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A comparison of CEO pay–performance sensitivity in privately-held and public firms*



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ABSTRACT

In this paper we study CEO contract design employing a unique dataset on privately-held and public firm CEO annual compensation over the period 1999–2011. We first show that CEOs in public firms are paid 30% more than CEOs in comparable privately-held firms. We further show that both private and public firm CEO pays are positively and significantly related to firm accounting performance, and that the pay-performance link is much weaker in privately-held firms. We then show that the above findings are robust to accounting for firms' self-selection into being privately-held, and a number of important differences between privately-held and public firms, including CEO ownership, employee stock ownership, stock liquidity, discipline from the takeover market, and the availability of different performance measures. Overall, our results support the view that concentrated ownership substitutes for CEO performance-based compensation contracts.

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1. Introduction

Chief Executive Officer (CEO) contract design plays a number of important roles, including acting as a sorting mechanism, and providing incentives for effort and the retention of human capital. Despite a large literature examining CEO pay in U.S. public firms starting with the seminal works by Banker and Datar (1989), Harris and Raviv (1979), Holmström (1979), Jensen and Murphy (1990), Lambert and Larcker (1987), Murphy (1985), Ross (1973) and Sloan (1993), there is very little evidence regarding pay in large private companies in the U.S. The lack of information on CEO pay in privately-held firms makes it difficult to fully understand how CEO compensation contracts are structured, given that these firms play such an important role in the economy.

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In this paper, we fill a gap in the literature by conducting one of the first large-sample studies of CEO contract design in large privately-held U.S. firms.

Our data, which provides detailed information on CEO annual compensation in a large number of privately-held firms in the U.S., is based on the following (relatively unknown) mandatory disclosure requirements by the Securities and Exchange Commission (SEC). First, a private firm must file an Exchange Act registration statement if it has more than \$10 million in total assets and a class of equity securities, like common stock, with 500 or more shareholders.³ After that, it is required to continue reporting via annual and quarterly reports (Form 10-K, which contains information on executive compensation, and Form 10-Q, respectively), and proxy statements (which may also contain information on executive compensation).⁴ Second, if a company decides on a registered public offering, the Securities Act requires it to file a registration statement (Form S-1) with the SEC that contains information on executive compensation. Data for a vast majority (about 90%) of the private firm-year observations in our sample comes from Form 10-K; the remainder comes from Form S-1 due to public debt issuance.

We acknowledge that our sample of privately-held firms is probably not representative of the vast number of small entrepreneurial firms in the economy. Compared to an average privately-held firm in the economy, our sample firms are likely to be more economically important with more diffused ownership structure due to the disclosure requirements for privately-held firms as discussed above.⁵ These differences actually make our sample of privately-held firms more comparable to public firms (than to small entrepreneurial firms), and thus work against us finding any significant difference between these two groups of firms. In other words, the differences in CEO contract design would likely be even bigger had we compared a "representative" sample of privately-held firms to public firms. Nonetheless, the reader should bear in mind sample selection imposed on us by the SEC disclosure requirements when deciding how our findings might be generalized.

Using a large sample of privately-held and public firms over the period 1999–2011, we first show that CEOs in public firms are paid 30% more than CEOs in comparable privately-held firms. We further show that both private and public firm CEO pays are positively and significantly related to firm accounting performance, and that the pay-performance link is much stronger in public firms. These findings remain after accounting for the role of CEO ownership in providing incentives and employee stock ownership and are robust to different accounting performance measures.

In addition to their differences in ownership structure, privately-held and public firms also differ in many other dimensions, for example, stock liquidity, threats from the market for corporate control, the availability of different performance measures, and CEO job responsibilities. However, as detailed in Section 5.2, none of these differences can explain our finding of weaker CEO pay-performance sensitivity in privately-held firms than in public firms.

We employ three different approaches to addressing self-selection concerns that companies may choose to go public or stay privately-held: using a sample of transitioning firms going through initial public offerings (IPOs) to become publicly listed, implementing propensity score matching based on observable firm and CEO characteristics, and running the two-stage least squares regression (2SLS) with an instrumental variable (IV). In all cases, we still find that privately-held firms exhibit weaker CEO pay-performance sensitivity than do public firms. Overall, our results are generally consistent with the view that concentrated ownership structure substitutes for performance-based CEO compensation contracts.

Our paper contributes to the CEO compensation literature along the following dimensions. First, by taking advantage of a unique dataset of CEO compensation in privately-held firms, we are able to speak to big-picture questions of CEO contract design in relation to corporate ownership structure, which is the real distinction of our paper from others.

Second, despite the fact that over 70% of U.S. firms with more than 500 employees are privately-held, and that private firms account for over 60% of U.S. production (Farre-Mensa (2014)), little is known about how privately-held firms compensate their CEOs due to data limitations. Our paper is the first to shed light on the level and structure of CEO pay in large U.S. privately-held firms.

Finally, in using privately-held firms, we join a recent surge of papers using data on these private firms to draw new insights into public firm behavior (see, for example, Cronqvist and Fahlenbrach (2013), Michaely and Roberts (2012), and Gao et al. (2013, forthcoming)).

Using a sample of 45 privately-held and 18 publicly-held insurers, Ke et al. (1999) show that there is a stronger association between ROA and the level of compensation for publicly-held insurers than for privately-held insurers. Our paper differs in a number of ways. First, our sample of privately-held firms covers a wide spectrum of industries (not limited to one highly-regulated industry—the insurance industry—as they do), which enables us to generalize our findings. Second, the inability of privately-held insurance companies to use equity-based pay limits their analysis and could possibly lead them to underestimate the CEO pay-performance sensitivity. As we show later in our paper, even in privately-held firms, equity-based pay is a nontrivial part of overall CEO compensation. Finally, our richer dataset on privately-held firms allows us to address self-selection issues associated with a firm's listing status, and thus providing a better identification of the effect of being privately-held on CEO performance-based pay. Using a sample of 144 IPO firms previously owned by private equity (PE) investors, Leslie and Oyer (2009) find that PE-owned firms provide higher managerial incentives to their top management: CEOs have almost twice as

³ Privately-held firms can be incorporated as either S corporations or C corporations. Given that S corporations are restricted to having no more than 100 shareholders (http://taxes.about.com/od/scorporations/qt/scorp_criteria.htm), almost all privately-held firms in our sample are C corporations.

⁴ Filing obligations are suspended when the following "thresholds" are satisfied: The firm has fewer than 300 shareholders of the class of securities offered, or it has fewer than 500 shareholders of the class of securities offered and less than \$10 million in total assets for each of its last three fiscal years.

⁵ For example, in our sample, the median sales of private firms are \$160 million compared to \$200 million for public firms. Provided from the following sample in our sample.

⁵ For example, in our sample, the median sales of private firms are \$168 million compared to \$288 million for public firms. By way of comparison, Cole and Mehran (2013) report median revenues of \$1.9 million in 2003 for their sample of private firms drawn from the SSBF data.

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