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Entrenchment or incentive? CEO employment contracts and acquisition decisions

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ABSTRACT

A long-standing controversy is whether CEO employment contracts insulate inferior managers from discipline leading to shareholder wealth destruction, or whether contracts alleviate managerial risk aversion and encourage value-enhancing decisions. Using a unique dataset on S&P 500 CEO employment contracts during 1993–2005, I find that acquirers with a CEO contract obtain better announcement returns, pay lower premiums for their targets, garner superior long-run post-acquisition operating performance, and undertake riskier deals than acquirers without a contract. Further investigation of individual contract provisions reveals substantial heterogeneity. Specifically, the fixed term rather than at will contract, longer contract duration, long-term equity incentives, accelerated stock and option vesting provisions in severance arrangement, and more refined definitions of just cause (good reason) for CEO termination (resignation) alleviate managerial risk aversion, reduce contracting ambiguity, and motivate value-creating decisions.

1. Introduction

This paper examines the impact of acquiring CEO employment contracts and their provisions on acquirer value creation and risk-taking. A typical CEO employment contract is usually entered into at the time of the CEO's appointment and can cover various relationships, including responsibilities of the CEO, term of employment, basic compensation arrangement, change in control provisions, and severance package. This contract can protect a CEO in several ways. First, CEO employment contracts usually fix the minimum annual salary and bonus and stipulate that they are subject to reviews for increases but not decreases, inherently reducing the sensitivity of pay to performance.[1] Second, a contract makes it more costly for a CEO to be fired, thereby enhancing her job security. Third, even in cases where CEOs are replaced involuntarily due to underperformance, managers with a contract have more bargaining power and are often compensated more generously.[2] Shareholder activists have thus criticized CEO contracts as pay for failure (Bebchuk and Fried, 2003, 2004).

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[1] The employment contract between Sprint Nextel and its CEO Mr. Gary Forsee states "Mr. Forsee is contractually entitled to an annual base salary of $1,400,000, subject to annual review for possible increase (but not decrease), and an annual short-term incentive target opportunity of not less than 170% of base salary", (Sprint Nextel Corp. Proxy Statement, 3/17/2006).

[2] For instance, Carly Fiorina was ousted by the HP board with an exit pay of $21 million under her employment pact. Hank McKinnell, former CEO and Chairman of Pfizer, was ousted in July 2006 with $200 million pursuant to his employment contract, despite the substantial underperformance of Pfizer relative to its industry peers and the market (*Business Week*, 12/22/2006). In comparison, Jeffrey Greenberg, former Chairman and CEO of Marsh & McLennan, quit his job in October, 2004 among the bid-rigging scandal with no lucrative severance package due to "the lack of an employment contract and hence the weak bargaining power" (*The Wall Street Journal*, 10/26/2004).

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Despite these costs, the percentage of S&P 500 CEOs with an employment contract has increased from 29% in 1990 to 50% in 2005. The benefits of CEO contracts to shareholders include helping attract and retain managerial talent, providing a commitment and protection from the opportunistic behavior of the board, clarifying the responsibilities and legal obligations, and resolving uncertainty about how the contractual relationship may be terminated (Hale et al., 2000; Gillan et al., 2009). Indeed, financial theories have long recognized that CEO compensation contracts can align managerial interests with shareholders (e.g., Jensen and Meckling, 1976; Jensen and Murphy, 1990). To the extent that managers are more risk-averse than shareholders, employment contracts can protect managers against downside risk and encourage value-enhancing but risky decisions the manager might otherwise avoid (Almazan and Suarez, 2003; Ju et al., 2004).

In light of these controversies, the purpose of this paper is to examine whether and how CEO employment contracts and their individual provisions *ex ante* affect a CEO's investment choices and firm's future performance. Anecdotal evidence suggests that CEO contracts may have substantial influence on managerial decision-making. John Antioco, former CEO and Chairman of Blockbuster, was ousted in a proxy fight in May 2005 but was reappointed two days later. Under his employment contract, Mr. Antioco would have been entitled to $54 million if he left the company after losing his board seat. The dissidents backed the reappointment because they did not want Mr. Antioco to "walk away with $54 million", whereas Mr. Antioco wanted more time to show the desired results of "some bold [business] moves" he undertook.[3]

Obviously, Mr. Antioco's employment contract helped secure his job and allowed him more time for the potential profits of his risky strategies to emerge. This suggests the *incentive effect hypothesis*, which predicts that by providing insurance on the down side, contracts help mitigate managerial risk aversion and motivate risky value-increasing projects. Such projects might be otherwise forgone, particularly because current earnings might be reduced, or managers initiating the projects might have been fired before the outcome materializes (Almazan and Suarez, 2003; Ju et al., 2004; Narayanan, 1985).

Alternatively, perhaps Mr. Antioco's contract prevented him from being fired due to his poor management of the business. This possibility suggests the *entrenchment effect hypothesis*,[4] which predicts that contracts insulate CEOs from discipline of the market for corporate control and internal governance, thereby lowering the costs to managers of making value-destroying investments in pursuit of private benefits. Bertrand and Mullainathan (2003) and Atanassov (forthcoming) suggest that managers under reduced discipline prefer a quiet life and avoid risk.

This paper focuses on mergers and acquisitions (M&A), which are among the most important and high profile corporate investments. Unlike internal research and development (R&D) or capital expenditures, M&A create large value impacts that are easily observable to outsiders. M&A are also associated with greater uncertainty and agency problems, thus offering an ideal setting to examine the efficacy of CEO contracts in managerial incentive alignment, which may not be revealed by studying routine internal investments only.[5]

Using a unique and manually compiled dataset on CEO employment contracts, I find that among the 577 large acquisitions made by S&P 500 CEOs between 1993 and 2005, slightly more than half of the acquirer CEOs have a contract. Consistent with Gillan et al. (2009), a CEO contract is more likely when the firm is more susceptible to takeovers or has recently underperformed, when the CEO has less power, less experience, and larger uncertainty about her capability, and when board monitoring is more effective, suggesting that contracts provide insurance for managerial human capital or protection against opportunistic behavior of the board.

Consistent with the incentive effect hypothesis, CEO contracts lead to value-enhancing acquisitions. Acquirers with a CEO contract outperform their counterparts without one by 1.3% in a three-day window around deal announcement, which translates into shareholder gains of $183 million for an average sized bidder. Acquirers with CEO contracts pay lower target premiums, thus generating large savings ($317 million) for acquirer shareholders. Further, contracts motivate managers to pursue better deals with greater profitability as measured by long-run post-acquisition operating performance.

Contracts also motivate managers toward riskier deals. Specifically, CEOs with a contract are more drawn to targets with larger pre-event stock return volatilities, recent underperformance and more growth opportunities. Subsequently, these acquirers exhibit greater increases in firm risk. Taken together, the evidence suggests that by protecting managers against downside risk ex post, CEO contracts ex ante mitigate managerial risk aversion and motivate risky value-increasing investments.

An investigation of individual provisions of CEO contracts reveals substantial heterogeneity. I find that definite term rather than at will contract, longer contract duration, long-term equity incentives in annual compensation, and accelerated stock and option vesting provisions in severance package are associated with larger acquirer value creation. This is consistent with the hypothesis that fixed term and longer duration provide greater protection to managers, thereby motivating long-term, risky, value-creating investments (Narayanan, 1985). It is also consistent with the classic view that equity incentives help align

[3] While Mr. Antioco intended to invest in long-run innovative projects, the dissidents led by Carl Icahn wanted bigger dividends (*The Wall Street Journal*, 5/16/2005, A3).

[4] This paper does not ask how an incumbent manager should position herself to be irreplaceable to achieve certain private benefits, i.e., the *process* of entrenchment. Rather it asks once an employment contract is in place, whether and how such a contract *subsequently* affects managerial incentives by making her difficult and costly to replace, i.e., the *effect* of entrenchment due to a contract. I account for the motivations of a contract to address endogeneity.

[5] Harford and Li (2007) show that following acquisitions, but not large capital expenditure, a CEO's wealth becomes insensitive to negative but remains sensitive to positive stock performance. Grinstein and Hribar (2003) find that CEOs are richly rewarded for just completing M&A and that M&A bonus is positively related to deal size but not deal performance, which is hardly the case for internal expenditures. Yermack (2006a) indicates that understanding top management incentives requires looking beyond routine activity and examining one-time events.

managerial interests and horizon with shareholders, and lead to long-term value creation. Finally, more refined definitions of CEO just-cause termination and good-reason resignation appear to benefit shareholders, possibly by resolving uncertainty about termination grounds and reducing ambiguity in the case of a dispute.

