prices and investment can covary due to unobserved factors. To address this problem, we rely on theory.

We consider a simple model in which peers' valuation complements managers' knowledge about their investment opportunities.[2] In this model, a firm sells a product for which demand is uncertain and correlated with the demand for another firm's product (its peer).[3] The firm's manager must decide whether to expand production capacity or not. This growth opportunity has a positive net present value only if future demand for the firm's product is strong enough. As investors trade on private information about future demand, the firm's stock price and its peer's stock price provide signals to the manager, in addition to his own private information, about the net present value of the growth opportunity. We compare three different scenarios: (i) the manager ignores stock market information (no managerial learning); (ii) the manager only relies on his own stock price (narrow managerial learning); and (iii) the manager uses the information contained in each stock price (learning from peers).

When the manager ignores stock prices, the firm's investment and stock prices covary because the manager's private signal and investors' signals are correlated. This "correlated information" channel also operates when the manager *learns* information from stock prices. However, in this case, it is supplemented by the fact that stock prices *influence* the manager's decision. Thus, in each scenario, we split the covariance between the investment of a firm and (a) its own stock price or (b) its peer stock price into two parts: one due to the correlated information channel and another one due to the learning channel. We exploit the fact that some firms' characteristics affect differently these two parts to develop null hypotheses specific to the learning from peers scenario.

Consider first the informativeness of a firm's *own* stock price. If the firm's manager ignores the information in stock prices, this informativeness does *not* affect the covariation between the firm's investment and its *peer* stock price. If instead the firm's manager learns information from stock prices, then an increase in the firm's own stock price informativeness reduces the sensitivity of its investment to its peer stock price (prediction 1). Indeed, as the signal conveyed by its own stock price becomes more informative, the manager's beliefs are less influenced by its peer stock price and therefore, his investment decision is less sensitive to this price.

Symmetrically, an increase in the informativeness of its *peer* stock price reduces the sensitivity of a firm's investment to its *own* stock price if the manager learns information from its peer stock price (prediction 2), but not otherwise. The same prediction holds for an increase in the correlation of the fundamentals of a firm and its peer (prediction 3) because, other things equal, this increase strengthens the informativeness of the peer stock price about the firm's future cash-flows.

An increase in the quality of the manager's private information implies that (i) his investment decision becomes more correlated with investors' private information, and (ii) his belief about future demand is less influenced by stock prices. The first effect strengthens the correlated information channel while the second dampens the learning channel. In the absence of learning, only the first effect operates. Thus, the sensitivity of investment to stock prices increases when the quality of managerial information improves. In contrast, with learning, an improvement in managerial information always reduces the sensitivity of a firm's investment to its *peer* stock price (prediction 4) because, for this price, effect (ii) dominates. This reduction, however, indirectly reinforces the correlation between a firm's investment and its own stock prices (effect (i)), especially when its peer stock price informativeness is large. For this reason, with learning from peers, the effect of the quality of managerial information on the sensitivity of a firm's investment to its own stock price switches from being negative (effect (ii) dominates) to being positive (effect (i) dominates) when the informativeness of the firm's peer stock price is high enough (prediction 5).

In sum, the model generates five predictions that only hold if managers learn information from their peer stock price. The learning from peers hypothesis has other implications but these hold even if managers do *not* learn from prices. For instance, the sensitivity of a firm's investment to its peer stock price increases with the informativeness of this price *whether or not* managers learn from stock prices because a more informative peer stock price strengthens both channels of covariation between investment and stock prices.

Thus, the model is critical to weed out predictions that are specific to the learning from peers hypothesis from those that are not. The former predictions naturally form the backbone of our empirical strategy. We test them on a large sample of U.S. firms. The peers of a given firm are defined as firms in its industry according to the Text-based Network Industry Classification (TNIC) developed by Hoberg and Phillips (2011). This classification is based on firms' product description in their annual 10Ks (from 1996 to 2008). Hence, a firm and its peers according to this classification are likely to be exposed to correlated demand shocks, as assumed in our model.

We find that firms' investment is positively and significantly related to their peers' valuation, proxied by their

[2] Existing models in which firms learn from stock prices have focused on the case in which firms learn from their own stock prices, not the case in which they also learn from their peers (see, for instance, Bresnahan, Milgrom, and Paul, 1992; Dow and Gorton, 1997; Subrahmanyam and Titman, 1999; Goldstein and Guembel, 2008; Foucault and Gehrig, 2008; Dow, Goldstein, and Guembel, 2011; Edmans, Goldstein, and Jiang, 2013). See Bond, Edmans, and Goldstein (2012) for an excellent survey of this literature.

[3] Peers are not necessarily competing firms. Firms can be exposed to common demand shocks because they are vertically related (suppliers'/customers' firms) or because their products are complements. For instance, if the demand for computer hardware is strong, the demand for software is likely to be strong as well.