CEO Contract Horizons around IPOs

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Abstract

This study examines the effect of managerial time horizon, measured by the type and time remaining until the end of CEO employment contracts on CEO outcomes and IPO performance. We find that fixed-term contracts have higher probability of turnover, while at-will agreements are less sensitive to CEO turnover. Firms with no employment agreements are positively associated with underpricing. We also document that firms run by fixed-term CEOs exhibit lower R&D and firm performance. On the other hand, firms led by CEOs with at-will agreements tend to increase investment through R&D and capital expenditures, and are associated with lower volatility. Our results indicate that fixed-term contracts have lower survival rates, while at-will agreements have higher post-IPO performance.

1. Introduction

The role of top executives employment agreements is a very controversial subject. It has attracted the attention of the media, practitioners and academia (e.g., Gillan et al., 2009; Zhao, 2013; Cadman and Sunder, 2014; Gillan and Nguyen, 2016; Gonzalez-Uribe and Groen-Xu, 2017; Cziraki and Groen-Xu, 2019). Previous studies indicate that Chief Executive Officers (CEOs) with short-term horizon are more conservative and less prone to engage in long-term investments. On the other hand, managers with long horizon are more risk-lovers and prefer to initiate projects that might bring economic growth to the firms they work on as well as development and progress to their careers (Finkelstein and Hambrick, 1996; Sanders, 2001; Matta and Beamish, 2008; Naranjo-Gil et al., 2009; Li et al., 2017).

In response to the above findings, a number of theories have been proposed for the effectiveness of CEO employment agreements. One perspective draws from the value-enhancing theory and supports that employment agreements can protect managers from a dismissal, help to mitigate managerial risk aversion, and motivate them to make risky value-enhancing investments with the ultimate goal of increasing the firm value (Almazan and Suarez, 2003; Gillan et al., 2009; Song and Wan, 2017). According to this view, employment agreements reflect the firms' future prospect and the demands of a position that requires skills, knowledge, and high prospects. Klein et al. (1978) suggest that a contractual agreement is used to induce managers to make firm-specific human capital investments that are vulnerable to opportunistic behavior.

On the other hand, value-destroying view states that employment agreements reflect CEO power and weak governance which may lead to agency problems (e.g., Bebchuk and Fried, 2004; Kuhnen and Zwiebel, 2009). In line with this perspective, Masulis et al. (2007) suggest that top managers may undertake value-destroying decisions to reap personal benefits at shareholder expense. In addition, Muscarella and Zhao (2011) document that CEOs of affected firms from the adoption of anti-takeover laws, prefer a quiet life and avoid engaging in risky investments. Furthermore, numerous studies indicate that managers are interested more about their personal outcomes, that is their survival into the firms, than for the firm survival (Fudenberg and Tirole, 1995; DeFond and Park, 1997).

The research on CEO employment agreements has primarily focused on large, established firms (Gillan and Nguyen, 2016; Gonzalez-Uribe and Groen-Xu, 2017), giving far less attention to small, young, fast growing firms such as those conducting an Initial Public Offering (IPO). A detailed examination of the empirical implications of CEO employment agreements on the pricing of firms going public is jusified as: (1) they do not have established track records and suffer from a "liability of newness" (Çolak et al., 2017); (2) IPOs consist an important landmark for private firms because their

success largely determines the amount of cash raised, and consequently influences the ability of a company with limited resources to increase its growth and consolidate its competitive advantage (Kenney et al., 2012); and (3) IPOs are also important for the aggregate economy given their role in job creation and sustainable growth (Black and Gilson, 1998; Doidge et al., 2013).

In this study, we endeavor to contribute to this literature by formulating the following questions. Ho do EAs affect the CEO outcomes? Do contracts protect CEOs from dismissal? Should the employment agreements be viewed as a reflection of ability and talent or as the outcome of managerial power? Are the future prospects of IPO firms contingent on the manager's employment agreement? Finally, do EAs help to mitigate agency problems and enhance firm value?

To answer these questions, we initially explore how the different types of contracts can affect CEO outcomes, in terms of compensation and their survival into the firm. Because a fixed-term contract may expire after the issue date, it may be the case that a firm hires a CEO with only reason to complete a task. Therefore, we expect that CEOs with fixed-term contract will have greater turnover rate. In addition, we examine how the EAs as well as the process of going public affect the post-IPO remuneration packages for the top managers. Last, we investigate if and how the contractual agreements between the firm and CEO can impact firms' investment strategies, value, and finally, its survival.

Using a unique hand collected dataset of US IPO firms from 2000 to 2014, we initially find that CEOs with fixed-term contracts have lower retention rates, while CEOs with at-will contracts have lower probability of turnover. In economic terms, the CEO turnover rate of firms with at-will managers is 76% of the CEO turnover rate of firms without at-will managers. Furthermore, we document that post-IPO compensation is greater than pre-IPO, and this is mainly due to the equity compensation (stock and option awards). Interestingly, CEOs with at-will agreements have a greater increase in their compensation compared to those with fixed-term contracts.

Consistent with the view that employment agreements constitute a signal for the firms' prospects, we demonstrate that both types of contracts are negatively associated with underpricing but not significantly. Our results suggest also that firms without employment agreements are associated with higher IPO underpricing. In particular, the average underpricing for IPO firms with non-employment agreements increases by 7.19%. Further, we find a strong and positive association between fixed-term CEOs and returns volatility, which is line with the idea that newly listed firms prefer to hire CEOs only to complete their issue.

To gain more insight into the issue of risk, we examine the possible sources that could drive the association between contractual agreements and volatility. Our findings regarding the at-will CEOs support the value-enhancing view, and specifically, they indicate that, that at-will CEOs are

positively related to CAPEX and R&D. To get a sense of economic magnitude: the average R&D investment for firms with at-will CEOs increases by 3%. On the other hand, we document a negative association between fixed-term contracts and risky investments.

In our last set of exploratory tests, we examine the impact that employment agreements might play in the aftermarket. Consistent with the notion that at-will CEOs adopt risky investments, we also find that this type of agreements is positively related to post-IPO operating performance. Survival analysis also shows that the risk of delisting due to negative reasons of IPO issuers with a fixed-term contract is 84% higher of the delisting risk of firms without a fixed-term contract. We also uncover a number of interesting cross-sectional variations in the effects of contractual agreements on future firm performance. We investigate whether the effect of EAs should vary with the CEO career concerns and the corporate governance quality. We suggest that the positive at-will EAs- firm performance link is more pronounced in firms with high governance quality and of those with overconfident CEOs and more career concerns.

Our paper contributes to the literature in several ways. This is the first study to examine the impact of employment agreements on IPOs firm investment decisions as well as on short- and long-term performance. In particular, we provide evidence that managers with at-will agreements are associated with higher investments and firm performance. Recent works have explored the effect of contractual agreements on CEO turnover and firm volatility (Cziraki and Groen-Xu, 2019), CEO compensation (Song and Wan, 2017), innovation (Gonzalez-Uribe and Groen-Xu, 2017), cost of debt (Mansi et al., 2016), and acquisition decisions (Zhao, 2013). Despite the literature on employment agreements, empirical studies which examine the effect of contractual agreements on newly listed firms are scant. The only exception is Cadman and Sunder (2014) who examine the association between shareholder investment horizon and CEO horizon incentives.

Second, our work adds to the literature on CEO turnover by introducing a measure of CEO change that improves the precision of turnover models. Our results strengthen the notion that CEOs with short horizon are risk averse, and suggest that CEO career concerns are important determinants. Prior literature have mainly explored the effect of CEO turnover on firm performance (Murphy and Zimmerman, 1993; Bhagat et al., 2010), corporate governance (Weisbach, 1988; Fisman et al., 2015; Jenter and Kanaan, 2015; Jenter and Lewellen, 2015), corporate acquisitions (De Cesari et al., 2016), risk (Bushman et al., 2010), and equity volatility (Clayton et al., 2005). We also contribute to the broad literature on the effect of CEO incentives, which, so far, has primarily focused on compensation incentives (Lowry and Murphy, 2007; Chahine and Goergen, 2011), pay disparity (Kale et al., 2009; Bebchuk et al., 2011; Kini and Williams, 2012), and delta and vega (Brockman et al., 2010).

We further contribute to the IPO literature by demonstrating how employment agreements can provide incentives to the top managers and by indicating the long-run effects of each contract. Finally, our study enriches the empirical literature on CEO employment agreements by showing that CEO career concerns and corporate governance quality can strengthen the impact of at-will agreements on firm performance. Our results are relevant to founders' and top executives, because it indicates that, the effectiveness of employment contracts do not only affect firms' risk policies but should also affect its future performance and longevity.

Our study is most closely related to the work of Almazan and Suarez (2003), Gillan et al. (2009), Rau and Xu (2012), Zhao (2013), Cadman and Sunder (2014), Brown et al. (2015), Goldman and Huang (2015), Mansi et al. (2016), Son and Wan (2017), Gonzalez-Uribe and Groen-Xu, (2017), and Cziraki and Groen-Xu (2019). Gillan et al. (2009) examine the whether the association between a company and its top manager is ruled by a written or an implicit agreement. Building on this study, we suggest that not only written agreements exist but also reflect career incentives by documenting effects on CEO outcomes. Cadman and Sunder (2014) investigate the relation between shareholder investment horizons and compensation contracts that influence CEOs horizon incentives. We update and complement their work by using a comprehensive sample of IPO companies and by examining the impact of contracts not only on CEO compensation but also on CEO turnover and both short- and long-term firm performance. Finally, our study expands and complements the work of Gonzalez-Uribe and Groen-Xu, (2017), and Cziraki and Groen-Xu (2019) by examining the employment agreements on an IPO setting.

The rest of the study is organized as follows. Section 2 presents the background and the hypothesis development. Section 3 described the sample selection procedure. Section 4 and 5 present preliminary statistics and the empirical findings of the effectiveness of employment agreements on firm risk and performance. Section 6 reports results from endogeneity tests. Sections 7 analyses the impact of contracts across CEO career concerns and corporate governance. Section 8 concludes the paper.

2. Prior Research on Employment Agreements (EA) and Hypotheses Development

2.1 Contractual Agreements and CEO Turnover

It is more costly for a firm to dismiss a CEO with employment agreement protection, and hence the CEO will be better protected from short-term performance swing and job security threat, compared to CEOs without contractual protection. For example, Xu (2010) finds that the existence of CEO contractual agreements reduces the likelihood of CEO turnover, and Rustics (2006) suggests that the use of equity-based severance pay for CEOs is negatively associated with the likelihood of CEO

turnover after poor performance. Another strand of literature (e.g., Dikolli et al., 2009; Mergenthaler et al., 2012) suggest that failing meets earnings targets significantly increases the likelihood of CEO turnover. Moreover, long horizon employment agreements with high severance payments discourage the company from replacing the manager with a marginally better candidate early on and therefore create commitment. This commitment in turn changes the CEO's incentives. These effects of fixed-term contracts on CEO compensation and incentives are presented independently of the specific reasons for CEO dismissals.

2.2 Value-Enhancing Perspective

Employment contracts can ensure managers their expected payoff even if a bad state occurs ex post (e.g., project failure and job replacement) and motivate managers to take risky-value enhancing action they might otherwise avoid (Almazan and Suarez, 2003; Ju et al., 2004). From the firm's perspective, EA allows the firm to attract CEO candidates who otherwise would not consider the position. A short-time horizon implies that its holder prefers payoffs that materialize soon. When uncertainty about the quality of a project only resolves after a longer period of time, potential rewards can come too late to motivate the short-term oriented executive. This can reduce the incentives to invest into long-term projects.

For instance, Manso (2011) finds that CEO employment agreements stimulate innovation by enhancing for early failure and reward for long-term success. Stein (1988, 1989) suggests that if managers have more information than the market about the prospects of the firm's long-term prospects, then temporarily the low earnings may lead to underprice firm's stock, and a takeover on the cheap. Gonzalez-Uribe and Groen-Xu (2018) find that long-horizon CEOs increase long-term investments such as R&D expenses and capital expenditures, while Cziraki and Groen-Xu (2019) notice that employment agreements should encourage managers to engage in risky projects. Therefore, since employment contracts protect CEOs in the event of takeovers and dismissals, they may improve CEO incentives for long-term, risky and positive NPV projects.

In addition, in the signal jamming model of Stein (1989), CEOs facing a turnover threat want to boost their current performance. They forgo long-term investments to avoid spending earnings that can serve to signal quality instead. In contract, CEOs with a long horizon do not have an incentive to send signals, and therefore should not underinvest. Based on the findings of Antia et al. (2010), we argue that CEOs with short horizons may cut investment because they do not have an incentive to exert effort when rewards will not arrive before their horizons ends. In addition to that, Cadman and Sunder (2014) document that long-horizon CEOs are related to higher long-run performance. Thus,

we expect that executives with short-horizon incentives take actions that benefit the firm in the short-run at the potential cost of long-term performance.

On the other hand, an executive with a short horizon has little incentive to exert the effort necessary for starting a long-term project. Specifically, he also has little incentive to exert effort to work on the long-term project, even if started. In addition, lower-rank executives may have to reverse decision under new leadership. However, managers concerned about losing control or job replacement have incentives to sacrifice long-term value-increasing projects to boost earnings. Under the pressure to deliver short-term performance and to protect their personal benefits, these CEOs (with short-contracts) are more likely to engage in myopic behavior, provided that the board and/or investors cannot fully understand the implications of such behavior (e.g., Fundenberg and Tirole, 1995; DeFond and Park, 1997). Furthermore, the threat of dismissal of a top executive without an employment agreement can lead to agency problems, such as increasing the magnitude of the myopia engaging in suboptimal behavior in order to deliver short-term performance (Yermack, 2006; Rustics, 2006; Rau and Xu, 2010). Therefore, given a short CEO horizon, it can be optimal for the firm to not invest (under-invest) into NPV-positive projects.[2]

2.3 Value-Destroying Perspective

While an employment agreement may enhance shareholder value by alleviating managerial risk aversion, some could argue that EA reflects manager entrenchment and low corporate governance quality (e.g., Bebchuk and Fried, 2004; Kuhnen and Zwiebel, 2009). For example, Bertrand and Mullainathan (2003) and Atanassov (2013) suggest that after the anti-takeovers law enforcement, CEOs of affected corporations prefer a quiet life and avoid making risky investments. In addition to that, Cannella and Shen (2001) find that powerful managers who are isolated from the stock market avoid costly efforts and risky decisions. Muscarella and Zhao (2015) document that managers with severance pay agreements have lower investments and innovation, and all the above lead to shareholder value destruction.