The findings are robust to industry and year fixed effects, to various model specifications, to alternative explanations, and after controlling for endogeneity and survivorship. Specifically, to account for the endogeneity associated with the choice of a contract, I use two instrumental variables motivated by prior literature (Bizjak et al., 2008; Kedia and Rajgopal, 2009). *Industry* (*State*) *Contract Ratio* is defined as the proportion of other CEOs of S&P 500 firms in the same industry (headquartered in the same state) that have a contract. Results remain unchanged and statistical tests conclude that jointly the instruments are valid.

This study makes several contributions. First, it sheds new light on the vigorous debate over the efficiency of CEO contracting process. The evidence suggests that CEO contracts, rather than sheltering inferior managers from discipline, actually help align CEO interests with shareholders, alleviate managerial risk aversion, and encourage risky value-enhancing acquisitions. These findings stand counter to the emerging literature claiming that CEO contracts reflect the influence of CEO power over captured boards and represent managerial rent extraction at shareholder expense (Bebchuk and Fried, 2003, 2004). Moreover, this study examines heterogeneous effects of various contract provisions on managerial decision-making, and provides new perspectives beyond those explored in previous literature.

Second, this study contributes to recent empirical work on the characteristics and impacts of ex ante CEO employment and severance contracts. Schwab and Thomas (2006), Gillan et al. (2009), Rau and Xu (2013), and Rusticus (2006) examine the determinants of an explicit CEO employment or severance contract and conclude that contracts are offered to protect managerial human capital or from post-contractual opportunism. Lys and Sletten (2006), Huang (2011), Cadman et al. (2011), and Muscarella and Zhao (2011) investigate the relation between severance contracts, firm performance, and risk-taking in general, and Brown et al. (2011) analyze severance contracts in the financial industry. Yermack (2006a) and Goldman and Huang (2011) study ex post actual separation pay following CEO departure.

While these studies offer important insights on the characteristics of CEO contracts and their determinants in general, an attempt is still lacking to understand whether and how these contracts *ex ante* impact managerial behavior in M&A, arguably the most important corporate event. Furthermore, no prior work has explored comprehensively the heterogeneous effects of individual contract provisions on managerial investment decisions. This paper aims to fill this gap in the literature and shed new light on this topic.

This study is also related to a vast literature on change-in-control agreements ("golden parachutes"), which provide payments to departing executives whose firms are *acquired* (see Lambert and Larker (1985), Lefanowicz et al. (2000), Agrawal and Knoeber (1998), and Hartzell et al. (2004) for more details on golden parachutes). Overall this literature focuses on how golden parachutes affect *target* managers' resistance to takeover bids and *target* shareholder wealth (Jensen, 1988; Harris, 1990; Machlin et al., 1993). This paper explores the other side of the story: whether and how the existence and specifics of contractual protection affect *acquirer* managers' incentives in a takeover.

The rest of the paper proceeds as follows. Section 2 provides institutional background on CEO employment contracts and develops testable hypotheses. Section 3 describes the data and examines the determinants of a CEO contract. Section 4 investigates the effects of the existence of a CEO contract on M&A outcome. Section 5 explores the heterogeneity of individual contract provisions and their impacts on acquirer value creation. Section 6 concludes.

2. Background on CEO employment contracts and hypotheses development

This section reviews CEO employment contracts and develops two competing hypotheses. The first section provides an overview of CEO contracts, the second advances the incentive effect hypothesis, and the third develops the entrenchment effect hypothesis.

2.1. CEO employment contracts

Upon the departure of an existing CEO, a search committee of the board of directors will be organized to search for a new CEO. Upon the completion of the search the candidate and the board will negotiate an employment contract, which addresses a number of important issues. These include the title and responsibilities of the CEO, e.g., whether the CEO is also the chairman of the board or the president of the firm; the term of the employment; the basic compensation arrangement, such as annual base salary, target bonus, equity participation including stock options, restricted stocks, and long-term incentive plans; fringe benefits including supplemental executive retirement plans and deferred compensation; perquisites, such as a personal jet, automobiles, country club memberships, and the like[6]; the change-in-control agreement ("golden parachutes") that determines what a CEO is entitled to in the event of a takeover; and severance provisions that rule in the event of CEO termination.

A typical employment contract mainly protects the interests of the executive in an adverse situation. Terminations initiated by the firm are classified as for-cause or without cause; voluntary terminations are categorized as departure with and without good

[6] Yermack (2006b) finds that personal jets are associated with inferior shareholder returns.

reason. CEOs fired without cause or leaving the company with good reason are entitled to current annual salary and bonus for several years thereafter, as well as early vesting of options and restricted stocks. In contrast, executives who are fired for cause or quit without good reason may lose most of the benefits provided in the contracts. In defining "cause" and "good reason", poor performance or incompetence is rarely "just cause" for termination.[7] To illustrate the general idea, Appendix A provides an example of CEO employment agreement between Dr. Hank McKinnell and Pfizer.

2.2. The incentive effect hypothesis

Absent a contract, the theoretical literature suggests that risk-averse managers may forgo positive net present value (NPV) projects that are risky and personally costly. Employment or severance 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 actions they might otherwise avoid (Almazan and Suarez, 2003; Ju et al., 2004).[8] Manso (2011) predicts that CEO contracts stimulate innovation by enhancing tolerance for early failure and reward for long-term success.

Narayanan (1985) and Knoeber (1986) argue that to the extent that board cannot precisely estimate managerial ability ex ante, managers concerned about enhancing reputation and wages earlier in career, or about losing deferred compensation due to opportunistic behavior by the board in the event of a takeover are more likely to forgo long-run risky projects to augment current earnings.[9] Notably, Stein (1988, 1989) assert that if managers have more information than the market about the prospects of the firm's long-term projects, temporarily low earnings may lead to underpricing of the firm's stock and a takeover on the cheap. Managers concerned about losing control or job displacement have incentives to sacrifice long-term value-increasing projects to boost earnings. The magnitude of this myopia, however, is inversely related to the degree to which managers are concerned with retaining control (Stein, 1988). 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.

Several empirical studies confirm that indeed CEO employment and/or severance contracts protect managerial human capital in the event of a takeover or dismissal (Schwab and Thomas, 2006; Rusticus, 2006; Rau and Xu, 2013), against opportunistic behavior by the board, and from the uncertainty associated with taking a particularly risky job (Gillan et al., 2009).[10] This literature motivates the incentive effect hypothesis: *CEOs with an employment contract are more likely to make risky and value-enhancing acquisitions than CEOs without one*.

2.3. The entrenchment effect hypothesis

While an employment contract may enhance shareholder value by alleviating managerial risk aversion, it may also shelter an inferior CEO from the discipline of the corporate control market and dismissal pressure. By increasing the expected costs of dismissal and hence reducing the probability of CEO replacement, employment contracts may provide perverse incentives in managerial investment decisions. For example, Bertrand and Mullainathan (2003) and Atanassov (forthcoming) find that following the adoption of state anti-takeover laws, managers of affected firms prefer a quiet life and avoid costly efforts and risky decisions. Firm profitability subsequently declined. Muscarella and Zhao (2011) show that severance agreements insulate CEOs from discipline, induce managerial slack, and hinder patent innovation. Meulbroek et al. (1990) report that anti-takeover provisions lead to declines in R&D intensity suggesting these provisions entrench the incumbent.

This entrenchment effect of CEO contracts can have large impacts on acquisition decisions. Prior studies note that managers may undertake value-destroying acquisitions to reap personal benefits at shareholder expense.[11] Mitchell and Lehn (1990) and Lehn and Zhao (2006) show that the market for corporate control and internal governance help solve such incentive misalignment. However, employment contracts protect CEOs from the discipline of both devices. Masulis et al. (2007) report lower announcement returns for acquirers with more anti-takeover provisions, suggesting that entrenched managers tend to make value-decreasing M&A. Thus, the entrenchment effect hypothesis predicts: *CEOs with a contract are less likely to make risky, value-creating M&A than CEOs without one*. Note that the two competing hypotheses are not mutually exclusive, I attempt to unravel which effect dominates.

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[7] According to Schwab and Thomas (2006), only 3.47% of the S&P 1500 CEO contracts list incompetence as a cause for termination. Others include moral turpitude (72%), willful misconduct (69%), and failure to perform duties (58%). Good reason usually refers to demotion, pay reduction, and reallocation of the CEO.

