Peer effects in decision-making: Evidence from corporate investment

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ABSTRACT

We show that peer effects influence corporate investment decisions. Using a sample of China’s listed firms from 1999 to 2012, we show that a one standard deviation increase in peer firms’ investments is associated with a 4% increase in firm i’s investments. We further identify the mechanisms, conditions and economic consequences of peer effects in firms’ investment decisions. We find that peer effects are more pronounced when firms have information advantages and the information disclosure quality of peer firms is higher, or if they face more fierce competition. When firms are industry followers, are young or have financial constraints, they are highly sensitive to their peers firms. We also quantify the economic consequences generated by peer effects, which can increase firm performance in future periods.

1. Introduction

It is common for corporations to interact with peer firms in decision-making, such as signing strategic cooperating agreements and developing marketing strategies. Previous studies show that peer firms play an important role in shaping a variety of corporate policies, such as product pricing (Bertrand, 1883) and advertising (Stigler, 1968), but the effect of peer-firm behavior on corporate financial policy is often ignored in empirical research, or at most assumed to operate through an unmeasured effect on firm-specific determinants. Recent studies examine whether the characteristics or behavior of peer firms affect corporate capital structure (Leary and Roberts, 2014), mergers and acquisitions (Bizjak et al., 2009) and tax avoidance (Li et al., 2014).
Investment decisions are important and determine corporate development. Most studies that examine peer effects in corporate investment suggest that managers can gain useful information from the stock price of peer firms. Edmans et al. (2012a, 2012b) and Bond et al. (2012) point out that stock prices include information that is helpful in guiding a firm’s investment policy, such as industry growth opportunities, external environment, competitor strategy and consumer demands. Valuing the stock price of peer firms can therefore capture useful information to help reduce investment uncertainty. Ozoguz and Rebello (2013) find that firms’ investment policy reacts appropriately to volatility in a peer firms’ stock price. Using U.S. listed firms from 1996 to 2008, Foucault and Fresard (2014) find that the valuation of peers matters for a firm’s investment: a one standard deviation increase in a peers’ valuation is associated with a 5.9% increase in corporate investment. Fracassi (2012) and Dougal et al. (2012) provide similar empirical results. However, few studies investigate whether managers directly mimic the investment behavior of peer firms. In this study, we predict that firms’ investment behavior is influenced by peer firms’ investment decisions, and provide empirical evidence to support the prediction.

In the stock markets of developed counties, stock prices aggregate diverse corporate decisions and ultimately reflect an accurate assessment of firm value. However, China has only slowly developed a legal framework for its stock market, and has a weak law enforcement record. Consequently, the idiosyncratic information of firms is deficient, and stock prices are highly synchronous (Morck et al., 2000; Zhu et al., 2007). In this undeveloped stock market, stock prices are not the most useful source of information when real decisions are taken. Firms are more likely to directly mimic the strategies and decisions of their peers. Liu and Chen (2012) find that it is common for firms to imitate their peers’ behavior in the industry cluster, and this imitation can increase the performance of both a firm and its peers. Focusing on corporate mergers and acquisitions, Chen and Lu (2013) argue that the acquisition premium is significantly affected by peer firms. This evidence shows that managers have strong incentives to learn from peer firms, enabling them to maximize firm value or avoid the potential risk of failure (Ren, 2002; Zhuang, 2003; Li et al., 2011).

We examine the effect of the investment policy of peer firms on a firm’s investment. Information imperfection and investment uncertainty are the main reasons behind the learning behavior of a peer group (Lieberman and Asaba, 2006). Any investment decision involves risk and uncertainty. Managers may be unsure of the likelihood of possible outcomes, and may have fundamental difficulties recognizing cause and effect relationships and the full range of potential consequences (Milliken, 1987). In environments of uncertainty and ambiguity, managers are particularly likely to imitate the investment activities of peers. This imitation, though still highly imperfect, can significantly reduce the investment risk and the possibility of falling behind rivals. Peer firms therefore have a strong influence on managerial perceptions and beliefs. For example, Mongolia Yili Industrial Group Co., Ltd., a large dairy enterprise, produces “breakfast milk” and attaches importance to a nutritional breakfast. Mengniu Dairy, the biggest competitor of Yili, then actively rolls out “Mengniu breakfast milk.” “JinDian (金典) milk” produced by Yili and “TeLunsu (特仑苏) milk” produced by Mengniu are also good examples of the learning effect in product development. While specific cases of firms learning from their peers can be identified, it is unclear whether the learning effect is widespread in investment policies.

The challenge in examining learning from a peer group is to identify the set of firms that can use the investment policies of peers to guide their own investment decisions. Generally, this group will include firms that have several similar characteristics (e.g., industry, size, diversification, business complexity and financing constraints), so the behavior of these firms is similar within the same market. The more similarities a firm has with its peers, the more likely it is to mimic their investment decisions to reduce the potential failure risk. Considering all these characteristics simultaneously is not practical, however, as peer groups may be made up of too few firms, which would be noisy when filtering external shocks. Following Albuquerque (2009) and Leary and Roberts (2014), we specify peer firms as those in the same industry and in upper and lower size quartiles (0.75 times to 1.25 times a firm’s total assets) in relation to the firm. After specifying the peers of each firm, we examine whether peer firms influence the investment behavior of the firms, and find that they play an important role in shaping corporate investment decisions. Specifically, we find that a one standard deviation increase in peer firms’ investment is associated with a 4% increase in firm i’s investment. Investment can generally be divided into two categories: (1) investment in property, plant and equipment (PPE) and (2) investment in intangible assets such as R&D, and we test the peer effect in these two types of investment. The results show that both types are sensitive to the investment policies of peer firms, while the peer effect is more pronounced in PPE.
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