This managerial power effect of CEO employment agreements can have large impacts on newly listed firms. Prior literature suggests that CEOs may undertake value-destroying decisions to reap personal benefits at shareholder expense. Masulis et al. (2007) find lower announcement returns for acquirers with more anti-takeover provisions, implying that powerful managers tend to make value-decreasing mergers and acquisitions. Moreover, managers are more likely to engage in myopic

[2] Prior literature suggests that top managers minimize the adoption of risky strategies (Barker and Mueller, 2002; Matta and Beamish, 2008) as their career horizons shorten.

behavior when they are under pressure to have a high short-term performance (e.g., success of an IPO) and prefer to protect themselves from negative outcomes (e.g., Fudenberg and Tirole, 1995; DeFond and Park, 1997). Therefore, the alternative view is that employment agreements may create agency problems.

3. Sample Selection Procedure

Our sample selection starts with retrieving all the initial public offerings (IPOs) between 2000 and 2014 from the Thomson One Banker database. Following prior literature, we eliminate financial institutions, American Depository Receipts (ADRs), closed-end funds, unit offers, and any other non-common stock type of shares. In addition, we eliminate any IPOs with offer price below $5.00. We obtain IPO background and issuance information from the Thomson ONE Banker, including the issue data, offer price, total proceeds raised, whether the firm is backed by venture capital and the bookrunners. For underwriter prestige ranking, the study employs Jay Ritter's updated measures of underwriter quality. Accounting data are retrieved from the Compustat database, and public trading prices are from the Center for Research and Security Prices (CRSP).

Data regarding the executive compensation (e.g. salary, bonus, restricted stock, options, non-equity incentive plans, and total compensation) and contracts of the named executive officers (NEOs) of IPOs are carefully hand collected from firm prospectuses (S-1, 424, and DEF-14A) on Securities and Exchange Commission (SEC)'s EDGAR. Also, we use the IPO prospectuses to construct the biographical profiles of CEOs (e.g., CEO duality, tenure) and for information about their work experience we use the BoardEx database. Also, we manually collect data on executive compensation for the post-IPO year from the DEF-14A file. After merging the data from the above databases and eliminating observation with missing values, our final sample consists of 1,488 IPO firms.

3.1 Information on Type of Employment Agreements

The contracts are comprehensive written agreements that specify employment terms — including the CEO's responsibilities, compensation, perquisites, termination conditions, and payments — as well as restriction on outside activities. A typical fixed-term CEO contract has a fixed length of from one to five years and can be renewed, amended, or extended. In the US, employment can be also at-will. Under at-will employment, both the employer and the employee can terminate the relationship for "good cause, for no cause, or even for cause morally wrong, without being thereby guilty of legal wrong". In other words, at-will employment can be terminated at any time.

Therefore, we create three variables to capture major features of CEO agreements: The presence of a fixed-term employment agreement, contract duration, and at-will agreement. The fixed-

term employment agreement is a binary variable taking the value of one if the CEO has a comprehensive employment agreement for the compensation year, and zero otherwise. The duration is the duration of the employment agreement in the compensation year. It measures the length of protection remaining on the contractual agreement. For CEOs who have at-will agreements, the contract duration is set to be 0.1. In addition, we create a variable to measure the continuity of the CEO contract (Renewable). Renewable is a binary variable taking the value of one if the contract automatically renews unless a prior notice is given, and zero otherwise.

Appendix B illustrates three examples of CEO employment contracts from our sample firms. For example, the employment agreement between Home Diagnostics Inc and Mr J. Richard Damron states that "*We entered into an employment agreement with J. Richard Damron, Jr., our President and Chief Executive Officer, as of January 1, 2006. Mr. Damron's employment agreement expires on December 31, 2008, and provides for an annual base salary of $500,000, which may be increased by our board of directors from time to time*". The second contract in the appendix represents a renewable contract. The employment agreement between Osiris Therapeutics Inc and Randa Mills, argues that " *Dr. Mills' employment agreement, the agreement renews automatically each May 15 for successive one-year terms."* Another example is Mr Peter Thompson at-will agreement with Trubion Pharmaceuticals Inc.

4. Empirical Results

4.1 Descriptive Statistics

Table 1 presents the distributional statistics for the pre- and post-IPO compensation, IPOs activity, and the number of fixed-term and at-will employment agreements. Panel A displays the distribution by year, while Panel B reports the cross-industry variability of the above variables. Despite the substantial yearly fluctuations, both pre- and post-IPO compensation have an increasing trend. The highest average values of pre- and post-IPO CEO remuneration are in 2011 and 2013, respectively, while for both measures the lowest values are in 2000. With respect to the number of contracts, they follow almost the similar pattern with the yearly distribution of the number of IPOs. Panel A illustrates that the majority of the IPO firms prefer to have at-will employment agreements compared to the fixed-term contracts. From 2000 to 2010, fixed-term contractual agreements account more compared to "at-will, however, this trend changes after 2011.

Panel B of Table 1 displays the distribution of IPO firms by two-digit SIC code industry and demonstrates the highest compensation packages in entertainment services and the lowest in scientific instruments and electronic equipment sectors (less than $1 million). The computer equipment and service sector has the highest representation of IPO firms, while food products and entertainment

services sectors have the lowest number of IPO issuers. Regarding the number of employment agreements, they follow the same trend as the IPOs activity and at-will agreements account more in comparison with the fixed-term in the most of the sectors.

Table 2 provides descriptive statistics for our overall IPO sample and the sub-samples of IPO firms with and without employment agreements. Panel A presents the descriptive statistics of CEO horizon characteristics. Inconsistent with Gillan et al. (2009) and Gillan and Nguyen (2016), we document that the 26% of the CEOs have fixed-term contracts with average duration of three years, while only the one third of them is renewable. The 28% of the CEOs have at-will employment agreements and approximately 10% of the IPO firms does not have contractual agreements with their CEOs. Finally, the one fourth of the companies does not provide any information about their employment agreements.

Panel B of Table 2 displays descriptive statistics on CEO characteristics. The typical CEO serves for around three and a half years and is 50 years old. Approximately the one third of the CEOs is also firm founders, while less than 50% are also the chairperson. Furthermore, it seems that firms prefer to hire CEOs with general managerial skills (60%) and foreign experience (34%). In terms of their education, only 4% of them hold a professional degree (e.g., ACCA, CFA), 12% has an MBA and 30% obtained a PhD. Finally, firms probably prefer to hire CEOs to complete their IPO, as approximately 40% of the CEOs leave the next five years after the issue date.

The differences of the most of CEO characteristics across the groups with and without contracts are not statistically significant. A noticeable difference is the CEOs who are also the chairperson have employment agreements, which is in line with Xu (2011). By contrast, consistent with Zhao (2013) CEOs-founder do not have either fixed-term or at-will employment agreements. Also, the CEO turnover rate is greater for top managers with fixed-term contracts compared to their counterparts with at-will agreements

Panel C of Table 2 reports the firm and IPO characteristics for the overall sample and the sub-samples of firms with and without employment agreements. The average age of IPO firms is around 15 years and around half of them have positive earnings. More than two thirds have independent members and the average underpricing is 21%. Around half of IPOs are venture packed, audited by the Big 4 accounting firms and 39% are underwritten by top-tier investment banks. Furthermore, 37% of firms are in a high-tech sector and 10% are labeled as internet firms. Finally, tracking for five years after the issue date, 23% were acquired, and 7% were failed (i.e., dropped).

The types of employment agreements differ considerably from one another in terms of firm age, EPS, board governance quality, VC, underwriter, technology firms, and the dropped firms. In particular, old firms tend to have fixed-term CEOs, while firms with positive earnings prefer at-will

CEOs. Also, the percentage of venture-backed and technology firms and of those with high governance quality and prestigious underwriters are significantly higher for the sample of IPOs with at-will CEOs. In contrast, the most of dropped firms led by fixed-term CEOs and this finding provide preliminary support to our hypothesis.

4.2 Different Types of Employment Agreements as Part of Contract Negotiation

In negotiations between the CEO and the firm, the ability to offer a fixed-term contract or an at-will agreement can affect the trade-off between career concerns and compensation. Risk-averse managers are likely to value the insurance provided by longer contracts more than risk neutral firms. As Gibbons and Murphy (1992) show theoretically, the optimal contract maximizes the sum of the implicit incentives from career concerns and the explicit incentives from compensation. Thus, a longer contract may make the manager willing to forgo other compensation, or accept a risky position to begin with. For a risk-neutral firm, a sum equal to a multiple of annual CEO compensation is less relevant, although not trivial (Kuhnen and Niessen, 2012). Thus, from the firm's perspective, longer contracts can provide benefits in addition to any incentive effects, which may further offset the cost of having longer, less flexible contracts. One possible prediction is therefore that CEOs with fixed-term contracts receive lower incentive pay, than CEOs employed at-will.

Ultimately, it is difficult to use our sample to test whether contracts are optimal since we do not observe the counterfactual: compensation for a CEO with long contract may be lower than with a short contract, but may still be high compared to similar-looking firms. Longer contracts may coincide with high compensation because those firms had difficulty attracting CEOs (e.g., such as distressed firms), and thus had to offer more compensation as well as longer contracts. Because top executives labor markets are matching markets (Gabaix and Landier, 2008; Tervio, 2008; Gayle et al., 2015), it is also possible that unobservable traits such as the perceived match quality between the firm and the CEO dominate the effect of compensation. Gibbons and Murphy (1992) argue that CEOs with a short horizon have less motivation because their performance has little chance of affecting future compensation. Dahiya and Yermack (2008) find that long-term incentive pay often vests upon termination. A high probability of termination, thus reduces the motivating effect of long-term incentive and future compensation.

To examine the trade-off between contract length and compensation, in Panel A and B of Table 3 we present the statistics of compensation components by contract type. Generally, the pre-IPO incentive pay of fixed-term and at-will CEOs is not significantly different. Consistent with prior research (Gillan, et al., 2009; Song and Wan, 2017; Gonzalez-Uribe and Groen-Xu, 2017), we find that incentive and cash compensation is greater for CEOs with fixed term compensation. This pattern

is similar for pre-IPO total CEO compensation but not statistically significant. With respect to the post-IPO compensation by contract type the trend is the opposite. Specifically, total CEO remuneration is greater for at-will CEOs and this is mainly due to stock awards compensation.

We next regress measures of compensation on indicators for fixed-term and at-will contracts, as well as several CEO and firm characteristics, year and industry fixed effects. Panel C and D show that the cash compensation of CEOs with fixed-term contract is higher compared to the at-will CEOs. This pattern is similar for total remuneration. The economic effect is significant: the coefficient of 0.18 suggests that CEOs with fixed-term contracts receive, on average, 19.72% higher than the total compensation of CEOs without a fixed-term contract, which translates into $305,155 (i.e., 19.72% $*$ $1,547,438). On the other hand, at-will CEOs receive more of their pay in the form of incentive compensation and they are also better remunerated after the IPO compared to the pre-IPO year. Taken together, the above results are in line with the notion that fixed-term managers are more risk-averse.

4.3 Contracts and Career Outcomes-CEO Turnover-CEO Outcomes

The probability that the CEO leaves the executive labor market after the issue of her leading firm is an important driver of her expected personal costs of IPO. To examine this issue, in this section we initially provide turnover statistics and estimate the determinants of CEO turnover, including the role played by different type of employment agreements.

4.3.1 Life of CEOs after IPO

We record information on CEO turnover and appointments, relying on SEC filings and, from Boardex database. To assess their professional activities after IPO, we explore the follow up appointments schedules. Panel A of Table 4 reports the CEO turnover rate for five years after the issue date for managers with fixed-term and at-will agreements. The most of the CEO departures occur in the second and third year for both types of contracts. The turnover rate is slightly greater for fixed-term CEOs. Regarding the proportion of CEO departures three years after the issue date only the 5% of the firms decided to change CEO and a plausible explanation is that more than one-third of the firms are led by CEO-founders (see Panel B of Table 2).

More than 95% of the managers remain in the same firms one year after the IPO and any of them with more responsibilities. Specifically, around 30% of the CEOs are also President and 10% is the CEO triality (CEO, Chairman, and President). Less than 3% of our sample does not hold non-executive positions. Such individuals may therefore be used by other or the same organizations as

non-executive directors providing valuable advice (consultants), involve in policy making and planning exercises.

4.3.2 How Do CEOs Contract Matter for CEO Turnover?

A key assumption underlying our main argument is that employment agreements protect CEOs from short-term performance swing and reduce the likelihood of dismissal. While prior research provides supportive evidence, in this section, we explicitly test this assumption by investigating whether CEO contractual protection reduces CEO turnover-performance sensitivity in our sample. For this purpose, we examine the effect of contractual agreement and its type on the likelihood of CEO turnover in the five years after the issue date by following prior CEO turnover studies (see for example Parrino, 1997; Denis et al., 1997; DeFond and Park, 1999; Jenter and Kanaan, 2015; Cziraki and Groen-Xu, 2019) and use the Cox (1972) proportional hazard model:

$$h(t) = h_0(t)[\beta_1 Type\ of\ Contract._{i,t} + \beta_2 Control\ Variables_i + Fixed\ Effects] \quad (1)$$

where $h_0(t)$ is the baseline hazard function, and t is the time to turnover. The dependent variable is a dummy variable that indicates the CEO turnover (i.e., whether the firm changes CEO within 5 years after the IPO). The type of contracts variables are fixed-term and at-will agreements. Fixed-term contract is a dummy variable equal to one if the firm has entered into a contract with the CEO, and zero otherwise. At-will agreement is a dummy variable equal to one if the firm or the employee can terminate the relationship at any time and for any cause, and zero otherwise.

Panel C of Table 4 presents the results of the impact of CEO contract types on the probability of CEO turnover using Cox proportional hazards model after controlling for various CEO and firm characteristics that may influence the CEO change. The probability of CEO change is positively associated with fixed-term CEOs, while at-will CEOs are less likely to be replaced. This finding supports the argument that CEO protection in the form of at-will employment agreement can protect managers from short layoff. The hazard ratio of 0.763 (exp(-0.27)) suggests that the CEO turnover rate of firms with at-will managers is 76.3% lower of the CEO turnover rate of firms without at-will managers. We also find that firms with no agreements have higher turnover rates.

A plausible explanation for our results is the following. The average duration of a fixed-term contract in our sample is three years and only the one third of them is renewable agreements. We should also consider that around 30% of the firms are led by CEO-founders. Take all the above into account, we expect that the majority of the firms hire the CEO only to issue their firms and for a small transitional period (i.e. one-two years) after the IPO.

With respect to the results about the remaining control variables, the most noticeable results are those about compensation, founder, powerful CEOs and decision horizon. In particular, our findings suggest that managers with generous remunerated packages are less likely to be replaced. Additionally, we expect that founder-CEOs long-term interests are closely tied to their firms' future prospects and find that these types of firms are less likely to replace them during the next five years after the issue date. Also, compared to non-entrenched CEOs, entrenched CEOs are positively associated with CEO turnover. Finally, our results document that CEOS with great career concerns have lower retention rates. Among the firm characteristics, turnover decreases in firms with high board independence and prestigious underwriters, while the significance of firm age, suggests that the probability of turnover increases for mature firms.