[8] Such actions may include, e.g., investment in firm-specific human capital, a turnaround assignment, restructuring the company, closing unprofitable segments and branches, and undertaking risky innovation.

[9] Confirming this conjecture, Graham et al. (2005) report that the majority of U.S. managers believe that the labor market evaluates their capability based on short-run stock prices, and managers with career concerns admit to sacrificing long-term value-increasing projects, such as R&D, to boost current earnings. Xu (2011) shows that CEOs with a shorter horizon spend less on capital expenditures and acquisitions; however, CEO horizon does not affect firm value. Borokhovich et al. (1997), Agrawal and Knoeber (1998), and Hartzell et al. (2004) indicate large financial and career concerns of target CEOs due to a potential takeover.

[10] Yermack (2006a) examines ex-post actual separation pay to departing CEOs and finds evidence consistent with severance pay providing insurance for managerial human capital and facilitating smooth transition between CEOs.

[11] See Morck et al. (1990), Shleifer and Vishny (1988), Jensen (1986, 2005), and Grinstein and Hribar (2003), among others.

3. Data and methodology

3.1. CEO contract sample

This study focuses on S&P 500 companies. Following Gillan et al. (2009), I collect employment contract information from both The Corporate Library and Securities and Exchange Commission's (SEC) Edgar online filings for any CEO in office during 1990–2005 in each of the 2004's list of S&P 500 firms and their predecessors.[12] The Corporate Library conducted a survey on S&P 500 CEO employment contracts as of 2000 and obtained a set of explicit CEO contracts. This was later supplemented with a list of S&P 500 CEOs as of 2004, whose contract status was identified by collecting actual contract copies or summaries of contract terms from the SEC filings.[13] I start with this 2004's list of S&P 500 CEOs. To ensure the accuracy of CEO contract classifications, I examine the SEC filings to verify the status and nature of the contract for each CEO and make updates as needed. I then combine the set of contract copies and summaries for CEOs classified by The Corporate Library as having a contract with those located by searching the SEC filings for all remaining CEOs. To enable a time series analysis, I then include any CEO that has been in office during 1990–2005, resulting in a total of 1365 unique CEOs.[14]

For CEOs not covered by The Corporate Library, where the proxy statements mention the existence of a CEO contract, I search the proxy statements (DEF-14 or DEF-14A) for descriptions of contract terms and conditions and the firm's 10-K, 10-Q, and 8-K reports for any missing information, via an extensive keyword search as detailed in Appendix C.1. Regulation S-K, Item 402 of the SEC requires that all public companies disclose in their proxy statements the terms and conditions of any contract with their named executive officers.[15] This public disclosure is a relatively recent development in American securities law that dates back to the SEC's proxy disclosure reforms of 1992.[16] I follow Gillan et al. (2009) and believe that all firms disclose where a contract exists; otherwise they are in serious violation of securities regulations. Firms may also attach an actual copy of these agreements to their 10-K, 10-Q, or 8-K as exhibits; but since this is not required for every single year, I rely on the descriptions of contract terms disclosed in the SEC filings when necessary.

Following Gillan et al. (2009), I define an explicit employment contract as one covering the general employment relationship between a firm and its CEO, and exclude any agreement that only covers a specific relationship, such as the change-in-control agreement. Specifically, a CEO is defined to have a contract if it covers at least compensation, change-in-control, and severance agreements, for these three packages provide the most important explicit protection to a CEO.[17] Otherwise, the CEO is defined as having no contract.[18]

3.2. Mergers and acquisitions sample

Mergers and acquisitions announced and completed by the S&P 500 firms over 1993–2005 are identified from the Securities Data Corporation (SDC) database. The sample period begins in 1993 because the SEC disclosure requirements start in 1992 and ExecuComp begins coverage in 1992. The sample period ends in 2005 so that I can have at least three to five years in post-acquisition period to calculate acquirer long-run performance. I include deals that meet the following criteria[19]: (1) the deal value exceeds $10 million and is at least 5% of the acquirer market capitalization measured 42 trading days prior to the announcement,[20] (2) the acquirer owns less than 50% of the target's shares prior to the announcement and 100% after the transaction, (3) the deal is identified as either a merger or tender offer by SDC, and (4) the acquirer has necessary data available for all control variables from Compustat, CRSP, ExecuComp, Thomson Reuters' 13f , and RiskMetrics (formerly IRRC). The final sample consists of 577 complete M&A made by 344 different CEOs in 278 unique firms, out of which, 293 (50.8%) are made by CEOs with a contract and 284 (49.2%) without.

3.3. Summary statistics

Fig. 1(A) shows that the proportion of S&P 500 CEOs with an employment contract has steadily increased from 29% in 1990 to 50% in 2005.[21] Fig. 1(B) depicts the number of M&A made by sample firms during 1993–2005. Contract denotes acquisitions made by CEOs

[12] To the extent that S&P500 firms as of 2004 might contain those with strong performance or growth during previous years, Section 4.3.2 addresses this potential survivorship bias and all results remain robust.

[13] I thank Paul Hodgson and Nell Minow from The Corporate Library for providing the contract data and answering my questions about their CEO contract survey, data collection process and contract classifications.

[14] The data collection starts in November 2004 and ends in May 2007, with additional data collected in 2011. An earlier version using a random subsample of 250 firms and a sample period that ends in 2004 finds similar results.

[15] See the SEC website at http://www.sec.gov/divisions/corpfin/guidance/execcomp402interp.htm for detailed filing requirements. Compensation committees of public firms are also required to file an annual report that contains full disclosure of executive compensation related items and contractual relationship between the firm and the executive.

[16] Though the disclosure rules took effect in 1992, quite a few firms began disclosures even before that. In many cases, firms' filings after 1992 also contain pre-1992 information if the contract was entered into prior to 1992. However, to mitigate any selection bias, I focus on the period of 1993–2005.

[17] If a CEO does not have a so-called "employment contract", but has all the essential elements of a comprehensive employment agreement, i.e., separately an explicit compensation, severance, and change-in-control contract, I classify her as having a contract for these three components provide the most crucial explicit protection of one's employment. Results are robust to using comprehensive employment contracts or severance contracts only.

[18] These include cases in which (1) the firm explicitly discloses that no employment contract exists and upon my search it is confirmed so, or (2) there is no evidence in the proxy statement that any agreement exists.

[19] These are standard criteria widely used in the M&A literature, and ensure a focus on large impactful deals.

[20] Schwert (1996) shows that the market responds to deal information leakage as early as 42 trading days prior.

[21] Slightly less than half of S&P 500 CEOs have an explicit contract as of 2004, consistent with Gillan et al. (2009).

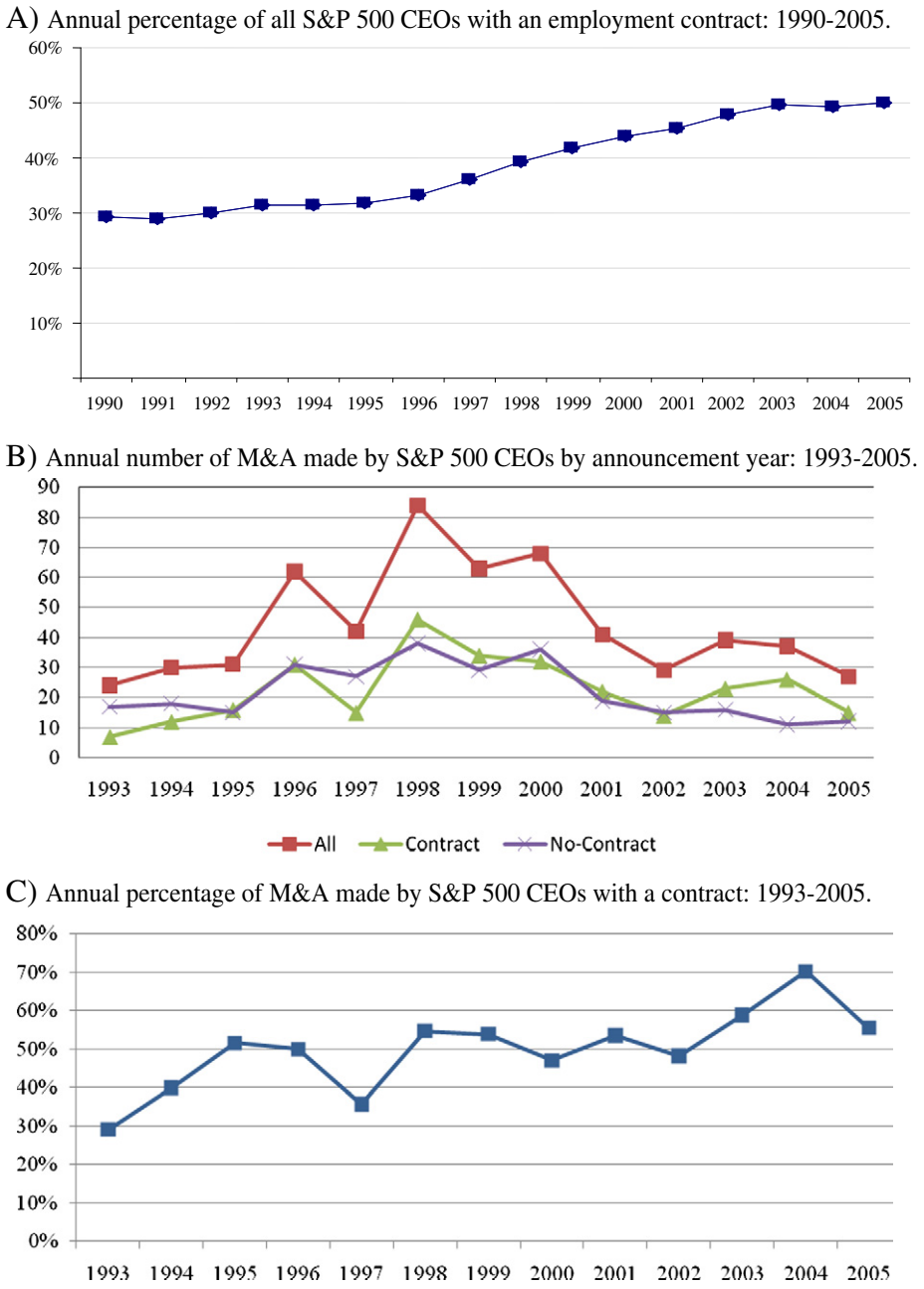

Fig. 1. (A) Annual percentage of all S&P 500 CEOs with an employment contract: 1990–2005. (B) Annual number of M&A made by S&P 500 CEOs by announcement year: 1993–2005. (C) Annual percentage of M&A made by S&P 500 CEOs with a contract: 1993–2005.

with a contract as of the announcement date, and no-contract otherwise.[22] Consistent with Moeller et al. (2005) and Masulis et al. (2007), the annual number of deals increases from 1993 through 1998. After the burst of the internet bubble, the M&A volume drops to the lowest level in 2002, and then rises slightly. Fig. 1(C) shows that similar to the trend in Fig. 1(A), the annual ratio of deals made by CEOs with a contract has risen from 1993 to 2005. Table 1 reports that some industries exhibit a higher proportion of acquirer CEOs with a contract than others, e.g., 71% in financial services and 62% in energy, compared to 31% in chemicals and 34% in non-durables.

Table 2 describes acquirer, deal, and CEO characteristics. Appendix B provides variable definitions.[23] On average acquirers with a CEO contract have smaller sales, market size, and Tobin's *q* than acquirers without one. Consistent with prior work, e.g., Masulis

[22] Results based on effective date, and both announcement and effective dates remain similar.

[23] All dollar values are measured in the 2005 constant dollars using the Consumer Price Index (CPI). All except indicator variables are winsorized at the 1% and 99% levels to mitigate the impact of outliers. Financial and compensation variables are measured at the fiscal year end prior to the announcement date.

Table 1
Sample distribution by industry.

	No. of deals			% of full sample			% of industry
	All	Contract	No-contract	All	Contract	No-contract	Contract
1 Non-durables	53	18	35	9.2	3.1	6.1	34.0
2. Consumer durables	14	7	7	2.4	1.2	1.2	50.0
3. Manufacturing	98	38	60	17.0	6.6	10.4	38.8
4. Energy	45	28	17	7.8	4.9	3.0	62.2
5. Chemicals	26	8	18	4.5	1.4	3.1	30.8
6. Electronics	83	38	45	14.4	6.6	7.8	45.8
7. Telecom	20	10	10	3.5	1.7	1.7	50.0
8. Utilities	42	19	23	7.3	3.3	4.0	45.2
9. Wholesale & retail	44	22	22	7.6	3.8	3.8	50.0
10. Medicals	58	35	23	10.1	6.1	4.0	60.3
11. Financial services	52	37	15	9.0	6.4	2.6	71.2
12. Other: hotels etc.	42	33	9	7.3	5.7	1.6	78.6
Total	577	293	284	100.0	50.8	49.2	

Sample distribution by twelve Fama-French industry. The full sample consists of 577 U.S. mergers and acquisitions (M&A) announced and completed by S&P 500 CEOs during 1993–2005. Contract denotes M&A made by acquirer CEOs with an employment contract as of the announcement date, and no-contract otherwise.

et al. (2007), the average (median) deal value is $3.3 billion ($982 million), which accounts for 29.5% (14.2%) of acquirer market capitalization. Approximately 40% of the sample is pure cash and 23% pure stock deals. Slightly less than 13% are tender offers, and 48% are diversifying deals. About 55% of the targets are public, a third are subsidiaries, and the remainder are private. CEOs with a contract tend to engage in smaller deals, fewer tender offers, and more private targets.

Acquirer CEOs with a contract are more likely to have a shorter tenure and be an outside hire, and are less likely to be a founder than CEOs without a contract, inconsistent with powerful CEOs using contracts to entrench themselves and extract rents. Consistent with contracts protecting managerial compensation risk (Gillan et al., 2009), acquirer CEOs with a contract receive larger compensation and more incentive pay. On average, acquirers with a contract have smaller CEO ownership and larger institutional ownership. Neither the Gompers et al. (2003) index (G-index) nor the Bebchuk et al. (2009) index (BCF-index) differs across firms with and without contracts.

3.4. Determinants of a CEO contract

In order to study the impacts of CEO contracts on managerial investment decisions, I first investigate the determinants of a contract to ensure that the findings are not driven by the endogenous nature of the choice to have a contract. Despite the extensive use of control variables, I address the endogeneity concern by estimating the instrumental variable/two-stage least squares (IV) and the treatment effects models.[24] The first stage predicts the likelihood of a CEO contract, and the second estimates acquirer performance and risk-taking.

I employ two instruments motivated by prior literature, which allows me to directly test instrument validity in an over-identified system. *Industry (State) Contract Ratio* is defined as the ratio of other S&P 500 CEOs in the same two-digit SIC industry (headquartered in the same state) that have a contract. It is commonly recognized that firms follow industry norm or local/state peers in designing top executive contracts (Bizjak et al., 2008; Kedia and Rajgopal, 2009). Thus, *Industry* and *State Contract Ratio* are expected to positively predict the likelihood of a CEO contract (the relevance criterion). However, the percentage of other CEOs with a contract in the same industry or state is unlikely to directly affect a CEO's acquisition decisions other than through the effect of a contract (the exclusion criterion). Following Gillan et al. (2009), I model the choice of a CEO contract as a function of the uncertainty about the sustainability of the contractual relationship between the executive and the firm, and the expected loss to the CEO should this relationship be terminated.

Table 3 reports the first-stage probit and OLS regressions predicting *Contract*, which equals one if the CEO has a contract as of the announcement date and zero otherwise. The marginal effects from the probit models are evaluated at the mean (zero) for continuous (binary) variables. Panel A focuses on the M&A sample.[25] Both *Industry* and *State Contract Ratio* are positive and significant, satisfying the relevance criterion. Specifically, a one standard deviation increase in *Industry* (*State*) *Contract Ratio* from its mean translates into an increase of 15.9% (17.7%) in the odds of a contract (model 1). Pearson correlation coefficients show that neither instrument is significantly correlated with acquirer returns or risk-taking.

Consistent with contracts protecting CEO human capital risk (Gillan et al., 2009; Rusticus, 2006; Rau and Xu, 2013), a contract is more likely to be used when the firm is more susceptible to takeovers (smaller firm), has recently underperformed (lower Tobin's q), is operating in a more volatile environment (greater stock return volatility), and when the CEO has less power over the board (lower BCF-Index and CEO ownership), has less experience and larger uncertainty about her quality (shorter tenure and

[24] In addressing endogeneity, Greene (2002), Cameron and Trivedi (2009), and Maddala (1983) suggest that both a regular IV and a treatment effects model with probit first-stage to account for the binary nature of *Contract* produce consistent estimates. While the IV results are more robust, the treatment effects model imposes more structure and in turn produces more precise estimation, but at the cost of a greater chance of misspecification error.

[25] Including *State Contract Ratio* as an additional instrument reduces the sample size from 577 to 500.

outside hire), and has a shorter horizon in the labor market and hence more incentives to sacrifice long-term risky projects (older age).[26]

Given that boards of directors negotiate the employment contract with a CEO, I also examine whether certain board characteristics affect the existence of a CEO contract. Motivated by prior work, I add board size, board independence, board busyness, board co-option, director tenure-weighted (TW) co-option, and the percentage of female directors to the regressions.[27, 28] For the M&A sample the odds of a CEO contract decreases in board size and busyness but increases in board independence. To the extent that smaller, more independent, and less busy boards indicate more effective board monitoring (Yermack, 1996; Adams and Ferreira, 2007; Fich and Shivdasani, 2006), results suggest that contracts are more likely when board monitoring is stronger. This is consistent with Almazan and Suarez (2003) and Gillan et al. (2009) that contracts are used to alleviate the dismissal pressure from a strong board or post-contractual board opportunism. However these three variables are insignificant for the full S&P 500 CEO sample. Instead, co-option and TW co-option are significant and positive, lending some support to the entrenchment effect hypothesis that contracts may result from CEO power over captive boards and facilitate managerial entrenchment (Bebchuk and Fried, 2003).

4. The presence of a CEO contract and M&A outcome

4.1. Do CEO contracts motivate good or bad acquisitions?

This section explores the effect of CEO employment contracts on value created to acquirer shareholders. To gauge the magnitude of value-creation, I first examine bidder announcement returns. Under the premise of an efficient market, the announcement returns should capture all value changes to acquiring shareholders due to an acquisition attempt.[29] However, extant studies report abnormal long-run post-acquisition performance. Since a priori it is not clear at exactly what point of time shareholder value is created or destroyed, I study two other metrics to further investigate the sources of value changes: (1) premium paid to target shareholders that measures overpayment or costs of purchasing the target, and (2) acquirer post-acquisition operating performance that captures deal profitability and synergies of the combined firm.

4.1.1. Acquirer announcement returns

Panel A of Table 4 presents univariate analysis of acquirer three-day cumulative abnormal returns, *CAR* (-1, +1), around the announcement date (day 0).[30] Consistent with prior work, acquirer *CAR*s are negative for the full sample.[31] While the contract sample exhibits zero *CAR*s, the no-contract group suffers negative *CAR*s. Both the mean and median differences are significant at the 1% level. The market appears to react more favorably to M&A announcements by CEOs with a contract, suggesting that these deals create more value to acquirer shareholders. On average, acquirers with a CEO contract garner a three-day return of 1.3% higher than acquirers without one, which translates into $183 million gains considering an average acquirer market capitalization of $14,062 million.

Panel B of Table 4 estimates multivariate OLS, IV, Heckman, and MLE treatment effects model regressions of acquirer *CAR* (−1,+1) on CEO contract. Appendix C.2 briefly describes the IV and treatment effects models. Year and industry fixed effects are included to control for merger waves across time and due to industry shocks (Mitchell and Mulherin, 1996; Mulherin and Boone, 2000).[32] Consistent with the incentive effect hypothesis, the baseline models 1–4 show that *Contract* is significantly and positively related to acquirer *CAR*s across all models. After addressing endogeneity, the coefficient on *Contract* ranges from 0.046 to 0.070 for baseline models, representing shareholder value increases of $647 to $984 million for an average sized acquirer. *Contract* appears to be endogenous (DWH p-value = 0.002), justifying the use of IV over OLS. Jointly, *Industry* and *State Contract Ratio* satisfy the exclusion criterion, and the weak instruments issue is unlikely. The inverse Mills ratio (IMR) of Heckman and the LR test of the MLE indicate the existence of selection bias, justifying the use of treatment effects models.

[26] To alleviate sample selection bias, Panel B of Table 3 uses all S&P 500 CEOs. Including *State Contract Ratio* as an instrument reduces the sample size from 4571 to 3863. I report second-stage results based on the first-stage estimation in Panel A; but results are robust to using all S&P 500 CEOs.

[27] I thank the referee for suggesting this point. There is a voluminous literature on the determinants of board size, composition, busyness, gender diversity, and their effects on corporate decisions and firm value. See e.g., Yermack (1996, 2004), Borokhovich et al. (1996), Huson et al. (2001), Gillan et al. (2006), Coles et al. (2008), Linck et al. (2008), Boone et al. (2007), Ferris et al. (2003), Coles et al. (2010), and Farrell and Hersch (2005).

[28] Note that including board characteristics reduces the sample size since (1) RiskMetrics board database starts coverage in 1996, thus only allowing for analysis of deals announced in 1997 and later, and (2) as documented in prior work (e.g., Coles et al., 2010) missing values for board co-option and female directors are more frequent than other attributes. Untabulated statistics show that for my M&A sample, the mean (median) board size is 10.6 (10), board independence is 0.67 (0.70), fraction of busy director is 0.15 (0.11), board co-option is 0.52 (0.46), TW co-option is 0.33 (0.16), and fraction of women on the board is 0.14 (0.13). Results are similar for the full S&P 500 CEO sample. All these figures are in line with prior work (Ferris et al., 2003; Coles et al., 2010; Yermack, 2004; Farrell and Hersch, 2005). Since both the first and second stage results are similar whether I use co-option or TW co-option, I report tests with TW co-option but all results are available upon request.

[29] Stein (1989) suggests that even with information asymmetry between managers and the market about long-term risky projects, in equilibrium, the market still accurately infers value changes at deal announcement. Notably, Song and Walkling (2000) discuss the potential problems with the short-window merger announcement returns. An alternative way is to measure merger gains by analyst forecasts; however, this is plagued by a small sample size (Devos et al., 2009).

[30] Fuller et al. (2002) indicate that the announcement dates in SDC are correct for about 93% of a random sample from 1990 to 2000 with the rest being different by no more than two days. Results are robust to using five-day *CAR* (−2,+2) to account for SDC errors.

[31] Andrade et al. (2001) document negative or zero bidder announcement returns.

[32] Using a large M&A sample over 1992–2009, Netter et al. (2011) find that merger waves are weakened with more representation of smaller and/or public firms than previously suggested in the literature.

Table 2
Summary statistics.

	All [N = 577]	Contract [N = 293]	No-contract [N = 284]	Difference *t*/[*z*]-statistics
	(1)	(2)	(3)	(2)–(3)
Panel A: Acquirer characteristics				
Assets ($mn)	15,108	13,754	16,504	−0.83
	[4,751]	[4,140]	[5,926]	[−2.87]***
Sales ($mn)	8637	7680	9625	−1.87*
	[4390]	[3786]	[5211]	[−3.00]***
Market cap ($mn)	14,062	11,152	17,065	−2.50**
	[5624]	[4727]	[6847]	[-4.25]***
Leverage ratio (%)	15.46	15.93	14.97	0.92
	[12.74]	[12.82]	[12.70]	[0.77]
Free cash flow (%)	4.53	4.01	5.07	−1.90*
	[4.71]	[4.17]	[4.81]	[−1.05]
Tobin's *q*	2.24	2.03	2.45	−3.06***
	[1.74]	[1.71]	[1.76]	[−1.40]
Capex/assets (%)	5.63	5.49	5.76	−0.67
	[4.57]	[4.21]	[5.03]	[−3.28]***
Stock ret [−1] (%)	18.18	16.14	20.29	−0.77
	[5.05]	[5.07]	[4.72]	[0.07]
Panel B: Deal characteristics				
Deal value ($mn)	3261	2807	3730	−1.94*
	[982]	[838]	[1443]	[−3.19]***
Relative deal value (%)	29.45	30.29	28.59	0.58
	[14.18]	[14.35]	[13.56]	[0.09]
Pure cash (1/0, %)	39.70	41.64	37.68	0.97
Pure stock (1/0, %)	23.05	20.48	25.70	1.49
Tender offer (1/0, %)	12.82	9.90	15.85	−2.13**
Diversifying deal (1/0, %)	47.83	48.12	47.54	−0.14
Public target (1/0, %)	54.77	51.88	57.75	−1.42
Private target (1/0, %)	13.86	16.38	11.27	1.78*
Subsidiary target (1/0, %)	31.37	31.74	30.99	0.20
Panel C: CEO characteristics				
CEO age	56.03	55.95	56.12	−0.31
	[56]	[56]	[57]	[−0.56]
Tenure (yrs)	17.93	14.51	21.46	−6.94***
	[15]	[10]	[21]	[−7.23]***
CEO tenure (yrs)	7.29	7.11	7.48	−0.59
	[5]	[4]	[5]	[−1.60]
CEO age > =65 (1/0, %)	8.84	9.56	8.10	0.62
Outside CEO (1/0, %)	11.27	18.09	4.23	5.44***
Founder (1/0, %)	15.77	13.31	18.31	−1.64*
CEO-chair (1/0, %)	77.30	76.11	78.52	−0.69
Panel D: CEO compensation and corporate governance				
Salary ($000s)	891	930	851	2.53**
	[845]	[850]	[844]	[1.51]
Bonus ($000s)	1287	1432	1137	2.35**
	[830]	[955]	[759]	[3.53]***
Stock options ($000s)	5414	7182	3589	4.13***
	[1876]	[2242]	[1485]	[2.78]***
Total pay ($000s)	9441	11,532	7284	3.89***
	[4823]	[5864]	[4296]	[3.96]***
Cash/total pay (%)	41.13	39.54	42.78	−1.57
	[37.32]	[33.76]	[40.20]	[−2.04]**
Options/total pay (%)	42.12	44.07	40.12	1.68*
	[39.39]	[43.16]	[36.97]	[1.65]*
Equity/total pay (%)	49.16	50.92	47.34	1.54
	[49.24]	[52.26]	[46.11]	[1.72]*
CEO ownership (%)	1.175	0.79	1.57	−2.94***
	[0.16]	[0.20]	[0.12]	[1.51]
Institutional ownership (%)	68.38	69.70	67.01	2.11**
	[69.75]	[71.13]	[68.42]	[2.20]**
G-Index	9.92	9.83	10.01	−0.81
	[10]	[10]	[10]	[−0.85]
BCF-Index	1.65	1.60	1.70	−1.06
	[2]	[2]	[2]	[−0.94]

Table 3
Predicting the use of a CEO employment contract.

	Panel A: M&A sample			Panel B: All S&P 500 CEOs		
	Probit	Probit	OLS	Probit	Probit	OLS
	(1)	(2)	(3)	(4)	(5)	(6)
Industry contract ratio	0.976***	2.227***	0.862***	0.834***	1.122***	0.681***
	(3.92)	(4.32)	(4.91)	(10.74)	(9.38)	(11.44)
State contract ratio	0.889***	1.348***	0.543***	1.119***	1.298***	0.889***
	(5.22)	(4.45)	(3.68)	(16.81)	(13.42)	(15.95)
Board size		−0.077***	−0.040***		−0.006	−0.006
		(−2.77)	(−2.61)		(−0.89)	(−1.09)
Board indep.		0.686	0.591***		−0.044	0.015
		(1.41)	(3.02)		(−0.43)	(0.21)
Busy board		−1.665***	−0.513**		0.137	0.051
		(−2.73)	(−2.00)		(0.97)	(0.51)
TW co-option		0.067	0.014		0.100**	0.070**
		(0.34)	(0.16)		(2.24)	(1.97)
Fraction female		−0.300	−0.304		0.117	0.058
		(−0.38)	(−0.76)		(0.58)	(0.38)
Ln (assets)	−0.164***	−0.218***	−0.099***	−0.013	−0.029*	−0.018
	(−4.51)	(−3.19)	(−3.08)	(−1.29)	(−1.94)	(−1.64)
Tobin's *q*	−0.141***	−0.158***	−0.058***	−0.018**	−0.017	−0.016**
	(-4.07)	(-2.71)	(-2.86)	(-2.24)	(-1.52)	(-2.14)
Leverage ratio	0.014	−0.198	0.106	−0.180***	−0.110	−0.084
	(0.04)	(−0.30)	(0.33)	(−2.65)	(−1.16)	(−1.20)
Capex/assets	−1.117	0.017	0.613	−0.199	−0.080	0.100
	(−1.60)	(0.01)	(1.02)	(−0.84)	(−0.20)	(0.38)
Stock ret [−3]	0.021	0.069**	0.029***	−0.004	−0.014	−0.004
	(1.53)	(2.42)	(2.84)	(-0.44)	(-1.06)	(-0.65)
LnVol [−3]	0.091	0.428	0.181*	0.050	0.106*	0.061*
	(0.65)	(1.60)	(1.75)	(1.35)	(1.94)	(1.72)
G-Index	0.010	0.023	0.010	0.014***	0.012*	0.005
	(0.62)	(0.81)	(0.67)	(2.77)	(1.69)	(0.94)
BCF-Index	−0.133***	−0.302***	−0.131***	−0.049***	−0.056***	−0.034***
	(−3.65)	(−4.22)	(−3.97)	(−4.32)	(−3.53)	(−2.78)
Institution. own.	−0.751***	−0.487	−0.383*	−0.004	−0.082	−0.063
	(−2.92)	(−0.98)	(−1.69)	(−0.06)	(−0.82)	(−0.87)
CEO ownership	−3.801***	−8.390***	−2.715*	−1.247***	−1.546**	−0.855**
	(−2.63)	(−2.60)	(−1.88)	(−3.70)	(−2.43)	(−2.23)
Equity/total pay	0.049	−0.164	−0.091	−0.043	−0.083	−0.052
	(0.40)	(−0.68)	(−0.85)	(−1.24)	(−1.61)	(−1.37)
CEO-chair	0.091	0.125	0.029	0.046**	−0.022	−0.022
	(1.10)	(0.79)	(0.41)	(2.02)	(−0.66)	(−0.90)
Founder	−0.028	−0.274	−0.086	0.031	−0.001	−0.004
	(−0.28)	(−1.31)	(−0.78)	(0.96)	(−0.01)	(−0.12)
Tenure	−0.011***	−0.018***	−0.009***	−0.013***	−0.017***	−0.013***
	(−3.53)	(−3.38)	(−3.02)	(−13.68)	(−12.35)	(−13.10)
Outside CEO	0.635***	0.665**	0.259***	0.280***	0.270***	0.213***
	(4.41)	(2.53)	(3.12)	(7.92)	(5.57)	(6.51)
CEO age	0.010*	0.007	0.006	0.008***	0.009***	0.007***
	(1.71)	(0.54)	(1.09)	(4.32)	(3.45)	(3.58)
CEO age > =65	0.208	0.382*	0.169	0.110***	0.124**	0.101**
	(1.62)	(1.66)	(1.15)	(2.83)	(2.09)	(2.28)
Ind. & yr. FE	Yes	Yes	Yes	Yes	Yes	Yes
N	500	263	263	3863	2110	2110
Log likelihood	−218.23	−82.74		−1992.17	−1029.20	
Pseudo/Adj. R^2	0.370	0.546	0.521	0.237	0.290	0.327

Marginal effects from probit and coefficient estimates from OLS regressions predicting the use of a CEO contract. Panel A uses the M&A sample and Panel B all S&P 500 CEOs over 1993–2005. The dependent variable is *Contract*, which equals one if the CEO has a contract as of the event date and zero otherwise. The event date is deal announcement day (the fiscal year end) for the M&A (full S&P 500 CEO) sample. *Industry (State) Contract Ratio* is the ratio of other S&P 500 CEOs in the same two-digit SIC industry (headquartered in the same state) that have a contract. Variables are defined in Appendix B and measured prior to the event date. Partial derivatives are evaluated at the mean (zero) for continuous (binary) variables. The OLS constant terms are omitted. Robust *t*-statistics are shown. ***, **, and * denote significance at the 1%, 5% and 10% level, respectively.

Notes to Table 2
The full sample consists of 577 U.S. M&A announced and completed by S&P 500 CEOs during 1993–2005. Contract denotes M&A by acquirer CEOs with an employment contract as of the announcement date, and no-contract otherwise. Appendix B provides variable definitions. All dollar values are measured in the 2005 constant dollars. All except indicator variables are winsorized at the 1% and 99% levels. Means [medians] are presented. The *t*-statistics for the difference between means and the *z*-statistics from the Wilcoxon rank sum tests for the difference between distributions are reported. ***, **, and * denote significance at the 1%, 5% and 10% level, respectively, in a two-tailed test.

Models 5–7 control for other related managerial protection motivated by prior literature, including indicator variables for change-in-control agreement (CIC), stand-alone severance, staggered board, poison pill, and compensation plan. Literature on anti-takeover provisions (ATP) indicates that individual ATP (rather than the overall index) such as staggered board, poison pill, and compensation plan may have the strongest deterrence effect in takeovers while others are irrelevant (Borokhovich et al., 1997; Bebchuk et al., 2009; Sokolyk, 2011).[33] Since extant work suggests that board characteristics may affect M&A outcome (Masulis et al., 2007), models 8–10 include board attributes as additional controls.[34] Results remain similar. The coefficients on control variables are consistent with the literature and suppressed for brevity.[35]

Panel B reports IV regressions where I include an interactive term between the deal type indicator and *Contract*. Unreported results show that *Contract* is positive across virtually all deal types. However, the positive incentive effect of *Contract* is larger in stock, merger, and public deals where the conflict of interest is severe and the danger of CEO making destructive M&A to seek private benefits is greater, lending further support to the incentive effect hypothesis.[36]

4.1.2. Acquisition premiums

The superior announcement returns of acquirers with a CEO contract may reflect the acquirer's ability to purchase the target at a lower price. It is also possible that contracts lead to a better deal with greater profitability. This section analyzes acquisition premiums as one of the sources of value creation, while the next examines acquirer profitability.

Following Datta et al. (2001), acquisition premium (*PREM4WK* from SDC) captures how much more an acquirer pays to target shareholders relative to target pre-event share price. The higher the premium paid, the lower the value generated to acquiring shareholders, ceteris paribus. Shleifer and Vishny (1988) and Jensen (1986) suggest that rent-seeking managers make value-destroying M&A by overpaying targets to extract personal benefits.[37] The entrenchment effect hypothesis thus predicts a positive relation between CEO contract and premiums.

Under the incentive effect hypothesis, however, acquirer CEOs with a contract may bargain more aggressively with their targets than CEOs without a contract, thereby reducing acquisition premiums and increasing the share of total merger gains to acquirer shareholders. This enhanced bargaining power arises for at least three reasons. First, contracts can mitigate managerial concerns about losing control, job, or reputation should a deal get cancelled.[38] Second, contracts may motivate CEOs toward risky targets that would have been otherwise forgone. CEOs with a contract thus have incentives to bid for both risky and safe targets, whereas CEOs without one may bid only for safe targets. This relative scarcity of bidders for risky targets reduces competition, and leads to lower target premium and larger share of merger gains to the bidder. Finally, CEOs with a contract whose horizon and incentives are more closely aligned with shareholders are less likely to overpay the targets to seek private benefits.

Table 5 Panel A reports univariate tests. The average (median) premium paid by bidders with a CEO contract is 38.5% (35.8%), significantly lower than 47.1% (41.2%) paid by firms without a contract. This 8.6% difference translates into savings of $317 million given an average target market capitalization of $3,691 million. Panel B estimates the OLS, IV, Heckman, and MLE treatment effects models.[39] After controlling for the key variables shown in prior studies to affect premiums (e.g., Schwert, 2000), *Contract* is significantly negative, indicating that CEOs with a contract pay lower premiums and create more acquirer value. Results are robust after addressing endogeneity and controlling for other managerial protection and board attributes.[40]

4.1.3. Acquirer post-acquisition operating performance

To further explore the wealth impact of CEO contracts, I also examine acquirer profitability as proxied by changes in acquirer three-year post-acquisition operating performance ($\Delta OPINC\,[-1,+3]$). Panel A of Table 6 presents univariate results. Consistent with the literature, all firms appear to underperform following M&A. On average, however, acquirers with a contract fare significantly better than their no-contract peers. Panel B reports multivariate regressions. After controlling for endogeneity, *Contract* is significant and positive across all models. Results are robust to accounting for other managerial protection and board attributes. A contract increases acquirer post-acquisition operating performance by 4.6 (IV model 6), 3.4 (Heckman model 7), and 3.7 (MLE model-untabulated) percentage points. Given an average $\Delta OPINC\,[-1,+3]$ of −2.32%, these improvements are economically significant.

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[33] I thank the referee for suggesting this point. I also conduct robustness tests to control for potential effects of ex post separation contracts ("golden handshakes") by excluding the deals from my contract subsample if the contract start date is within 6 months, 1, or 2 years of CEO departure date. All main results remain similar.

[34] The M&A sample size reduces to 298 after controlling for board characteristics, disallowing MLE estimation.

[35] Control variables (*Firm size, Tobin's q, Leverage, Free cash flow, Stock ret[-3], LnVol[-3], Relative deal value, Pure cash, Hostile, Private target, Subsidiary target, CEO ownership, CEO equity/total pay, CEO-Chair, Tenure, Outside CEO, CEO age*, and *CEO age* $>=65$ as defined in Appendix B) are included in all regression models.

[36] See Jensen (2005), Morck et al. (1990), Moeller et al. (2005), and Officer et al. (2009), among others. Cash offers are financed with pure cash. Tender offers and private targets are identified by SDC.

[37] Managers may pay for augmenting the size of the firm and the opportunity to diversify and entrench themselves.

[38] For example, Davidson et al. (1989) find that when the bidder cancels the deal, returns are negative, implying market suspicion about managerial capability in project selection and deal-making.

[39] The analysis of acquisition premium only applies to public targets, reducing the sample size from 577 to 254. Including *State Contract Ratio* in the first stage estimation further decreases the sample size to 212.

[40] Note that after controlling for other managerial protection or board attributes, the MLE model fails to converge due to a large number of controls plus year fixed effects (42 or 47), and a small number of observations (212). However, after excluding several insignificant control variables, the MLE model produces similar results.

Table 4
CEO contract and acquirer announcement returns.

Panel A: Univariate analysis

	Statistics	All	Contract	No-contract	*t*/ [*z*]-statistics
		(1)	(2)	(3)	(2)–(3)
CAR (−1,+1) (%)	Mean	−0.617***	0.012	−1.266***	2.72***
	[Median]	[−0.520]**	[0.318]	[−1.002]***	[2.95]***
	N	577	293	284	

Panel B: Multivariate regressions of *CAR* (−1, +1) on *Contract*

	OLS	IV	Heckman treatment	MLE treatment	OLS	IV	Heckman treatment	OLS	IV	Heckman treatment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Contract	0.012**	0.067***	0.046***	0.070***	0.012**	0.083***	0.045***	0.013*	0.051**	0.023*
	(2.35)	(3.47)	(3.31)	(5.99)	(2.22)	(3.25)	(3.16)	(1.71)	(2.35)	(1.74)
Board characteristics										
Board size								0.001	0.003	0.002
								(0.42)	(1.40)	(0.93)
Board indep.								0.025	−0.001	0.005
								(0.79)	(−0.03)	(0.17)
Busy board								0.053	0.064*	0.057
								(1.54)	(1.84)	(1.64)
TW co-option								0.008	0.004	0.004
								(0.67)	(0.29)	(0.31)
Fraction female								−0.018	−0.023	−0.032
								(−0.39)	(−0.52)	(−0.63)
Other related managerial protection										
CIC					−0.003	−0.044**	−0.001	0.006	−0.005	0.012
					(−0.39)	(−2.55)	(−0.13)	(0.48)	(−0.33)	(0.99)
Stand-alone sever.					0.006	0.017**	0.009	0.008	0.011	0.011
					(1.00)	(2.19)	(1.18)	(0.82)	(1.22)	(1.12)
Staggered board					−0.015*	−0.015	−0.018**	−0.041***	−0.051***	−0.049***
					(−1.91)	(−1.62)	(−2.28)	(−3.56)	(−4.26)	(−4.35)
Poison pill					−0.008	−0.008	−0.016**	−0.033***	−0.040***	−0.042***
					(−1.03)	(−0.87)	(−2.06)	(−2.92)	(−3.31)	(−3.53)
Comp. plan					0.002	0.004	0.004	0.007	0.012	0.011
					(0.33)	(0.50)	(0.57)	(0.70)	(1.08)	(1.07)
G-Index	−0.002*	−0.003**	−0.003**	−0.003**	−0.002	−0.002	−0.002*	−0.004*	−0.004*	−0.004*
	(−1.91)	(−2.03)	(−2.07)	(−1.96)	(−1.17)	(−0.93)	(−1.65)	(−1.78)	(−1.87)	(−1.94)
BCF-Index	0.005*	0.010***	0.008**	0.010***	0.011***	0.019***	0.018***	0.026***	0.035***	0.032***
	(1.65)	(2.78)	(2.48)	(2.84)	(2.68)	(3.56)	(3.67)	(4.27)	(4.71)	(4.60)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IMR			−0.024***				−0.023***			−0.006
			(−2.70)				(−2.58)			(−0.62)
N	577	500	500	500	577	500	500	298	263	263
R^2/[χ^2 p-val.]	0.178	0.025	[0.000]	[0.000]	0.186	0.001	[0.000]	0.313	0.288	[0.000]
Ind. & year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Over-identif. p-val.		0.410				0.772			0.315	
DWH end. p-val.		0.002				0.002			0.082	

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Table 4 (*continued*)

Panel B: Multivariate regressions of *CAR* (−1, +1) on *Contract*

	OLS	IV	Heckman treatment	MLE treatment	OLS	IV	Heckman treatment	OLS	IV	Heckman treatment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
S-Yogo p-val.		0.000				0.000			0.000	
LR p-val. (rho)				0.000						

Panel C: IV regressions of *CAR* (−1, +1) on the interaction between *Contract* and deal type indicator

	Pure cash	Tender offer	Private tgt.	Pure cash	Tender offer	Private tgt.	Pure cash	Tender offer	Private tgt.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Contract* Deal type	-0.069**	-0.057***	-0.052**	-0.087**	-0.056**	-0.055**	-0.060*	0.001	-0.062**
	(-2.43)	(-2.60)	(-2.49)	(-2.37)	(-2.40)	(-2.40)	(-1.90)	(0.02)	(-2.29)
Deal type	0.044***	0.029**	0.031**	0.054**	-0.056**	0.033**	0.026	-0.004	0.059***
	(2.72)	(2.35)	(2.37)	(2.54)	(-2.40)	(2.29)	(1.29)	(-0.23)	(3.17)
Contract	0.098***	0.079***	0.071***	0.130***	0.094***	0.089***	0.078**	0.049**	0.066**
	(2.97)	(3.41)	(3.35)	(2.74)	(3.15)	(3.22)	(2.13)	(2.01)	(2.56)
Board character	No	No	No	No	No	No	Yes	Yes	Yes
Other protection	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	500	500	500	500	500	500	263	263	263
R^2	0.024	0.039	0.030	0.011	0.015	0.000	0.269	0.294	0.267
Ind. & Yr. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chi-sq. p-val: (H0:Contract* Type = 0)	0.015	0.010	0.013	0.018	0.016	0.016	0.058	0.981	0.022
Over-identif. p-val.	0.333	0.568	0.208	0.747	0.953	0.444	0.170	0.314	0.709
DWH endog. p-val.	0.002	0.001	0.002	0.002	0.001	0.001	0.107	0.104	0.054
Stock-Yogo p-val.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The full sample consists of 577 U.S. M&A announced and completed by S&P 500 CEOs over 1993–2005. Panel A presents univariate tests. Panel B estimates the OLS, IV, Heckman two-stage treatment, and MLE treatment effects model regressions of acquirer announcement returns on CEO contract. Panel C conducts IV regressions on the interaction between contract and deal type indicator. The dependent variable is acquirer three-day cumulative abnormal returns around the announcement date (day 0), *CAR* (−1, +1), computed using the market model, CRSP value-weighted index as the market, and an estimation period of [−210, −11]. *Contract* equals one if the acquirer CEO has a contract as of the announcement day and zero otherwise. The IV model instruments *Contract* by *Industry* and *State Contract Ratio* as defined in Table 3, and estimates the two stages jointly. The p-values are reported for the over-identification, Durbin–Wu–Hausman (DWH) endogeneity, and Stock and Yogo (2005) weak instruments tests. The inverse Mills ratio (IMR) of Heckman is computed by estimating respectively the first stage probit models 1 and 2 of Table 3. The MLE treatment effects model estimates the main and selection equations (probit model 1 of Table 3) jointly and reports the p-value of LR test for rho (correlation between the two stage errors). Control variables (*Firm size, Tobin's q, Leverage, Free cash flow, Stock ret[−3], LnVol[−3], Relative deal value, Pure cash, Hostile, Private target, Subsidiary target, CEO ownership, CEO equity/total pay, CEO-Chair, Tenure, Outside CEO, CEO age, CEO age >=65*) are included in all models but suppressed. Variables are defined in Appendix B. The *t*-statistics and Wilcoxon *z*-statistics for univariate tests and robust *t*-statistics for regressions are shown. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Table 5
CEO contract and acquisition premium.

Panel A: Univariate analysis

	Statistics	All	Contract	No-contract	*t*/ [*z*]-statistics
		(1)	(2)	(3)	(2)-(3)
Premium (%)	Mean	43.02	38.50	47.11	−2.31**
	[Median]	[39.15]	[35.75]	[41.15]	[−2.22]**
	N		139	154	

Panel B: Multivariate regressions of *Premium* on *Contract*

	OLS	IV	Heckman treatment	MLE treatment	OLS	IV	Heckman treatment	OLS	IV	Heckman treatment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Contract	−0.091**	−0.202**	−0.187**	−0.393***	−0.074	−0.212*	−0.179*	−0.070	−0.249**	−0.187*
	(−2.17)	(−1.99)	(−2.04)	(−3.89)	(−1.40)	(−1.75)	(−1.91)	(−0.98)	(−2.08)	(−1.84)
Board characteristics										
Board size								−0.002	0.002	−0.003
								(−0.12)	(0.10)	(−0.19)
Board indep.								0.237	0.378	0.419
								(0.79)	(1.36)	(1.58)
Busy board								0.122	−0.092	−0.041
								(0.45)	(−0.31)	(−0.12)
TW co-option								−0.091	−0.073	−0.104
								(−0.85)	(−0.73)	(−0.96)
Fraction female								−0.372	0.016	−0.065
								(−0.78)	(0.03)	(−0.13)
Other related managerial protection										
Change-in-control					−0.046	0.122	0.027	−0.012	0.084	−0.047
					(−0.65)	(1.23)	(0.39)	(−0.13)	(0.73)	(−0.46)
Stand-alone severance					0.110	0.089	0.114*	0.193	0.196**	0.222**
					(1.48)	(1.27)	(1.77)	(1.62)	(1.97)	(2.20)
Staggered board					0.015	0.082	0.083	0.148	0.111	0.094
					(0.19)	(1.28)	(1.21)	(1.34)	(1.06)	(0.82)

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Table 5 (*continued*)

Panel B: Multivariate regressions of *Premium* on *Contract*

	OLS	IV	Heckman treatment	MLE treatment	OLS	IV	Heckman treatment	OLS	IV	Heckman treatment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Poison pill					0.011	0.033	0.046	0.033	−0.015	−0.029
					(0.17)	(0.49)	(0.71)	(0.30)	(−0.13)	(−0.28)
Compensation plan					−0.023	0.003	0.017	0.082	0.046	0.081
					(−0.44)	(0.05)	(0.30)	(1.03)	(0.47)	(0.81)
G-Index	0.004	0.015	0.015	0.014	0.008	0.012	0.012	−0.008	−0.009	−0.006
	(0.35)	(1.16)	(1.21)	(1.07)	(0.64)	(0.88)	(0.96)	(−0.37)	(−0.44)	(−-0.31)
BCF-Index	−0.004	−0.045	−0.042	−0.053	−0.011	−0.077*	−0.071*	−0.014	0.001	0.019
	(−0.12)	(−1.38)	(−1.43)	(−1.64)	(−0.22)	(−1.88)	(−1.68)	(−0.18)	(0.01)	(0.26)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IMR			0.083				0.077			0.132*
			(1.37)				(1.28)			(1.73)
N	254	212	212	212	254	212	212	140	117	117
R^2/[χ^2 p-value]	0.294	0.245	[0.000]	[0.000]	0.304	0.268	[0.000]	0.389	0.367	[0.007]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Over-identif. p-val.		0.611				0.659			0.384	
DWH endog. p-value		0.169				0.205			0.067	
Stock-Yogo p-value		0.000				0.000			0.000	
LR p-value for rho				0.004						

The full sample contains 577 U.S. M&A announced and completed by S&P 500 CEOs over 1993–2005. Panel A presents univariate tests and Panel B the OLS, IV, Heckman, and MLE treatment effects model regressions of acquisition premium on CEO contract. The dependent variable is *Premium*, defined as the percentage difference between the offer price and target share price four weeks prior to the announcement (*PREM4WK* from SDC). *Contract* equals one if the acquirer CEO has a contract as of the announcement day and zero otherwise. The IV, Heckman, and MLE models are described in Table 4 and Appendix C.2. Control variables (*Firm size, Tobin's q, Leverage, Free cash flow, Stock ret[−3], LnVol[−3], Relative deal value, Pure cash, Hostile, Bidders, CEO ownership, CEO equity/total pay, CEO-Chair, Tenure, Outside CEO, CEO age, CEO age > =65*) and target attributes (*Target size, ROE, MEBE, Leverage, Free Cash Flow*) are included in all models but suppressed. