Journal of Financial Economics 000 (2016) 1–24

Contents lists available at ScienceDirect

Journal of Financial Economics

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

Relative peer quality and firm performance☆

Bill Francis[a,1], Iftekhar Hasan[b,2], Sureshbabu Mani[c,3], Pengfei Ye[d,*]

[a] Lally School of Management, Rensselaer Polytechnic Institute, Troy, NY 12180, United States
[b] Graduate School of Business, Fordham University, New York, NY 10023, United States
[c] Ernst Young, Charlotte, NC 28202, United States
[d] Pamplin College of Business, Virginia Tech, Blacksburg, VA 24061, United States

ARTICLE INFO

Article history:
Received 19 December 2013
Revised 24 November 2015
Accepted 29 November 2015
Available online xxx

JEL classification:
G30
M52

Keywords:
Relative peer quality
Firm performance
Tournament
Optimal contract

ABSTRACT

We examine the performance impact of the relative quality of a Chief Executive Officer (CEO)'s compensation peers (peers to determine a CEO's overall compensation) and bonus peers (peers to determine a CEO's relative-performance-based bonus). We use the fraction of peers with greater managerial ability scores (Demerjian, Lev, and McVay, 2012) than the reporting firm to measure this CEO's relative peer quality (RPQ). We find that firms with higher RPQ earn higher stock returns and experience higher profitability growth than firms with lower RPQ. Learning among peers and the increased incentive to work harder induced by the peer-based tournament contribute to RPQ's performance effect.

1. Introduction

Peer firms are an important component of the incentive system in addressing managerial agency problems. Peers' compensation can be viewed as the incumbent CEOs' opportunity cost and therefore offers a useful estimate of the prevailing price of management talent in the executive labor market (Holmstrom and Kaplan, 2003; Bizjak, Lemmon, and Naveen, 2008; Albuquerque, De Franco, and Verdi, 2013). In addition, peers can also be used to better measure CEO performance because of their ability to filter out the common shocks in firm performance that are beyond a CEO's control (Holmstrom, 1979, 1982; Prendergast, 1999).

In this paper, we identify a new dimension of peers—their managerial ability relative to that of the firm that has chosen them as peers (we call this firm the reporting firm)—and investigate the extent to which relative peer quality affects firm performance. Relative peer quality matters because CEOs are constantly evaluated on a relative basis against their peers, either implicitly by the executive labor market for potential new employment opportunities, or explicitly by the board for performance-based bonus decisions (Lazear and Rosen, 1981; Nalebuff and Stiglitz, 1983). A group of relatively strong peers could affect firm performance in two ways. First, with a sufficiently high prize, CEOs can be motivated by these peers to increase their work efforts, thereby improving firm performance. Second, CEOs can also learn from these peers. A CEO could benefit more from following a group of peers that on average are skilled. Using a sample of Standard & Poor's (S&P)

☆ We thank the anonymous referee for his or her wonderful suggestions that significantly improve this paper's breadth and depth. We thank Bill Schwert (the editor), Tod Perry (the discussant), and seminar participants at the 2013 FMA meeting and Fordham University for helpful comments and discussions.

* Corresponding author. Tel.: +1 540 2312202; fax: +1 540 231 3155.
E-mail addresses: francb@rpi.edu (B. Francis), ihasan@fordham.edu (I. Hasan), sureshbmani.85@gmail.com (S. Mani), pye@vt.edu (P. Ye).
[1] Tel.: +1 518 276 3908.
[2] Tel.: +1 518 276 2525.
[3] Tel.: +1 518 4957201.

http://dx.doi.org/10.1016/j.jfineco.2016.06.002
0304-405X/© 2016 Published by Elsevier B.V.

1500 firms from 2006 through 2010, we find that firms with higher relative peer quality perform significantly better than those with lower relative peer quality.

In determining a CEO's compensation contract, a firm's compensation committee can adopt two types of peers: *compensation peers* and/or *bonus peers*. Compensation peers are those peer companies used for setting a CEO's overall compensation. Most compensation peers are potential employers of the incumbent CEO (Albuquerque et al., 2013). From this perspective, these companies' CEOs can also be viewed as the potential competitors of the reporting CEO in the executive labor market.[4] On the other hand, bonus peers are used exclusively to determine performance-based awards.[5] Most S&P 1500 firms report a distinct set of compensation peers, whereas relatively few also report a set of bonus peers.[6]

A priori, the relative quality of both types of peers could affect firm performance, albeit through different channels. The relative quality of compensation peers affects firm performance through the executive labor market competition/tournament (Fama, 1980; Lazear and Rosen, 1981; Holmstrom, 1999), whereas the effect of bonus peers operates through the internal award-setting process. A CEO facing a group of competitive compensation peers must exert more effort than otherwise in order to increase his or her chance of retaining the executive job or winning the job market tournament. A similar logic applies to bonus peers, because a CEO's performance-based rewards are partially determined by his or her peers' performance.

In addition, as mentioned previously, the relative quality of both types of peers can affect firm performance through a learning effect. Recent studies find that many firms mimic other firms' policies (see, for example, Ozoguz and Rebello, 2013; Foucault and Fresard, 2014; Leary and Roberts, 2014; Kaustia and Rantala, 2015). This learning effect could occur between reporting firms and their peers as well, because these peers are the reference firms by which CEOs are evaluated. Scharfstein and Stein (1990) show that when CEOs know they are evaluated relative to peers, they have strong incentives to follow what their peers do (see also Bikhchandani, Hirshleifer, and Welch, 1998). To the extent that following a peer group that is overall more skilled than otherwise is beneficial, relative peer quality could also affect firm performance through this "herding" learning channel.

Using peer data hand-collected from the Securities and Exchange Commission (SEC)'s Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database, for each reporting firm we construct a *relative peer quality index* (*RPQ*) that measures the fraction of peers (either compensation or bonus peers) that have higher managerial ability scores (Demerjian, Lev, and McVay, 2012) than the reporting CEO at the time of peer selection (beginning of the fiscal year). RPQ is always between zero and one. The overall mean RPQ for both types of peers in this study is close to 0.5, indicating that sample firms, on average, do not systematically pick relatively weak peers in terms of quality as captured by the managerial ability. A firm's RPQ is related to a number of firm characteristics. For instance, we find that high-RPQ firms have a slightly lower growth potential than low-RPQ firms, suggesting that some boards could use relatively high-quality peers to motivate its CEO when the firm has low growth potential. High-RPQ firms also have slightly more independent directors and higher institutional ownership concentration than low-RPQ firms. We directly control for these firm characteristics in our regression analysis.

In multivariate regression analysis, we find that compensation peers' relative quality has a positive and significant impact on firm performance. For example, in our baseline analysis, a one standard deviation increase in compensation peer-based RPQ is associated with a 1.80% increase in the Daniel, Grinblatt, Titman, and Wermers (1997) characteristic-adjusted returns for the same fiscal year in which the peers are chosen, even after we control for a CEO's compensation, intrinsic talent, and the possible governance effect. In addition, a one standard deviation increase in compensation peer-based RPQ is associated with a 0.3% improvement in a firm's operating performance measured by the industry-adjusted return on assets (ROA) after we control for various firm and CEO characteristics. These results are robust to alternative definitions of RPQ and remain essentially unchanged under alternative model specifications.

The effect of bonus peers' relative quality on firm performance, however, is mixed and more often than not insignificant. It is nonetheless worth noting that the reporting of bonus peers is much less clear than that of compensation peers. Our analysis includes only firms that explicitly report bonus peers, which constitute only 15% of sample firms. Anecdotal evidence shows, however, that many firms use other companies as benchmarks in deciding their CEOs' performance-based awards, yet do not explicitly report them as "bonus peers."[7] This practice

[4] For example, Colgate Palmolive's 2006 proxy statement stated that "the comparison group is selected to represent the market for executive talent in which the company has historically competed." In its 2007 proxy statement, Dell Inc. stated that "the peer group for evaluating pay for the executive officers is based on those companies with which we compete for talents." H.J. Heinz stated in its 2007 proxy statement that "One of the primary objectives of our compensation programs is to provide target compensation at the median of the companies within the compensation peer group. The MDCC believes this practice is appropriate because…Heinz directly competes with these companies to recruit executive talent. By targeting NEO compensation to the compensation practices and levels of the Compensation Peer Group, we enhance our ability to attract and retain a highly skilled and motivated executive leadership team, which is fundamental to our growth and delivery of value to shareholders."

[5] Relative performance-based awards can be cash-based (such as annual bonus and long-term incentive payout), equity plan-based (such as performance shares, restricted stock, and stock options), or a combination of both. The performance metrics used for relative performance evaluation include stock returns, return on equity, earnings growth, earnings, and sales growth. See Gong, Li, and Shin (2011) for more details. This study uses bonus and awards interchangeably.

[6] Specifically, about 63% of S&P 1500 firms report well-defined compensation peers from 2006 through 2010. Of them, about 15% also report bonus peers. Please refer to Section 3 for more details on sample construction.

[7] Specifically, some firms seem to use compensation peers for both setting compensation and deciding performance-based rewards, but not reporting the use of bonus peers. For example, in Allegheny Technologies Inc.'s 2010 proxy statement, its compensation committee stated that "the