4.3.3 Endogeneity Concerns

One main concern is potential endogeneity of CEO turnover and the choice of contract type and length. For instance, firms which interested only about the completion of IPO may choose shorter contracts to take advantage of their flexibility. Thus, we use two alternative approaches to address this potential endogeneity issue. First, we employ the two-stage Heckman model (Heckman, 1979). Particularly, in the first-stage we use probit models for the likelihood of a given IPO firms having a different type of contract (e.g., fixed-term, at-will, renewable, no agreement, no information). In the second stage of our selection model, the Inverse Mills Ratio (IMR) from each model is included in the basic Cox model.

To further address the issue of endogeneity and self-selection bias associated with our contract variables, we use the propensity score matching (PSM) procedure to compare the impact of several types of contracts on CEO turnover. We measure the propensity score, which the conditional probability of receiving a treatment (having a fixed-term contract/at-will) given a firm's pre-treatment characteristics, for all the firms by using a probit regression for the probability of companies having a contract with the manager. In our models, we include the same control variables as in our baseline regression. Table 5 presents the results for the Heckman Two-Step model and PSM. The results are consistent with our prior findings, and as a result, our estimation using ordinary least squares will not result in biased coefficient estimates.

5. Types of Contractual Agreements, Investments, and IPO Success

5.1 The Effect of Employment Agreements on IPO Underpricing

There are two contrasting views over the strategies of top executive managers around IPOs. The first view, states that employment agreement between the firm and the CEO, make it easier for

investors to forecast a firm's cash flows, thereby decreasing the cost of capital. In this regard, they will sign employment agreements with their CEOs to convey private information to the market to signal the firm's future prospects. The opposite view supports that IPOs constitute an important milestone for private firms because their success specifies the money raised, and as a result influences the ability of a company with few resources to propel its growth (Kenney et al., 2012; Borisov et al., 2017). Therefore, this uncertainty increases the option value of waiting, making thus firms more cautious in their investment behavior and undermining their growth prospects. We examine the effect of contractual and non-contractual agreements on initial returns by using the following multivariate model:

$$Underpricing_i = a + \beta_1 Type\ of\ Contract_i + \beta_2 Control\ Variables_i + Fixed\ Effects + \varepsilon_\iota \qquad (2)$$

where underpricing, is estimated as the percentage difference between the offer price and the closing price of the first trading day.

Table 6 provides the results about the impact of various types of employment agreement on IPO underpricing. Consistent with the notion that, CEO contracts are being used by the firms as an indicator of firm's future prospects, Columns (1) to (3) report that the coefficients for the fixed-term, and renewable agreements are negative but not significant. This means that firms with fixed-term contracts have lower underpricing. In Column (5), we find that firms without employment agreements are associated with higher IPO first-day returns (at the 5% level), which is consistent with the idea that no agreements lead to information asymmetry which created the problems of adverse selection, and as a consequence, lead to higher underpricing. The effect is of high economic significance: the average IPO underpricing for firms with non-employment agreements increases by 7.19%.

5.2 Contractual Agreements and Risk

The different types and term of employment agreements imply different volatility patterns after the IPO. Our central argument is that a long-term EA can provide incentives for the top executives to take actions that are not reflected in performance until future periods. This is useful if such actions are optimal for the firm but not for a CEO who fears early turnover. Thus, long-term agreements motivate managers to take actions that are ultimately positive-net present value, but temporarily be observationally equivalent to a bad CEO-firm match, low CEO ability, or shirking. The key friction that long-term EAs can alleviate, is the transient volatility of ultimately profitable projects.

In addition, without uncertainty about the quality of the match – if the contract length matched to the completion of the IPO and the CEO is dismissed after she completes this task – there is no reason to expect any association between volatility and employment agreements. This is because the market has all the information about the actions and projects taken throughout the contract in advance. We label this the selection argument. Uncertainty about the identity of the next task facing the firm, or the next top manager may lead to an increase in volatility towards the end of the incumbent CEO's contract.

Finally, the pure learning argument predicts that there are no incentive effects of contracts, and volatility should decline during the tenure of the CEO (Pan et al., 2015). The decline in volatility should be monotonic over time, and volatility should not increase at contract renewals. The decreasing pattern in volatility should be driven by idiosyncratic risk. However, the incentives from the contractual agreements can also lead to a negative association between CEO contract horizon and risk. Prior literature suggests that a longer contract horizon is associated with lower risk-taking (Sundaram and Yermack, 2007; Edmans and Liu, 2011; Cassell et al., 2012). Another strand of the literature finds that short-term contracts are related to higher return volatility (Huang et al., 2011). Therefore, we expect that managers who engage in such behavior, they must invest on short-term projects toward the end of their contract so that she can enjoy the potentially high payoffs in the immediate future. Therefore, another prediction is that CEO employment agreement is negatively associated with risk. To investigate the effect of contractual agreements on risk, we estimate the following model:

$$Total\ Volatility_i = a + \beta_1 Type\ of\ Contract_i + \beta_2 Control\ Variables_i + Fixed\ Effects + \varepsilon_\iota \qquad (3)$$

where (Post-IPO return) total volatility is computed as the standard deviation of residuals from a firm-specific market model estimated over +5 to +26 (trading) days post-IPO.

Panel A of Table 7 reports the results. Consistent with Cziraki and Groen-Xu (2019), we document a strong and significant positive association between fixed-term contracts (and their duration) and return volatility. Our finding is consistent with the notion that IPO firms prefer to have fixed-term agreements with CEOs who are hired only to complete this task and, as a result, the uncertainty about the next task facing the firm, or the next CEO may lead to an increase in volatility. One additional year remaining on the CEO's contract corresponds to an increase of 1.00 bps in return volatility.

To the extent that different components of total volatility may capture different risk-incentives, we further decompose total volatility into the systematic and idiosyncratic volatility, where the systematic is the market beta which is the standard deviation of slope coefficient from a firm-specific

market model estimated over +5 to +26 (trading) days post-IPO and idiosyncratic is the standard deviation of residuals from a firm-specific market model estimated over +5 to +26 (trading) days post-IPO. Our results from Panels B and C of Table 7 also show that changes in volatility are driven by idiosyncratic rather than systematic risk. In general, our findings are in line with those studies examining return volatility (Coles et al., 2006; Roussanov and Savor, 2014; Bernile et al., 2017; Cziraki and Groen-Xu, 2019).

5.3 CEO Contract Horizon and Sources of Risk

In this section, we examine the possible channels that could drive the change in volatility. In doing so, we initially assess how employment agreement affect risk-taking, by constructing two variables for investment: research and development expenses (R&D), and capital expenditures (CAPEX). To examine the impact of employment agreement on investment measures, we estimate the following model:

$$AvgInv.Measures_i = a + \beta_1 Type\ of\ Contract_i + \beta_2 Control\ Variables_i + Fixed\ Effects + \varepsilon_\iota \qquad (4)$$

where Avg Inv. Measures are the average values of either R&D or CAPEX the following three years after the issue date.

Panel A and B from Table 8 show a negative association between fixed-term contracts and both investment measures which is not line with Cziraki and Groen-Xu (2019). On the other hand, our results indicate that at-will CEOs are positively related to risky strategies. In economic terms, the average R&D investment for firms with at-will CEOs increases by 3%. Overall, the results indicate that, given a short-term CEO employment agreement, it can be optimal for the firm to underinvest into NPV-positive projects, while for CEOs with long-term contracts it is better to overinvest as they are associated with higher investment. Since, in our sample at-will CEOs have longer horizon than fixed-term CEOs, our results on the sources of risk provide support to the value-enhancing hypothesis, which states that managers with long horizon are more likely to adopt risky and value-enhancing strategies.

5.4 The Impact of Employment Agreements on Firm Performance and Survival

Implicit in the above sections is the assumption that employment agreements may affect firm performance and survival through their impact on CEOs outcome, firms' investment decisions, and financial policies. By exploring the relationship between contractual agreements and firm

performance, we can further and more completely understand the role of employment agreements in managerial decision-making. In this section, we examine the impact of EAs on firm performance (ROA) and firm survival by using the following regressions:

$$AvgROA_i = a + \beta_1 Type\ of\ Contract_i + \beta_2 Control\ Variables_i + Fixed\ Effects + \varepsilon_t \quad (5)$$

where Avg ROA is the average value of ROA the following three years after the IPO. ROA is the ratio of net income to total assets. To estimate the effect on firm survival, we use following Cox proportional hazard model:

$$h(t) = h_0(t)[\beta_1 Type\ of\ Contract_{\cdot i,t} + \beta_2 Control\ Variables_i + Fixed\ Effects] \quad (6)$$

where $h_0(t)$ is the baseline hazard function, and t is the time to delist. The dependent variable is a dummy variable that indicates the failure risk (i.e., whether the firm is delisted/dropped within five years after the IPO).[3]

Panel A and B of Table 9 contains regression results for ROA. The coefficient on fixed-term contracts is negative and both statistically and economically significant, confirming that fixed-term contracts are value-decreasing and their effect remains persistent over time. On average, the ROA of firms led by fixed-term CEOs decreases by 14%. On the other hand, the average ROA of firms led by at-will CEOs increases by 6%. Table 10 shows that IPO firms run by fixed-term CEOs have a higher probability of failure. The coefficient of 0.61 indicates that the risk of delisting due to negative reasons of IPO issuers with a fixed-term CEO is 84% higher of the delisting risk of firms without a fixed-term CEO. Also, CEOs with at-will agreements are negatively associated with IPO failure at 10% level. Combine with our earlier evidence on corporate investment and risk taking, at-will managers seem to make risky and value-enhancing investments and increase future firm performance.

6. Heckman Two-Step Method and Matching Estimator

Our findings, so far, establish a robust negative (positive) association between fixed-term (at-will) employment agreement and Post-IPO operating performance. It is possible, however, that endogeneity issues may exist in our empirical analysis. Specifically, our model may be suffered from sample selection bias or due to endogenous CEO-firm matching because of observable distributional differences of firm and CEO characteristics between firms with and without employment agreements.

[3] It should be noted that the time horizon that we examine the survivorship of each firm after its issuance is five years. Therefore, our sample-period spans from 2000 to 2012.

In this section, we address these concerns by performing a two-stage Heckman model as well as a matching estimator.

6.1 Heckman Two-Step Model

We first estimate two probit models: one modeling for the likelihood of having a fixed-term contract, and a second modeling of the likelihood of having an at-will agreement. In the second stage of our selection model, the Inverse Mills Ratios (IMR) from each probity are included as additional variables in Eq. (5). We report only the results from the second-stage of the selection model in Panel A of Table 11, as the results from the first-stage are the same as in Section 4.3.3. Our results indicate that, sample selection bias is not a concern in our analysis, because both of the IMRs are statistically insignificant. Furthermore, our results regarding the employment agreement measures remain consistent with our prior findings.

The results of the second-stage of the selection model are reported in Panel B1 of Table 11. They show that sample selection bias is not a concern in our baseline analysis, because neither of the two IMRs is statistically significant at conventional levels. Also, our managerial pay measures continue to be significant.

6.2 Matching Estimator

To further assess the issue of endogeneity we apply the propensity score matching method. It could be the case that CEOs and IPO firms are not matched randomly. Rather the selection of a CEO is decision taken solely by the board of directors. The existence of a matching mechanism between CEOs and firms could be explained, for instance, if private firms that plan to go public, hire managers with a fixed-term contract and with main aim to complete this task. As Panel B and C of Table 11 shows, CEOs with fixed-term contracts tend to be also Chairman and they run mature and large firms. On the other hand, at-will CEOs are preferred by venture-backed firms with strong corporate governance.

We perform a one-to-one propensity score matching to ensure whether our conclusions are a statistical artifact stemming from distributional differences in CEO and firm characteristics between firms with and without fixed-term (at-will) employment agreements. We initially run a probit regression to estimate propensity scores, i.e., the probability of receiving the treatment (i.e., fixed-term) conditional on a set of control variables. For each treatment firm with fixed-term contract, we select a matching control firm without a contract from the same year and industry, with the requirement that the absolute difference of the propensity score among pairs does not excess 0.01. We apply this procedure without repetition and estimate the propensity score for each firm, after

considering a set of controls that essentially capture all the CEO and firm characteristics used in Eq. (5).

This method yields 334 unique pairs of firms, which is approximately 22% of the initial sample. We apply the same method for firms led by at-will CEOs and this method yields 886 unique pairs of firms (which is approximately 60% of the initial sample). Panel B1 of Table 11 reports difference-in-difference means of the control variables for firms with and without fixed-term (at-will) EAs. The corresponding difference-in-difference means become statistically insignificant for the matched sample, confirming that the propensity score matching succeeds in making the subsamples comparable. Based on the matched set of treatment and control firms, we re-run the OLS model of Table 9. The findings on Panel B2 of Table 11 confirm the significantly negative (positive) association between fixed-term (at-will) contractual agreements and Post-IPO operating performance, and thus, suggesting that there is a systematic difference of the employment agreements effect on future firm performance.

7. Cross-Sectional Analysis

In the previous sections, we documented strong evidence in favor of our hypotheses. In this section, we further assess the robustness of our findings by examining cross-sectional variations in the importance of CEO contractual agreements on future firm performance along the different dimensions of CEO characteristics and corporate governance. An important advantage of this analysis is that it can demonstrate a more completed picture of the effect of employment agreements by highlighting cases in which their effectiveness is strengthened or attenuated.

7.1 CEO Career Concerns and Corporate Governance Quality

An interesting question is what role corporate governance plays in the association between employment agreements and future firm performance. In particular, we are interested in whether high governance quality magnifies or attenuates the contractual agreements effect. Chahine and Filatotchev (2008) argue that the role of board independence mitigate agency conflicts between the issuer and potential investors. In addition to that, Chahine and Filatotchev (2011) find that high corporate governance may supplement the job provided by the auditors. Therefore, the central questions is whether the potential agency problems that tend to exist between employment agreements and firm performance are mitigated by the quality of corporate governance.

Our evidence supports the notion that high governance quality strengthens the value-enhancing hypothesis for at-will CEOs and weakens the value-destroying hypothesis for fixed-term CEOs. We

construct a measure of corporate governance by using four variables and split the sample by the sample median. Panel A of Table 12 indicates that the negative association between fixed-term CEOs and future firm performance is less pronounced for firms with high governance quality. Panel B of Table 12 shows that the coefficient for at-will CEOs is indeed positive for firms with high corporate governance.

Another perspective that could affect the link between EAs and firm performance is the CEO career concerns. We expect that our results regarding the at-will CEOs should be stronger in cases where top managers have greater career concerns. For example, Jenter and Lewellen (2015) find that CEOs just over the average retirement age of 65 are less willing to continue to lead the company. Existing literature (e.g., Gibbons and Murphy, 1992; Serfling, 2014; Lee et al., 2018) suggest that CEOs with longer career horizons are more likely to make investments.[4] In addition, CEOs with short tenure can be characterized as new CEOs and are more likely to shape market's beliefs and bring fresh air into the firm. We also capture the career concerns of the CEOs by examining whether they are overconfident, as this type of manager seems to be more risky (see for example, Chowdhury et al., 2017). Our findings suggest that the positive at-will agreements-future firm performance relationship is more pronounced in firms with overconfident CEOs and with high decision horizon. On the other hand, we find that the negative link between fixed-term CEOs and future average ROA is more pronounced for firms with CEOs with less career concerns.

8. Conclusion

This study examines the impact of CEO contract horizon on both CEO and firm outcomes around Initial Public Offerings. We find that CEOs with fixed-term contracts have higher turnover rate, higher pre-IPO compensation and lower compensation change compared to those with at will agreements. In line with the value-enhancing hypothesis, our results also indicate that, at-will CEOs are positively associated with investment strategies and future firm performance. On the other hand, we document that fixed-term CEOs are negatively related to risky strategies, firm performance, and survival. Finally, the positive effect of at-will agreements on future firm performance is reinforced for firms with high corporate governance and CEOs with high career concerns.

Overall, this study makes the following contributions. To our knowledge, this is the first study to investigate the impact of employment agreements on IPOs firm investment decisions as well as on short- and long-term performance. Second, it expands the literature on CEO turnover by creating a measure of CEO turnover that improves the precision of turnover models. In addition, we contribute

[4] To proxy for CEO career concerns, we follow Antia et al. (2010) and use the decision horizon (DH) of each CEO.

to the IPO literature by indicating how employment agreements can provide incentives to the top managers and by demonstrating the long-run effects of each contract.

Appendix A: Definitions of Variables

Variable	Definition
	Panel A: IPO Pricing
Underpricing	The difference between the first secondary market closing price available in CRSP and IPO offer price, divided by IPO offer price.
	Panel B: Compensation Variables
CEO Salary	The logarithmic value of cash awarded to the CEO as cash compensation in the fiscal year prior to the IPO.
CEO Bonus	The logarithmic value of cash awarded to the CEO as bonus in the fiscal year prior to the IPO.
CEO Stock Awards	The logarithmic value of stock granted to the CEO evaluated at grant date using own firms' estimates.
CEO Option Awards	The logarithmic value of options granted to the CEO as option awards under the year (prior to the IPO) plan in connection with his appointment as CEO.
CEO Non-Equity Incentive Plan Compensation	The logarithmic value of the actual amount earned under short-term, performance-based cash incentive plan for fiscal year prior to the IPO.
CEO All Other Compensation	The logarithmic value of all other compensation awarded to the CEO in the fiscal year prior to the IPO.
CEO Total Compensation	The logarithmic value of the sum of all the above compensations awarded to the CEO in the fiscal year prior to the IPO.
	Panel C: CEO Contract Types
Contract	Dummy variable that equal to one if the CEO has an employment contract, and zero otherwise.
Duration of Contract	The duration of each contract (in years).
Renewable	Dummy variable equal to one if the contract is renewable, and zero otherwise.
At-Will	Dummy variable equal to one if the firm or the employee can terminate the relationship at any time and for any cause, and zero otherwise.
No Agreement	Dummy variable equal to one if there is no employment agreement between the CEO and the firm, and zero otherwise.
No Info	Dummy variable equal to one if there is no information on SEC filings about any employment agreement between the CEO and the firm, and zero otherwise.
	Panel C: Governance Characteristics
CEO Duality	Dummy variable equal to one if the CEO is both chairman/chairwoman and CEO, and zero otherwise.
General Ability Index	First factor of applying principal components analysis to five proxies of general managerial ability: Number of roles, Number of firms, Number of industries, CEO experience dummy, Conglomerate experience dummy (following Custodio et al., 2012).
Generalist	Dummy variable equal to one if CEO is a generalist, and zero otherwise. CEO is classified as a generalist if CEO's general ability index is equal to or above the sample median.
Founder	Dummy variable equal to one if the CEO is both founder and CEO, and zero otherwise.
Powerful CEO	Dummy variable equal to one if the CEO Powerful Factor score is above the sample median. CEO Powerful Factor score from Principle Component Analysis (PCA) using CEO tenure, CEO ownership, CEO Duality and CEO Triality (CEO, Chairman and President).
Overconfident CEO	Dummy variable equal to one if CEO is overconfident and 0 otherwise (using the investment-based measure as well as three IPO characteristics following Boulton and Campbell (2016).
CEO Age	Age of CEO (in years). Old CEOs are those who have age over the sample median (51) and young CEOs are those who have age lower than the sample median.
CEO Gender	Dummy variable equal to one1 if CEO is female, and zero otherwise.
CEO Tenure	Number of years working as CEO in the firm until the IPO. CEOs with High Tenure are defined those with tenure above the sample median.
CEO Donation	Dummy variable equal to one if the firm's CEO has engaged in political money contributions in the fiscal year prior to the IPO.
CEO Turnover	Dummy variable equal to one if the firm's CEO exits the firm prior to the five year-anniversary of the firm's initial public offering.
Decision Horizon (DH)	$DH_{i,t} = [TENURE_{ind,t} - TENURE_{i,t}] + [AGE_{ind,t} - AGE_{i,t}]$, where $TENURE_{i,t}$ is the number of years the CEO has held that position prior to IPO, $AGE_{i,t}$ is the age of the CEO who works for firm I in year t, $TENURE_{ind,t}$ ($AGE_{ind,t}$) is the industry median of TENURE (AGE) (following Antia et al., (2010)).
	Panel D: Firm Fundamentals
Firm age	The number of years elapsed since firm's foundation to IPO date, using foundation dates from Thomson Financial database as well as from the Field-Ritter dataset. The variable is transformed into the regressions by adding one and taking the natural logarithm.
VC	Dummy variable equal to one for venture capital-backed firms, and zero otherwise.
Proceeds	The natural logarithm of gross proceeds raised by the IPO estimated as shared offered times the offer price.
Size	The natural logarithm of total assets in the year prior to the IPO.
Overhang	The ratio of shares retained by the pre-IPO shareholders over shares issued in the offering.

Underwriter	Dummy variable equal to one for most prestigious underwriters, zero otherwise. Most reputable underwriters are those with a ranking score of 9.0 or above based on Jay Ritter's underwriter (prestige) rankings.
Internet	Dummy variable equal to one for IPOs of Internet firms, and zero otherwise. Internet firms are classified those with business description containing any of the words "Internet", "Online", eBusiness", "eCommerce", and/or "Website".
Technology firm	Dummy variable: one for IPO firms with SIC codes 3571, 3572, 3575, 3577, 3578 (computer hardware), 3661, 3663, 3669 (communications equipment), 3671, 3672, 3674, 3675, 3677, 3678, 3679 (electronics), 3812 (navigation equipment), 3823, 3825, 3826, 3827, 3829 (measuring and controlling devices), 3841, 3845 (medical instruments), 4812, 4813 (telephone equipment), 4899 (communications services), and 7371, 7372, 7373, 7374, 7375, 7378, and 7379 (software).
Big 4 Auditor	Dummy variable equal to one if the firm is audited by a big four audit firm, and zero otherwise. Big four audit firms include Ernst & Young, Deloitte & Touche, KPMG, and PricewaterhouseCoopers.
Nasdaq	Dummy variable equal to one for NASDAQ-listed IPOs, and zero otherwise.
R&D Intensity	It is the ratio of total R&D expense to total sales in the fiscal year prior to the IPO.
Capital Expenditure	It is the ratio of total capital expenditures to total sales in the fiscal year prior to the IPO.
Leverage	The ratio of total liabilities over total assets in the fiscal year prior to IPO.
EPS	Dummy variable equal to one for positive earnings per share in the fiscal year prior to IPO, and zero otherwise.
	Panel E: Other Firm Characteristics
Delist	Dummy variable equal to one if the firm is delisted within five years after its IPO, and zero otherwise.
Survival Time	The natural logarithm of the time to delist (survival time) which is measured in months.
Market Return	The compounded daily return on CRSP value-weighted index over the 20 trading days trailing the IPO.
Board Governance	Board Governance measure is constructed by taking the first factor of applying principal component analysis to the following variables: board independent measured as the ratio of the number of independent outside directors to the total number of directors; a dummy variable equal to one if the board has a nominating committee that is composed solely of independent directors, (and zero otherwise); the percentage of outside directors on the board that were appointed after the current CEO took office; the natural logarithm of the average number of other directorships held by independent directors serving on the board; a dummy variable, equal to one if the majority of outside directors on the board serve on three or more other boards; the natural logarithm of the number of board meetings; the natural logarithm of the number of directors serving on the board.
Board Independence	The ratio of the number of independent outside directors to the total number of directors. High Board Independence is a dummy variable equal to 1 if the firms' number of independent members is above the sample median.
HHI	HHI (Herfindahl-Hirschman Index) is calculated by squaring the market share if each firm competing in a market and then summing the resulting numbers.
Total Volatility	It is the standard deviation of daily equity returns over the 30-day window beginning the day after the IPO.
Idiosyncratic Volatility	It is the standard deviation of residuals from a firm-specific market model estimated over the 30-day window.
Beta	Beta is the standard deviation of slope coefficient from a firm-specific market model estimated over the 30-day window.
Average R&D	Is the average value of R&D expenditures from one year after the issue date to three years after going public. R&D expenditures is the ratio of R&D to sales.
Average CAPEX	Is the average value of CAPEX from one year after the issue date to three years after going public. CAPEX is the ratio of capital expenditures to net property plant and equipment.
Average ROA	It is the average value of ROA from one year after the issue date to 3 years after going public. ROA is the ratio of net income to total assets.
Diversified Index	Factor score from Principle Component Analysis (PCA) using the natural logarithm of sales, the natural logarithm of the number of segments, the natural logarithm of the number of geographic segments, and the natural logarithm of firm age.
Diversified Firms	Dummy variable equal to one if the Diversified Firms index is greater than the sample median, and zero otherwise

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Appendix B

A. Excerpt from Contract between Mr J. Richard Damron, Jr., and Home Diagnostics Inc (2-year fixed-term contract)

"We entered into an employment agreement with J. Richard Damron, Jr., our President and Chief Executive Officer, as of January 1, 2006. Mr. Damron's employment agreement expires on December 31, 2008, and provides for an annual base salary of $500,000, which may be increased by our board of directors from time to time."

B. Excerpt from an "Renewable Contract" Agreement between Mr C. Randal Mills, M.D., FACP Osiris Therapeutics Inc

Under Dr. Mills' employment agreement, dated as of May 15, 2004, he serves as our Chief Executive Officer for an initial three-year term. Thereafter, the agreement renews automatically each May 15 for successive one-year terms, unless either party provides notice of termination at least ninety days prior to May 15. Dr. Mills' agreement provides for a base salary of $300,000 per year, subject to yearly adjustment, and performance-based bonuses granted at amounts determined by the Board of Directors in its discretion.

C. Excerpt from an At-Will Agreement between Mr Peter A. Thompson, M.D., FACP Trubion Pharmaceuticals Inc

We have an employment agreement with Dr. Thompson, our president and chief executive officer. Pursuant to the terms of the agreement, Dr. Thompson **is an at-will employee** with an annual base salary of $345,000 and is eligible to receive an annual incentive bonus of up to $180,000 if certain milestones established at the discretion of our board of directors or the compensation committees are met.

Table 1: Yearly and Industry Distribution Statistics

This table presents distributional statistics for a sample of 1,488 U.S. IPOs from 1 January 2000 to 31 December 2014. The IPOs are described by issue-year in Panel A, whereas in Panel B the IPOs are distributed by industry. IPO deals are retrieved from the Thomson ONE Banker database.

Panel A: Yearly Distribution

Year	Total CEO Compensation Before IPO	Total CEO Compensation After IPO	IPOs Activity	No. of Fixed-Term Contracts	No. of "At-will" Agreements
2000	$641,877	$704,195	263	74	63
2001	$1,156,223	$1,051,767	59	15	12
2002	$874,829	$908,422	48	19	8
2003	$1,087,501	$1,071,542	47	12	12
2004	$718,181	$1,019,729	129	37	42
2005	$1,271,822	$1,683,422	115	45	28
2006	$1,204,794	$1,667,520	126	38	34
2007	$1,428,090	$1,743,934	112	31	25
2008	$1,029,783	$1,663,002	17	5	3
2009	$2,081,741	$2,803,633	38	9	4
2010	$1,850,826	$1,948,696	72	18	13
2011	$3,775,585	$3,531,189	71	14	19
2012	$1,852,870	$3,071,458	80	15	27
2013	$3,372,193	$3,696,437	139	29	50
2014	$1,782,900	$3,119,439	172	30	81
Total	$1,547,438	$1,951,641	1,488	391	421

Panel B: Industry Distribution

Industry-Two SIC Code		Total CEO Compensation Before IPO	Total CEO Compensation After IPO	IPOs Activity	No. of Fixed-Term Contracts	No. of "At-will" Agreements
Oil and Gas	(13)	$1,670,766	$2,649,440	62	21	6
Food Products	(20)	$1,299,160	$2,519,127	16	6	3
Chemical Products	(28)	$1,142,866	$1,979,063	281	42	122
Manufacturing	(30-34)	$2,176,690	$2,698,913	33	14	6
Computer Equipment & Services	(35, 73)	$1,589,739	$1,892,699	393	89	124
Electronic Equipment	(36)	$852,847	$963,394	128	27	33
Scientific Instruments	(38)	$579,451	$961,419	112	22	37
Transportation & Public Utilities	(41, 42, 44-49)	$2,007,681	$1,962,521	122	41	16
Wholesale & Retail Trade	(50-59)	$1,688,795	$2,082,132	125	41	28
Entertainment Services	(70, 78, 79)	$3,216,812	$2,873,568	24	11	2

Table 2: Determinants of CEO Contracts

The Table presents descriptive statistics for the sample of U.S. IPOs over the period from 2000 to 2014. CEO contract horizon characteristics are presented in Panel A. CEO characteristics are illustrated in Panel B. Firm and offering characteristics are reported in Panel C. Tests of differences in means between the two sub-samples of IPO firms with a fixed-term (at-will) CEOs and those with non-fixed term (non-at-will) CEOs are based on t-tests. The number of observations for each variable is 1,488. All variables are defined in Appendix A.

Panel A: CEO Horizon Characteristics

	Mean	SD
Contract	0.26	0.44
Duration of Contract	2.98	1.20
Renewable Contract	0.11	0.32
At-will	0.28	0.45
No Agreement	0.12	0.32
No Information	0.25	0.43

Panel B: CEO Characteristics

		Firms with Contract-Led CEOS	Firms without Contract-Led CEOS	Difference	Firms with At-will-Led CEOS	Firms without At-will-Led CEOS	Difference
CEO Tenure	3.66	3.65	3.66	0.4838	3.38	3.76	0.0600
CEO Duality	0.40	0.44	0.38	0.0197	0.34	0.42	0.0045
Founder	0.31	0.27	0.33	0.0179	0.29	0.32	0.1534
CEO Age	50.04	50.98	49.69	0.0032	49.64	50.20	0.1166
Generalist	0.60	0.58	0.61	0.1887	0.58	0.61	0.1092
CEO Turnover After IPO	0.40	0.44	0.40	0.1417	0.40	0.42	0.1922
Foreign Experience	0.34	0.34	0.34	0.4184	0.36	0.33	0.1353
Professional Degree	0.04	0.03	0.04	0.4077	0.04	0.04	0.4137
MBA	0.30	0.28	0.31	0.1098	0.28	0.31	0.1095
PhD	0.12	0.09	0.13	0.0227	0.18	0.09	0.0000

Panel C: Firm and Offering Characteristics

Firm Age	14.93	19.48	13.31	0.0000	11.10	16.49	0.0000
Proceeds	4.48	4.58	4.44	0.0160	4.35	4.53	0.0028
Leverage	0.36	0.35	0.36	0.2750	0.38	0.35	0.0957
EPS	0.47	0.44	0.56	0.0001	0.35	0.52	0.0000
Initial Returns	21.17	14.96	23.38	0.0006	25.84	19.33	0.0052
Board Ind.	0.68	0.62	0.70	0.0001	0.73	0.66	0.0001
Board Governance	0	-0.36	0.12	0.0000	0.31	-0.14	0.0000
HHI	0.49	0.49	0.48	0.4990	0.48	0.49	0.1972
Big 4 Auditor	0.47	0.46	0.47	0.4021	0.45	0.47	0.2709
VC	0.53	0.33	0.60	0.0000	0.71	0.45	0.0000
Underwriter	0.39	0.36	0.41	0.0387	0.42	0.38	0.0566
Technology	0.37	0.28	0.39	0.0000	0.41	0.35	0.0217
Internet	0.10	0.09	0.11	0.1258	0.11	0.10	0.2935
Nasdaq	0.69	0.63	0.71	0.0016	0.78	0.65	0.0000
Dropped	0.07	0.09	0.06	0.0678	0.06	0.07	0.2793
Mergers	0.23	0.22	0.24	0.2090	0.28	0.22	0.0154

Table 3: CEO Career Outcomes

The Table reports the CEO Career Outcomes for the sample of U.S. IPOs over the period from 2000 to 2014. Panels A and B present the statistical differences in compensation across fixed-term and at-will CEOs. Tests of differences in means between the two sub-samples of IPO firms with a fixed-term (at-will) CEOs and those with non-fixed term (non-at-will) CEOs are based on t-tests. Panels C and D present the effects of CEOs with Fixed-Term and At-Will Agreements on Compensation using ordinary least square (OLS) regressions. Specifically, Panel C shows the effect of fixed-term CEOs and Panel D presents the effect of at-will CEOs on total compensation, cash compensation, incentive to total compensation and compensation change. T-statistics are included in the parentheses and are adjusted for heteroskedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Components of CEO Compensation Before IPO							
		Firms with Contract-Led CEOS	Firms without Contract-Led CEOS	Difference	Firms with At-will-Led CEOS	Firms without At-will-Led CEOS	Difference
		Mean	Mean	p-value	Mean	Mean	p-value
Salary	$352,520	$370,802	$346,009	0.0647	$334,539	$359,608	0.0583
Bonus	$184,388	$268,641	$154,386	0.0000	$119,071	$210,136	0.0006
Stock Awards	$291,306	$282,402	$319,415	0.3956	$214,432	$347,248	0.1653
Option Awards	$387,673	$436,508	$403,472	0.3619	$559,399	$354,101	0.0122
Non-Equity Incentives	$134,625	$144,295	$131,182	0.3349	$96,308	$149,730	0.0376
Other	$154,373	$238,971	$124,248	0.0407	$160,997	$151,762	0.4430
Total	$1,547,438	$1,740,687	$1,478,621	0.1112	$1,484,184	$1,572,372	0.3372
Panel B: Components of CEO Compensation After IPO							
Salary	$430,029	$463,586	$419,142	0.0029	$425,463	$433,326	0.5898
Bonus	$164,688	$248,942	$130,273	0.0000	$127,859	$175,993	0.0817
Stock Awards	$403,330	$411,591	$406,319	0.9564	$474,829	$381,219	0.3205
Option Awards	$499,020	$353,489	$571,545	0.0156	$686,440	$446,306	0.0064
Non-Equity Incentives	$217,589	$192,350	$196,280	0.9045	$192,198	$196,459	0.8940
Other	$148,093	$139,487	$151,852	0.8518	$181,489	$135,134	0.4732
Total	$1,951,641	$1,856,153	$1,959,635	0.5694	$2,186,499	$1,827,798	0.0436

Panel C: Differences in Compensation Across Fixed-Term CEOs

	(1)	(2)	(3)	(4)
	Total Compensation	Cash Compensation	Incentive to Total Compensation	Compensation Change
Contract	0.18***	0.08**	0.01	-0.30
	(4.10)	(2.38)	(0.32)	(-0.84)
Founder	-0.21***	0.01	-0.07***	0.01
	(-3.79)	(0.01)	(-3.62)	(0.03)
CEO Duality	-0.16	0.21*	-0.14***	-2.08*
	(-1.22)	(1.92)	(-3.01)	(-1.75)
Generalist	0.10	0.07	0.02	0.43
	(1.46)	(1.06)	(1.13)	(1.04)
Foreign Experience	0.13***	0.08***	0.01	-0.25
	(3.49)	(3.23)	(0.15)	(-0.44)
DH	-0.01*	-0.01***	-0.01	-0.02
	(-1.84)	(-4.18)	(-0.13)	(-0.88)
Powerful CEO	-0.01	-0.01	-0.02	0.39
	(-0.15)	(-0.05)	(-1.21)	(1.46)
Overconf. CEO	0.01	0.03	-0.01	-0.27
	(0.01)	(0.75)	(-0.30)	(-0.46)
CEO Donation	0.17**	-0.07	0.06***	0.08
	(2.43)	(-1.07)	(3.33)	(0.11)
Board Ind.	-0.15***	-0.15**	-0.01	1.01***
	(-3.22)	(-2.48)	(-0.35)	(2.90)
Technology	-0.09	-0.22***	0.02***	0.99***
	(-1.38)	(-5.32)	(4.74)	(3.18)
Internet	0.08	-0.10***	0.04***	-0.50
	(1.27)	(-5.46)	(3.18)	(-1.00)
Size	0.22***	0.17***	0.01	-0.07
	(12.57)	(9.65)	(1.07)	(-0.49)
Leverage	-0.04	-0.08*	-0.01	0.46
	(-0.77)	(-1.65)	(-0.74)	(1.11)
Underwriter	0.26***	0.11*	0.05*	0.4
	(3.07)	(1.90)	(1.97)	(0.95)
VC	0.04	-0.05	0.05***	-0.31
	(1.04)	(-0.90)	(3.45)	(-0.81)
EPS	-0.02	0.09	-0.05***	-0.27
	(-1.30)	(1.17)	(-4.04)	(-0.70)
Firm Age	0.01	0.04	-0.02*	-0.41**
	(0.17)	(1.06)	(-1.72)	(-2.16)
Diversified Firms	0.21***	0.08	0.03*	-0.67*
	(3.02)	(1.58)	(1.76)	(-1.74)
HHI	-0.15***	-0.02	-0.04***	0.60
	(-3.79)	(-0.46)	(-4.20)	(1.23)
Industry & Year FE	Y	Y	Y	Y
Adjusted R^2	0.3619	0.3748	0.1225	0.0564
Number of Obs.	1,488	1,488	1,488	1,488

Panel D: Differences in Compensation Across At-Will CEOs

	(1)	(2)	(3)	(4)
	Total Compensation	Cash Compensation	Incentive to Total Compensation	Compensation Change
At-Will	0.02	-0.06**	0.03**	0.80**
	(0.46)	(-2.09)	(2.08)	(2.21)
Founder	-0.21***	-0.01	-0.07***	0.08
	(-3.64)	(0.07	(-3.45)	(0.44)
CEO Duality	-0.15	0.22*	-0.14***	-2.10*
	(-1.16)	(1.95)	(-3.03)	(-1.80)
Generalist	0.09	0.07	0.02	0.45
	(1.37)	(1.02)	(1.17)	(1.07)
Foreign Experience	0.13***	0.08***	0.01	-0.24
	(3.36)	(3.46)	(0.17)	(-0.46)
DH	-0.01*	-0.01***	-0.01	-0.02
	(-1.96)	(-4.18)	(-0.22)	(-0.92)
Powerful CEO	0.01	0.01	-0.02	0.40
	(0.06)	(0.03)	(-1.21)	(1.44)
Overconf. CEO	-0.01	0.03	-0.01	-0.29
	(-0.01)	(0.78)	(-0.32)	(-0.49)
CEO Donation	0.16**	-0.07	0.06***	0.07
	(2.37)	(-1.15)	(3.30)	(0.09)
Board Ind.	-0.17***	-0.15**	-0.01	1.01***
	(-3.41)	(-2.59)	(-0.45)	(2.77)
Technology	-0.12*	-0.23***	0.02***	1.03***
	(-1.94)	(-6.71)	(3.56)	(3.22)
Internet	0.08	-0.10***	0.04***	-0.46
	(1.19)	(-6.31)	(3.39)	(-0.92)
Size	0.23***	0.17***	0.01	-0.07
	(12.26)	(9.54)	(1.07)	(-0.44)
Leverage	-0.04	-0.08	-0.01	0.43
	(-0.81)	(-1.55)	(-0.79)	(1.13)
Underwriter	0.26***	0.11*	0.05*	0.38
	(2.94)	(1.90)	(1.95)	(0.94)
VC	0.01	-0.05	0.05***	-0.40
	(0.20)	(-0.93)	(5.72)	(-1.32)
EPS	-0.03	0.09	-0.05***	-0.24
	(-1.48)	(1.14)	(-3.91)	(-0.63)
Firm Age	0.01	0.04	-0.02*	-0.39**
	(0.35)	(1.10)	(-1.66)	(-2.05)
Diversified Firms	0.21***	0.08	0.03*	-0.69*
	(2.94)	(1.59)	(1.72)	(-1.86)
HHI	-0.16***	-0.03	-0.04***	0.62
	(-3.81)	(-0.51)	(-4.58)	(1.27)
Industry & Year FE	Y	Y	Y	Y
Adjusted R^2	0.3575	0.3743	0.1240	0.0586
Number of Obs.	1,488	1,488	1,488	1,488

Table 4: CEOs Life After IPO

The Table presents the Life of CEOs after IPO for the sample of U.S. IPOs over the period from 2000 to 2014. Panel A displays the turnover probability by contract type, while Panel B presents the CEO title after IPO. Panel C reports the estimation of the Cox proportional hazards model of probability of CEO turnover. Our dependent variable is whether or not a firm changed CEO five years after its IPO. Regressions control for industry and year fixed effects whose coefficients are suppressed. T-statistics are included in the parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Panel A: Turnover Probability by Contract Type

Turnover Probability	**Fixed-Term Contract**	**At-will**
First-Year	0.05	0.05
Second-Year	0.12	0.12
Third-Year	0.12	0.09
Fourth-Year	0.07	0.08
Fifth-Year	0.08	0.05
CEO Turnover	0.44	0.40
Company Status		
Public	0.97	0.14
Private	0.03	0.19

Panel B: CEO Titles After IPO

Title	**Mean**	**SD**
CEO, President and Chairman	0.10	0.30
CEO, President and Director	0.07	0.25
CEO, Chairman and Director	0.01	0.03
CEO, President and Secretary	0.01	0.03
Former President, CEO and Director	0.03	0.16
CEO and Chairman	0.13	0.33
CEO and President	0.31	0.46
CEO and Director	0.01	0.11
Executive Vice President	0.01	0.11
Director	0.01	0.09
Independent Director	0.01	0.06
Chairman	0.02	0.15
President	0.01	0.06
Other	0.02	0.13

Panel C: Contract Horizon and Turnover Probability

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	0.22**					
	(2.36)					
Duration of Contract		0.07***				
		(3.05)				
Renewable			0.28**			
			(2.51)			
At-will				-0.27***		
				(-3.77)		
No Agreement					0.28***	
					(2.42)	
No Information						0.09
						(1.45)
Total CEO Compensation	-0.13***	-0.13***	-0.12***	-0.12***	-0.11***	-0.12***
	(-3.66)	(-3.74)	(-3.32)	(-3.35)	(-3.01)	(-3.35)
Founder	-0.33***	-0.34***	-0.34***	-0.38***	-0.36***	-0.35***
	(-4.55)	(-4.80)	(-5.02)	(-5.81)	(-5.40)	(-5.26)
Foreign Experience	0.20***	0.20***	0.21***	0.20***	0.21***	0.20***
	(2.89)	(2.85)	(3.04)	(2.92)	(2.99)	(2.91)
DH	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***
	(3.71)	(3.65)	(3.04)	(4.00)	(3.90)	(3.73)
Powerful CEO	0.17**	0.17***	0.20***	0.19***	0.18***	0.21***
	(2.56)	(2.67)	(3.23)	(3.38)	(3.05)	(3.63)
Overconf. CEO	-0.11	-0.10	-0.10	-0.11	-0.09	-0.11
	(-1.39)	(-1.34)	(-1.36)	(-1.42)	(-1.21)	(-1.42)
CEO Donation	-0.42***	-0.42***	-0.42***	-0.44***	-0.42***	-0.43***
	(-4.34)	(-4.43)	(-4.28)	(-4.59)	(-4.67)	(-4.58)
Board Ind.	-1.23***	-1.22***	-1.27***	-1.23***	-1.26***	-1.27***
	(-8.99)	(-8.94)	(-8.87)	(-8.30)	(-8.51)	(-8.73)
Technology	0.25	0.26***	0.23**	0.25**	0.23**	0.23**
	(2.48)	(2.74)	(2.10)	(2.32)	(2.19)	(2.28)
Internet	-0.04	-0.05	-0.04	-0.06	-0.06	-0.06
	(-0.69)	(-0.86)	(-0.69)	(-0.90)	(-1.01)	(-0.96)
Proceeds	0.06	0.06*	0.06	0.06	0.06	0.06
	(1.59)	(1.69)	(1.55)	(1.40)	(1.68)	(1.45)
Leverage	-0.34***	-0.34***	-0.34***	-0.34***	-0.34***	-0.34***
	(-3.29)	(-3.27)	(-3.27)	(-3.18)	(-3.36)	(-3.24)
Underwriter	-0.47***	-0.48***	-0.48***	-0.48***	-0.47***	-0.48
	(-3.13)	(-3.13)	(-3.12)	(-3.11)	(-3.05)	(-3.03)
VC	0.17	0.18	0.15	0.18	0.13	0.14
	(1.19)	(1.27)	(1.18)	(1.46)	(1.01)	(1.07)
EPS	0.13	0.13	0.13	0.12	0.13	0.14
	(0.92)	(0.89)	(0.88)	(0.85)	(0.93)	(0.98)
Firm Age	0.16***	0.16***	0.16***	0.16***	0.17***	0.16***
	(3.92)	(3.92)	(3.74)	(3.85)	(4.00)	(3.88)
Diversified Firms	-0.37***	-0.37***	-0.36***	-0.38***	-0.38***	-0.37***
	(-4.04)	(-4.10)	(-3.99)	(-4.30)	(-4.15)	(-4.17)
HHI	-0.09	-0.08	-0.11	-0.10	-0.12	-0.11
	(-0.54)	(-0.46)	(-0.11)	(-0.57)	(-0.69)	(-0.63)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Chi-Square	21,174	41,231	54,641	28,452	18,869	9,708
Number of Obs.	1,488	1,488	1,488	1,488	1,488	1,488

Table 5: Endogeneity Tests for CEO Turnover

This table displays the effects of CEO employment agreements on CEO Turnover using the Two-Step Heckman and the Propensity Score Matching procedures. Panel A1 shows the first-stage results from the Heckman model using as dependent variables the following variables: Contract, High Duration, Renewable, At-Will, No Agreement, No Information. Panel A2 reports the second-stage results for each type of contract using the Inverse Mills Ratios from the first stage. Panel B illustrates the average treatment effect of the treated for CEO turnover in firms with and without contract, controlling for the endogeneity of CEO employment agreements using propensity score matching. The sample consists of initial public offerings from 2000 to 2014 in the US stock market. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Panel A1: First Stage Heckman Results

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Contract	High Duration	Renewable	At-will	No Agreement	No Information
Total CEO Compensation	0.10**	0.10	-0.01	0.01	-0.15***	-0.07
	(2.33)	(1.59)	(-0.17)	(0.27)	(-2.76)	(-1.59)
Founder	0.07	-0.06	-0.01	-0.31***	0.12	0.22**
	(0.69)	(-0.42)	(-0.10)	(-3.13)	(1.04)	(2.32)
Foreign Experience	0.11	-0.06	0.08	-0.08	-0.10	0.03
	(1.31)	(-0.45)	(0.78)	(-0.97)	(-0.94)	(0.39)
DH	-0.01	0.01	0.01	0.01	-0.01	-0.01
	(-0.45)	(0.33)	(0.60)	(1.03)	(-0.14)	(-0.05)
Powerful CEO	0.22**	0.25*	0.21*	-0.11	0.32***	-0.28***
	(2.41)	(1.75)	(1.91)	(-1.19)	(2.94)	(-3.14)
Overconf. CEO	-0.01	-0.12	-0.02	0.03	-0.29***	0.09
	(-0.09)	(-0.97)	(-0.26)	(0.44)	(-2.94)	(1.16)
CEO Donation	-0.15	-0.02	-0.10	0.07	0.02	-0.06
	(-1.41)	(-0.15)	(-0.82)	(0.69)	(0.15)	(-0.61)
Board Ind.	-0.45***	-0.17	-0.14	0.31**	-0.01	0.19
	(-3.46)	(-0.86)	(-.87)	(2.29)	(-0.03)	(1.43)
Technology	-0.39***	-0.66***	0.04	0.15	0.20	0.07
	(-3.42)	(-3.58)	(0.31)	(1.27)	(1.42)	(0.64)
Internet	-0.07	0.40*	-0.17	-0.11	0.15	0.10
	(-0.49)	(1.94)	(-0.95)	(-0.81)	(0.97)	(0.78)
Proceeds	0.01	-0.02	0.07	-0.01	-0.06	0.08*
	(0.17)	(-0.28)	(1.19)	(-0.33)	(-1.17)	(1.67)
Leverage	-0.01	0.13	0.06	0.15	-0.11	-0.08
	(-0.09)	(0.88)	(0.50)	(1.56)	(-0.86)	(-0.84)
Underwriter	-0.23**	-0.03	-0.21*	0.13	-0.21*	0.13
	(-2.36)	(-0.23)	(-1.76)	(1.45)	(-1.81)	(1.41)
VC	-0.54***	-0.62***	-0.36***	0.54***	0.08	0.05
	(-5.37)	(-3.83)	(-2.95)	(5.29)	(0.71)	(0.50)
EPS	0.03	-0.01	0.16	-0.17*	0.08	-0.01
	(0.30)	(-0.07)	(1.50)	(-1.85)	(0.73)	(-0.12)
Firm Age	0.07*	0.05	0.12**	-0.10**	-0.03	-0.01
	(1.77)	(0.78)	(2.24)	(-2.23)	(-0.59)	(-0.15)
Diversified Firms	0.02	-0.12	-0.03	0.02	0.15	-0.03
	(0.26)	(-0.80)	(-0.28)	(0.19)	(1.27)	(-0.33)
HHI	-0.11	-0.21	-0.03	-0.04	0.15	0.12
	(-0.81)	(-1.03)	(-0.22)	(-0.32)	(0.91)	(0.90)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Pseudo R^2	0.1026	0.1302	0.0563	0.1026	0.0803	0.0347
Number of Obs.	1,488	1,488	1,488	1,488	1,488	1,488

Panel A2: Second Stage Heckman Results

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	0.22**					
	(2.27)					
Duration of Contract		0.06***				
		(2.69)				
Renewable			0.26**			
			(2.28)			
At-will				-0.25***		
				(-3.39)		
No Agreement					0.30**	
					(2.57)	
No Information						0.10
						(1.43)
Inverse Mills Ratio	-2.88**	1.18	0.34	-3.47	-5.81*	3.14
	(-2.02)	(0.35)	(0.05)	(-1.56)	(-1.95)	(0.45)
Control Variables	Y	Y	Y	Y	Y	Y
Industry & Year FE	Y	Y	Y	Y	Y	Y
Chi-Square	23,114	13,098	10,443	11,555	12,038	4,598
Number of Obs.	1,488	1,488	1,488	1,488	1,488	1,488

Panel B: Propensity Score Matching

	(1)	(2)	(3)	(4)	(5)	(6)
ATET (Contract vs. Non-Contract)	0.09**					
	(2.53)					
ATET (High Duration of Contract vs. Low Duration of Contract)		0.21**				
		(2.63)				
ATET (Renewable Contract vs. Non-Renewable Contract)			-0.02			
			(-0.48)			
ATET (At-will Agreement vs. Non At-will Agreement)				-0.06*		
				(-1.70)		
ATET (No Agreement vs. Agreement)					0.05	
					(1.06)	
ATET (No Information vs. Information about Contract						0.07*
						(1.95)
Number of Obs.	1,488	1,488	1,488	1,488	1,488	1,488

Table 6: The Effect of Employment Agreements on IPO Underpricing

This table displays the effects of CEO employment agreements on IPO first-day returns using ordinary least square (OLS) regressions. The sample consists of initial public offerings from 2000 to 2014 in the US stock market. The dependent variable is IPO first-day returns and calculated as the percentage changes from the first day closing price to offer price. T-statistics are included in the parentheses and are adjusted for heteroskedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	-5.50					
	(-1.42)					
Duration of Contract		-1.08				
		(-1.28)				
Renewable			-1.82			
			(-0.56)			
At-will				6.99		
				(1.38)		
No Agreement					7.19**	
					(2.34)	
No Information						-4.83
						(-1.64)
Total CEO Compensation	-0.71**	-0.75*	-0.89**	-0.92*	-0.73	-1.01*
	(-2.04)	(-1.93)	(-2.23)	(-1.89)	(-1.46)	(-1.82)
Founder	5.69***	5.70***	5.61***	6.29***	5.38***	5.94***
	(12.30)	(10.75)	(15.90)	(5.41)	(4.50)	(9.20)
Foreign Experience	-1.28*	-1.39*	-1.42**	-1.34***	-1.39*	-1.44*
	(-1.81)	(-1.87)	(-2.12)	(-2.70)	(-1.85)	(-1.78)
DH	0.22	0.22	0.23	0.21	0.23	0.22
	(1.40)	(1.44)	(1.42)	(1.40)	(1.44)	(1.42)
Powerful CEO	3.06	2.95	2.78	2.85	2.38	2.28
	(1.38)	(1.37)	(1.27)	(1.23)	(1.08)	(1.10)
Overconf. CEO	-0.89	-0.93	-0.91	-0.95	-0.54	-0.74
	(-0.55)	(-0.56)	(-0.54)	(-0.52)	(-0.32)	(-0.43)
CEO Donation	-0.93	-0.81	-0.82	-0.82	-0.94	-0.89
	(-0.90)	(-0.74)	(-0.75)	(-0.74)	(-0.94)	(-0.85)
Board Ind.	-2.42	-2.22	-1.85	-2.21	-1.93	-1.49
	(-1.25)	(-1.08)	(-0.79)	(-0.98)	(-0.94)	(-0.55)
Technology	5.61	5.77	6.31	6.02	5.99	6.44*
	(1.46)	(1.51)	(1.63)	(1.64)	(1.60)	(1.71)
Internet	-6.17	-6.02	-6.13	-5.91	-6.31	-5.93
	(-1.20)	(-1.16)	(-1.16)	(-1.18)	(-1.20)	(-1.14)
Proceeds	2.53	2.50	2.55	2.59	2.59	2.66
	(1.51)	(1.51)	(1.54)	(1.56)	(1.58)	(1.61)
Leverage	1.98	1.99	1.99	1.68	2.06	1.83
	(0.99)	(0.99)	(1.03)	(0.72)	(1.06)	(0.83)
Underwriter	5.31	5.46	5.54	5.33	5.74	5.74
	(1.16)	(1.17)	(1.18)	(1.19)	(1.25)	(1.22)
VC	14.01***	14.29***	14.81***	13.71***	14.84***	15.02***
	(3.44)	(3.44)	(3.66)	(3.93)	(3.48)	(3.49)
EPS	2.74	2.77	2.76	3.01	2.62	2.66
	(1.23)	(1.24)	(1.24)	(1.29)	(1.22)	(1.27)
Firm Age	-0.82	-0.89	-0.92	-0.88	-0.88	-0.97
	(-0.73)	(-0.79)	(-0.82)	(0.80)	(-0.77)	(-0.86)
Diversified Firms	1.95	1.90	1.87	1.88	1.67	1.80
	(0.79)	(0.75)	(0.75)	(0.80)	(0.62)	(0.71)
HHI	-3.09	-3.07	-3.01	-2.89	-3.25	-2.89
	(-1.23)	(-1.24)	(-1.24)	(-1.22)	(-1.31)	(-1.26)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.2195	0.2181	0.2172	0.2211	0.2194	0.2190
Number of Obs.	1,488	1,488	1,488	1,488	1,488	1,488

Table 7: Total Volatility and its Components

This table presents the effects of CEO employment agreements on Volatility using ordinary least square (OLS) regressions. The sample consists of initial public offerings from 2000 to 2014 in the US stock market. Panel A shows the impact of employment contacts on Total Volatility, while Panel B and C reports the results from the effect of employment agreements on idiosyncratic volatility and beta. T-statistics are included in the parentheses and are adjusted for heteroskedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Panel A: The Impact of EAs on Total Volatility

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	0.01***					
	(2.77)					
Duration of Contract		0.01***				
		(3.56)				
Renewable			0.01			
			(1.05)			
At-will				0.01		
				(0.72)		
No Agreement					-0.01***	
					(-2.90)	
No Information						-0.01
						(-1.36)
Total CEO Compensation	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.48)	(-0.52)	(-0.29)	(-0.28)	(-0.42)	(-0.36)
Founder	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-1.01)	(-1.02)	(-0.98)	(-0.93)	(-0.92)	(-0.93)
Foreign Experience	-0.01***	-0.01***	-0.01***	-0.01**	-0.01***	-0.01***
	(-3.07)	(-2.94)	(-2.82)	(-2.65)	(-2.70)	(-2.71)
DH	0.01	0.01	0.01	0.01	0.01	0.01
	(0.76)	(0.75)	(0.75)	(0.75)	(0.76)	(0.76)
Powerful CEO	-0.01	-0.01	0.01	0.01	0.01	-0.01
	(-0.07)	(-0.07)	(0.01)	(0.05)	(0.14)	(-0.07)
Overconf. CEO	0.01	0.01	0.01	0.01	-0.01	0.01
	(0.05)	(0.08)	(0.07)	(0.07)	(-0.12)	(0.13)
CEO Donation	0.01***	0.01***	0.01***	0.01***	0.01**	0.01***
	(3.33)	(3.78)	(3.98)	(3.35)	(2.62)	(3.88)
Board Ind.	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.95)	(-0.96)	(-1.14)	(-1.19)	(-1.08)	(-0.98)
Technology	0.01*	0.01**	0.01	0.01	0.01*	0.01*
	(1.94)	(2.00)	(1.63)	(1.60)	(1.80)	(1.78)
Internet	0.01	0.01	0.01	0.01	0.01	0.01
	(1.04)	(1.01)	(1.07)	(1.07)	(1.11)	(1.06)
Proceeds	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(-2.69)	(-2.65)	(-2.67)	(-2.66)	(-2.73)	(-2.65)
Leverage	-0.01*	-0.01*	-0.01*	-0.01*	-0.01*	-0.01*
	(-1.70)	(-1.71)	(-1.68)	(-1.75)	(-1.68)	(-1.76)
Underwriter	0.01	0.01	0.01	0.01	0.01	0.01
	(0.72)	(0.70)	(0.70)	(0.66)	(0.62)	(0.71)
VC	0.01**	0.01*	0.01	0.01	0.01	0.01
	(2.06)	(1.91)	(1.50)	(1.30)	(1.33)	(1.36)
EPS	0.01	0.01	0.01	0.01	0.01	0.01
	(0.29)	(0.27)	(0.29)	(0.34)	(0.35)	(0.30)
Firm Age	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.30)	(-0.35)	(-0.32)	(-0.30)	(-0.45)	(-0.54)
Diversified Firms	-0.01*	-0.01*	-0.01	-0.01*	-0.01	-0.01*
	(-1.70)	(-1.70)	(-1.64)	(-1.68)	(-1.57)	(-1.71)
HHI	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.06)	(-0.06)	(-0.08)	(-0.06)	(-0.02)	(-0.05)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.1505	0.1502	0.1485	0.1481	0.1503	0.1488
Number of Obs.	1,420	1,420	1,420	1,420	1,420	1,420

Panel B: The Impact of EAs on Idiosyncratic Volatility

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	0.01***					
	(2.70)					
Duration of Contract		0.01***				
		(3.44)				
Renewable			0.01			
			(0.75)			
At-will				0.01		
				(0.67)		
No Agreement					-0.01**	
					(-2.52)	
No Information						-0.01
						(-1.48)
Total CEO Compensation	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.38)	(-0.42)	(-0.18)	(-0.18)	(-0.32)	(-0.26)
Founder	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.91)	(-0.91)	(-0.88)	(-0.83)	(-0.82)	(-0.82)
Foreign Experience	-0.01**	-0.01**	-0.01**	-0.01**	-0.01**	-0.01**
	(-2.56)	(-2.46)	(-2.35)	(-2.26)	(-2.30)	(-2.30)
DH	0.01	0.01	0.01	0.01	0.01	0.01
	(0.79)	(0.78)	(0.78)	(0.78)	(0.78)	(0.78)
Powerful CEO	0.01	0.01	0.01	0.01	0.01	0.01
	(0.03)	(0.03)	(0.12)	(0.16)	(0.27)	(0.03)
Overconf. CEO	-0.01	-0.01	-0.01	-0.01	0.01	0.01
	(-0.07)	(-0.05)	(-0.05)	(-0.06)	(0.27)	(0.01)
CEO Donation	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***
	(3.68)	(4.37)	(4.18)	(4.14)	(3.16)	(5.06)
Board Ind.	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.78)	(-0.79)	(-0.98)	(-1.04)	(-0.93)	(-0.83)
Technology	0.01*	0.01*	0.01	0.01	0.01	0.01*
	(1.86)	(1.94)	(1.45)	(1.41)	(1.62)	(1.67)
Internet	0.01	0.01	0.01	0.01	0.01	0.01
	(1.13)	(1.09)	(1.15)	(1.15)	(1.20)	(1.14)
Proceeds	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(-2.91)	(-2.87)	(-2.90)	(-2.89)	(-2.96)	(-2.90)
Leverage	-0.01	-0.01	-0.01	-0.01*	-0.01	-0.01*
	(-1.64)	(-1.65)	(-1.62)	(-1.68)	(-1.62)	(-1.71)
Underwriter	0.01	0.01	0.01	0.01	0.01	0.01
	(0.86)	(0.84)	(0.84)	(0.80)	(0.76)	(0.85)
VC	0.01*	0.01*	0.01	0.01	0.01	0.01
	(1.95)	(1.85)	(1.42)	(1.26)	(1.28)	(1.33)
EPS	0.01	0.01	0.01	0.01	0.01	0.01
	(0.19)	(0.18)	(0.20)	(0.24)	(0.24)	(0.20)
Firm Age	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(-7.80)	(-4.50)	(-5.40)	(-8.26)	(-5.70)	(-7.30)
Diversified Firms	-0.01*	-0.01*	-0.01*	-0.01*	-0.01	-0.01*
	(-1.72)	(-1.71)	(-1.66)	(-1.70)	(-1.59)	(-1.75)
HHI	0.01	0.01	0.01	0.01	0.01	0.01
	(0.08)	(0.08)	(0.07)	(0.08)	(0.12)	(0.09)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.1472	0.1469	0.1445	0.1446	0.1468	0.1456
Number of Obs.	1,420	1,420	1,420	1,420	1,420	1,420

Panel C: The Impact of EAs on Beta

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	-0.01					
	(-0.07)					
Duration of Contract		-0.01				
		(-0.25)				
Renewable			0.21***			
			(2.86)			
At-will				0.01		
				(0.12)		
No Agreement					-0.02	
					(-0.31)	
No Information						0.03
						(0.28)
Total CEO Compensation	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.17)	(-0.16)	(-0.19)	(-0.17)	(-0.19)	(-0.16)
Founder	-0.09	-0.09*	-0.09	-0.09	-0.09	-0.09
	(-1.64)	(-1.65)	(-1.62)	(-1.58)	(-1.65)	(-1.55)
Foreign Experience	-0.15***	-0.15***	-0.15***	-0.15***	-0.15***	-0.15***
	(-3.84)	(-3.88)	(-4.02)	(-3.96)	(-3.77)	(-3.86)
DH	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.11)	(-0.11)	(-0.15)	(-0.12)	(-0.12)	(-0.11)
Powerful CEO	-0.05*	-0,05*	-0.05***	-0.05**	-0.05*	-0.04*
	(-1.96)	(-1.94)	(-3.13)	(-2.42)	(-1.87)	(-1.66)
Overconf. CEO	0.06	0.06	0.06	0.06	0.06	0.06
	(1.03)	(1.02)	(1.01)	(1.03)	(1.03)	(1.00)
CEO Donation	0.01	0.01	-0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(-0.01)	(0.02)	(0.02)	(0.02)
Board Ind.	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.03)	(-0.05)	(-0.02)	(-0.04)	(-0.03)	(-0.06)
Technology	0.23**	0.23**	0.23**	0.23**	0.23**	0.23**
	(2.39)	(2.32)	(2.53)	(2.57)	(2.50)	(2.45)
Internet	0.03	0.03	0.03	0.03	0.03	0.02
	(0.25)	(0.25)	(0.29)	(0.25)	(0.25)	(0.24)
Proceeds	0.01	0.01	0.01	0.01	0.01	0.01
	(1.40)	(1.30)	(1.35)	(1.50)	(1.45)	(1.48)
Leverage	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.11)	(-0.11)	(-0.16)	(-0.12)	(-0.11)	(-0.10)
Underwriter	0.02	0.02	0.03	0.02	0.02	0.02
	(0.29)	(0.29)	(0.34)	(0.29)	(0.28)	(0.28)
VC	0.04***	0.04**	0.05**	0.04	0.04	0.04
	(3.57)	(2.37)	(2.46)	(1.12)	(1.45)	(1.42)
EPS	0.07	0.07	0.06	0.07	0.07	0.07
	(1.35)	(1.40)	(1.30)	(1.45)	(1.50)	(1.47)
Firm Age	0.01	0.01	-0.01	0.01	0.01	0.01
	(0.02)	(0.03)	(-0.12)	(0.03)	(0.01)	(0.02)
Diversified Firms	0.07	0.07	0.07	0.07	0.07	0.07
	(1.18)	(1.18)	(1.14)	(1.19)	(1.19)	(1.19)
HHI	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
	(-0.32)	(-0.32)	(-0.39)	(-0.31)	(-0.31)	(-0.32)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.0758	0.0758	0.0791	0.0755	0.0754	0.0759
Number of Obs.	1,420	1,420	1,420	1,420	1,420	1,420

Table 8: Sources of Risk

This table presents the effects of CEO employment agreements on Sources of Risk using ordinary least square (OLS) regressions. The sample consists of initial public offerings from 2000 to 2014 in the US stock market. Panel A shows the impact of employment contacts on the average value of R&D expenses the following three years after the IPO, while Panel B reports the results from the effect of employment agreements on the average value of CAPEX the following three years after the IPO. T-statistics are included in the parentheses and are adjusted for heteroskedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Panel A: The Effect of EAs on R&D

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	-0.01**					
	(-2.51)					
Duration of Contract		-0.01***				
		(-4.65)				
Renewable			-0.03**			
			(-2.27)			
At-will				0.03***		
				(6.23)		
No Agreement					0.01	
					(0.17)	
No Information						0.01
						(0.01)
Total CEO Compensation	-0.01**	-0.01	-0.01	-0.01	-0.01	-0.01
	(-2.06)	(-1.20)	(-1.42)	(-1.51)	(-1.32)	(-1.33)
Founder	-0.03	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.53)	(-0.49)	(-0.59)	(-0.26)	(-0.50)	(-0.51)
Foreign Experience	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(-6.64)	(-2.63)	(-3.89)	(-2.85)	(-3.32)	(-3.80)
DH	-0.01***	-0.01**	-0.01**	-0.01**	-0.01**	-0.01**
	(-2.71)	(-2.34)	(-2.13)	(-2.31)	(-2.33)	(-2.33)
Powerful CEO	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.97)	(-0.50)	(-0.48)	(-0.48)	(-0.56)	(-0.59)
Overconf. CEO	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.29)	(-0.88)	(-0.85)	(-0.96)	(-0.91)	(-0.87)
CEO Donation	-0.01*	-0.01	-0.02	-0.01	-0.02	-0.02
	(-1.75)	(-1.43)	(-1.52)	(-1.38)	(-1.55)	(-1.55)
Board Ind.	0.02**	0.02	0.02*	0.02*	0.02*	0.02*
	(2.27)	(1.60)	(1.91)	(1.67)	(1.80)	(1.79)
Technology	0.01	0.03*	0.03*	0.03*	0.02*	0.03*
	(0.04)	(1.68)	(1.85)	(1.87)	(1.79)	(1.85)
Internet	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-1.64)	(-0.61)	(-0.67)	(-0.51)	(-0.56)	(-0.58)
Proceeds	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***
	(-8.48)	(-3.83)	(-4.01)	(-3.87)	(-3.83)	(-3.85)
Leverage	0.03*	0.01	0.01	0.01	0.01	0.01
	(1.73)	(0.44)	(0.46)	(0.25)	(0.45)	(0.46)
Underwriter	0.02***	0.02***	0.02***	0.02***	0.02***	0.02***
	(5.72)	(5.59)	(5.57)	(4.70)	(4.28)	(4.74)
VC	0.06***	0.06***	0.05***	0.05***	0.06***	0.06***
	(5.60)	(5.26)	(5.37)	(5.31)	(5.67)	(5.68)
EPS	-0.07***	-0.06***	-0.06***	-0.06***	-0.06***	-0.06***
	(-4.11)	(-4.09)	(-4.21)	(-4.14)	(-4.12)	(-4.11)
Firm Age	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-1.04)	(-0.78)	(-0.83)	(-0.69)	(-0.79)	(-0.80)
Diversified Firms	-0.04	-0.04***	-0.04***	-0.04***	-0.04***	-0.04***
	(-3.67)	(-3.46)	(-3.50)	(-3.47)	(-3.48)	(-3.50)
HHI	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.59)	(-0.67)	(-0.70)	(-0.69)	(-0.73)	(-0.72)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.4930	0.5930	0.5922	0.5957	0.5901	0.5891
Number of Obs.	1,350	1,350	1,350	1,350	1,350	1,350

Panel B: The Effect of EAs on CAPEX

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	-0.02					
	(-0.94)					
Duration of Contract		-0.01				
		(-0.41)				
Renewable			-0.03***			
			(-4.17)			
At-will				0.05***		
				(6.63)		
No Agreement					-0.01	
					(-0.38)	
No Information						-0.01
						(-0.95)
Total CEO Compensation	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(-2.77)	(-2.86)	(-2.87)	(-3.26)	(-2.89)	(-3.02)
Founder	-0.01	0.01	-0.01	0.01	0.01	0.01
	(-0.02)	(0.02)	(-0.05)	(0.28)	(0.02)	(0.05)
Foreign Experience	0.01	0.01	0.01	0.01	0.01	0.01
	(1.45)	(1.30)	(1.25)	(1.40)	(1.50)	(1.35)
DH	0.01***	0.01***	0.01***	0.01***	0.01***	0.01***
	(3.48)	(3.51)	(3.36)	(3.59)	(3.40)	(3.43)
Powerful CEO	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***
	(4.83)	(4.26)	(4.58)	(4.20)	(4.40)	(4.54)
Overconf. CEO	0.02*	0.02	0.02	0.02	0.02	0.02
	(1.67)	(1.62)	(1.62)	(1.57)	(1.56)	(1.62)
CEO Donation	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.40)	(-0.38)	(-0.39)	(-0.31)	(-0.39)	(-0.39)
Board Ind.	0.05***	0.05***	0.06***	0.05***	0.06***	0.06***
	(2.67)	(2.82)	(2.72)	(2.75)	(2.91)	(2.99)
Technology	0.02***	0.02***	0.02***	0.02	0.02***	0.02***
	(3.21)	(2.80)	(3.21)	(2.59)	(2.95)	(2.80)
Internet	0.05***	0.05***	0.05***	0.05***	0.05***	0.05***
	(3.77)	(3.75)	(3.74)	(3.70)	(3.80)	(5.66)
Proceeds	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***
	(-7.05)	(-6.78)	(-6.10)	(-5.06)	(-5.83)	(-5.91)
Leverage	-0.02*	-0.02*	-0.02**	-0.02*	-0.02*	-0.02*
	(-1.78)	(-1.85)	(-1.99)	(-1.90)	(-1.87)	(-1.88)
Underwriter	0.01	0.01	0.01	0.01	0.01	0.01
	(0.36)	(0.41)	(0.36)	(0.29)	(0.40)	(0.45)
VC	0.13***	0.13***	0.13***	0.12***	0.13***	0.13***
	(10.73)	(10.14)	(10.31)	(10.89)	(10.86)	(10.45)
EPS	0.04***	0.04***	0.04***	0.04***	0.04***	0.04***
	(3.67)	(3.66)	(3.87)	(3.86)	(3.60)	(3.60)
Firm Age	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(-5.04)	(-5.00)	(-5.24)	(-5.29)	(-5.06)	(-5.13)
Diversified Firms	0.01	0.01	0.01	0.01	0.01	0.01
	(0.48)	(0.47)	(0.52)	(0.55)	(0.47)	(0.46)
HHI	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
	(-0.91)	(-0.94)	(-0.94)	(-0.89)	(-0.96)	(-0.97)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.3198	0.3183	0.3194	0.3302	0.3179	0.3181
Number of Obs.	1,350	1,350	1,350	1,350	1,350	1,350

Table 9: The Impact of Employment Agreements on Post-IPO Performance

This table presents the effects of CEO employment agreements on Future Firm Performance using ordinary least square (OLS) regressions. The sample consists of initial public offerings from 2000 to 2014 in the US stock market. Future firm performance is the average value of ROA the following three years after the IPO. ROA is equal to the net income divided by total assets. T-statistics are included in the parentheses and are adjusted for heteroskedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	-0.14***					
	(-3.32)					
Duration of Contract		-0.04***				
		(-2.87)				
Renewable			-0.20			
			(-1.56)			
At-will				0.06***		
				(3.11)		
No Agreement					-0.06	
					(-1.35)	
No Information						-0.01
						(-0.01)
Total CEO Compensation	0.12	0.12	0.11	0.11	0.11	0.11
	(1.41)	(1.41)	(1.33)	(1.34)	(1.34)	(1.39)
Founder	0.14**	0.14**	0.13*	0.14**	0.14**	0.14*
	(2.08)	(2.13)	(1.83)	(2.07)	(2.02)	(1.89)
Foreign Experience	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
	(-1.15)	(-1.14)	(-1.16)	(-1.16)	(-1.15)	(-1.14)
DH	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(-0.65)	(-0.63)	(-0.59)	(-0.67)	(-0.67)	(-0.67)
Powerful CEO	0.02	0.02	0.02	0.02	0.02	0.02
	(0.36)	(0.34)	(0.36)	(0.31)	(0.35)	(0.29)
Overconf. CEO	-0.05	-0.06	-0.06	-0.06	-0.06	-0.06
	(-1.08)	(-1.13)	(-1.13)	(-1.13)	(-1.18)	(-1.08)
CEO Donation	-0.03	-0.02***	-0.03	-0.03	-0.03	-0.03
	(-1.47)	(-6.33)	(-1.00)	(-1.11)	(-0.97)	(-0.99)
Board Ind.	0.18	0.18	0.19	0.19	0.19	0.19
	(1.20)	(1.21)	(1.21)	(1.23)	(1.26)	(1.28)
Technology	-0.09***	-0.10***	-0.07**	-0.08***	-0.07***	-0.08***
	(-5.34)	(-5.04)	(-2.48)	(-2.88)	(-2.75)	(-2.98)
Internet	0.04	0.04	0.04	0.05	0.05	0.05
	(1.25)	(1.40)	(1.20)	(1.45)	(1.30)	(1.20)
Proceeds	0.09***	0.08***	0.09**	0.09**	0.08**	0.08***
	(2.65)	(2.68)	(2.49)	(2.62)	(2.59)	(2.74)
Leverage	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
	(-0.77)	(-0.76)	(-0.74)	(-0.79)	(-0.76)	(-0.82)
Underwriter	0.07*	0.07*	0.07	0.07	0.07*	0.07
	(1.66)	(1.78)	(1.53)	(1.63)	(1.78)	(1.62)
VC	0.02	0.02	0.02	0.02	0.03	0.04
	(0.27)	(0.29)	(0.36)	(0.43)	(0.61)	(0.63)
EPS	0.29***	0.29***	0.29***	0.29***	0.29***	0.28***
	(5.67)	(5.51)	(6.00)	(5.42)	(5.16)	(5.35)
Firm Age	0.06**	0.06**	0.05**	0.06**	0.05**	0.06**
	(2.26)	(2.27)	(2.38)	(2.37)	(2.35)	(2.35)
Diversified Firms	0.04	0.04	0.04	0.04	0.04	0.04
	(0.19)	(0.19)	(0.20)	(0.19)	(0.19)	(0.18)
HHI	0.17	0.16	0.16	0.16	0.16	0.16
	(1.55)	(1.55)	(1.52)	(1.56)	(1.56)	(1.55)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Adjusted R^2	0.1291	0.1287	0.1293	0.1271	0.1269	0.1267
Number of Obs.	1,350	1,350	1,350	1,350	1,350	1,350

Table 10: The Impact of Employment Agreements on Failure Risk

The table illustrates the estimation of Cox proportional hazards model of probability of failure. Our dependent variable is whether or not a firm survived 5 years after its IPO. Regression control for industry and year fixed effects whose coefficients are suppressed. T-statistics are included in the parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

	(1)	(2)	(3)	(4)	(5)	(6)
Contract	0.61***					
	(2.77)					
Duration of Contract		0.20**				
		(2.21)				
Renewable			0.30			
			(1.07)			
At-will				-0.39*		
				(-1.66)		
No Agreement					0.22	
					(1.48)	
No Information						-0.03
						(-0.10)
Total CEO Compensation	-0.27**	-0.32***	-0.25**	-0.25**	-0.24***	-0.25**
	(-2.36)	(-6.01)	(-2.20)	(-2.49)	(-2.32)	(-2.09)
Founder	0.51**	0.49*	0.50**	0.45*	0.50**	0.52*
	(2.07)	(1.83)	(2.11)	(1.79)	(2.09)	(1.91)
Foreign Experience	0.07	0.02	0.07	0.08	0.07	0.07
	(0.36)	(0.10)	(0.36)	(0.38)	(0.36)	0.38)
DH	0.02**	0.04**	0.02**	0.02**	0.02**	0.02**
	(2.37)	(2.58)	(2.21)	(2.27)	(2.30)	(2.39)
Powerful CEO	-0.20	0.35	-0.14	-0.15	-0.15	-0.14
	(-0.79)	(0.54)	(-0.59)	(-0.66)	(-0.62)	(-0.53)
Overconf. CEO	-0.91**	-0.55***	-0.89***	-0.89**	-0.87**	-0.89**
	(-2.55)	(-3.55)	(-2.63)	(-2.58)	(-2.47)	(-2.57)
CEO Donation	-1.10***	-0.35	-1.14***	-1.14**	-1.12***	-1.13***
	(-3.03)	(-0.55)	(-3.20)	(-2.58)	(-3.18)	(-3.16)
Board Ind.	-2.01***	-2.30***	-2.03***	-2.05***	-2.06***	-2.04***
	(-5.24)	(-5.84)	(-5.45)	(-4.56)	(-5.40)	(-4.40)
Technology	0.49***	1.25***	0.40***	0.48***	0.43***	0.41***
	(5.65)	(4.28)	(4.34)	5.09)	(5.67)	(5.69)
Internet	0.78***	0.45**	0.80***	0.79***	0.78***	0.79***
	(5.13)	(2.15)	(4.79)	(3.79)	(3.84)	(4.54)
Proceeds	0.05	0.01	0.07	0.06	0.08	0.07
	(0.70)	(0.03)	(1.10)	(0.91)	(1.29)	(1.22)
Leverage	-0.27	0.74***	-0.34*	-0.35*	-0.35*	-0.34*
	(-1.11)	(3.75)	(-1.90)	(-1.71)	(-1.80)	(-1.73)
Underwriter	-0.53**	-0.32	-0.55**	-0.53*	-0.55**	-0.56**
	(-2.00)	(-0.80)	(-2.14)	(-2.07)	(-2.20)	(-2.10)
VC	0.40	-0.09	0.31	0.35	0.29	0.31
	(1.36)	(-0.24)	(0.91)	(0.99)	(0.84)	(0.96)
EPS	-0.23	-0.87***	-0.25	-0.22	-0.22	-0.22
	(-1.10)	(-7.55)	(-1.08)	(-1.01)	(-1.00)	(-0.94)
Firm Age	0.17	-0.13	0.13	0.15	0.14	0.14
	(1.41)	(-0.81)	(0.96)	(1.13)	(1.04)	(1.01)
Diversified Firms	-1.47	-0.74***	-1.46***	-0.14***	-1.48***	-1.50***
	(-5.55)	(-2.94)	(-5.46)	(-5.48)	(-5.52)	(-5.65)
HHI	0.16	0.23	0.10	0.10	0.06	0.06
	(0.42)	(0.38)	(0.26)	(0.24)	(0.15)	(0.17)
Industry & Year FE	Y	Y	Y	Y	Y	Y
Chi-Square	373.49	839.29	330.29	450.39	281.69	459.16
Number of Obs.	1,177	1,177	1,177	1,177	1,177	1,177

Table 11: Heckman Two-Stage Model and Matching Estimator

This table displays the effects of CEO employment agreements on Future Firm Performance using the Two-Step Heckman and the Matching Estimator methods. Panel A1 shows the second-stage results from the Heckman model. Panel B reports the analysis on the relation between Employment Agreement and Future Firm Performance using the One-to-One Propensity Score Matching (PSM) procedure. Panel B1 presents univariate analysis for 167 (443) firms with fixed-term EAs (at-will agreements) and 167 (443) firms without fixed-term EAs (at-will agreements). The variables used to estimate differences in means are tested based on t-test. Panel B2 displays the results using OLS on the matched samples. Our dependent variable is the average value of ROA the following three years after the IPO. We use the nearest-neighbor estimator (nnmatch) from Abadie, Drukker, Leber, Herr and Inmbens (2004). We use the same control variables as in Table 9 for both models (Heckman and PSM) and type of EAs (fixed-term and at-will). Regressions control for industry and year fixed effects whose coefficients are suppressed. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Panel A: Heckman Two-Stage Method

	Second-Stage Results	
	(1)	(2)
Contract	-0.13**	
	(-2.19)	
At-Will		0.07***
		(3.60)
Inverse Mills Ratio (Contract)	0.54	-1.56
	(0.88)	(-1.18)
Inverse Mills Ratio (At-Will)		
Industry & Year FE	Y	Y
Adjusted R^2	0.1439	0.1280
Number of Obs.	1,350	1,350

Panel B: Matching Estimator

Panel B1: Mean Differences Between Treatment and Control Group of PSM Sample

	Fixed-Term Agreements			**At-Will Agreements**		
	Treatment	Control	Difference (p-value)	Treatment	Control	Difference (p-value)
Total CEO Compensation	13.67	13.71	0.7560	13.59	13.58	0.8701
Founder	0.29	0.27	0.6277	0.33	0.32	0.8759
CEO Duality	0.64	0.68	0.5645	0.71	0.65	0.0658
Foreign Experience	0.33	0.35	0.7296	0.35	0.34	0.7345
DH	4.53	4.36	0.8774	5.23	4.78	0.5005
Powerful CEO	0.53	0.51	0.7434	0.63	0.56	0.2770
Overconf. CEO	0.65	0.66	0.7307	0.61	0.62	0.7030
CEO Donation	0.24	0.26	0.7073	0.22	0.24	0.5055
Board Ind.	0.73	0.74	0.7755	0.78	0.73	0.0164
Technology	0.28	0.23	0.3182	0.42	0.34	0.0241
Internet	0.08	0.05	0.3791	0.10	0.09	0.5497
Proceeds	4.71	4.73	0.8467	4.41	4.61	0.0111
Leverage	0.35	0.35	0.9476	0.40	0.33	0.0157
Underwriter	0.44	0.42	0.7410	0.49	0.42	0.0798
VC	0.36	0.39	0.5744	0.72	0.43	0.0000
EPS	0.57	0.59	0.7400	0.37	0.57	0.0000
Firm Age	20.16	17.80	0.3740	11.20	17.74	0.0000
Diversified Firms	0.67	0.65	0.7296	0.55	0.56	0.7524
HHI	0.50	0.54	0.2751	0.51	0.49	0.3762

Panel B2: Estimation of OLS Models on Matched Samples

	(1)	(2)
Contract	-0.13**	
	(-2.21)	
At-Will		0.06***
		(3.11)
Control Variables	Y	Y
Industry & Year FE	Y	Y
Adjusted R^2	0.1637	0.1271
Number of Obs.	334	886

Table 12: Cross-Sectional Analysis

This table reports results from OLS regressions in which Future Firm Performance is our dependent variable and Employment Agreements are our independent variables of interest. Panel A and B present the impact of CEO career concerns and corporate governance on the association between EAs and future firm performance. T-statistics are included in the parentheses and are adjusted for heteroskedasticity robust standard errors clustered by year and industry. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All variables are defined in Appendix A.

Panel A: The Impact of CEO Career Concerns and Governance Quality on Fixed-Term Contracts

	(1)	(2)	(3)	(4)
	High DH	Low DH	High Corporate Governance	Low Corporate Governance
Contract	-0.09**	-0.14***	-0.34	-0.44**
	(-2.01)	(-2.98)	(-1.51)	(-2.10)
Control Variables	Y	Y	Y	Y
Industry & Year FE	Y	Y	Y	Y
Adjusted R^2	0.3626	0.1431	0.1519	0.1420
Number of Obs.	1,177	1,177	1,177	1,177

Panel B: Panel A: The Impact of CEO Career Concerns and Governance Quality on At-will Contracts

	(1)	(2)	(3)	(4)	(5)	(6)
	High DH	Low DH	Overconfident	Non-overconfident	High Corporate Governance	Low Corporate Governance
At-will	0.09***	0.06***	0.07**	0.04*	0.13***	-0.01
	(3.97)	(3.08)	(2.51)	(1.71)	(3.82)	(-0.07)
Control Variables	Y	Y	Y	Y	Y	Y
Industry & Year FE	Y	Y		Y	Y	Y
Adjusted R^2	0.3619	0.1422	0.1296	0.5006	0.1410	0.1620
Number of Obs.	1,177	1,177	1,177	1,177	1,177	1,177

Appendix C: Figures

Figure 1: Cash CEO Compensation

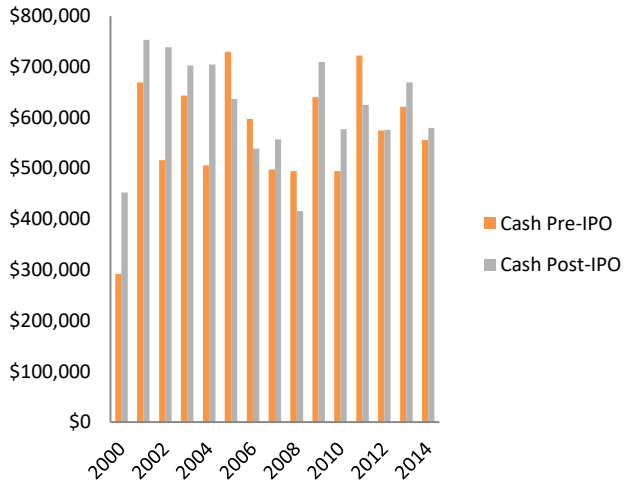

Figure 2: Equity CEO Compensation

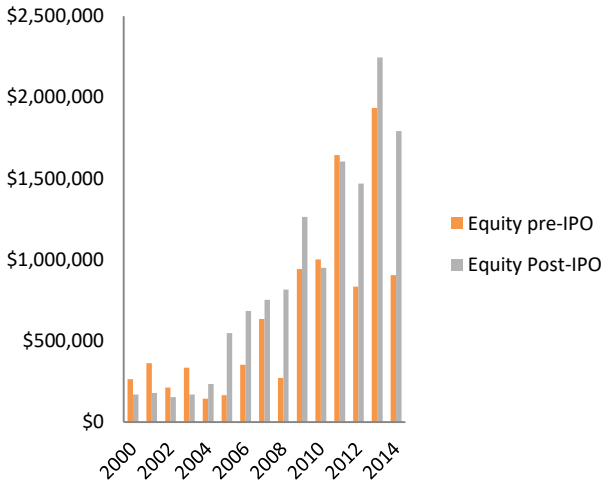

Figure 3: Total CEO Compensation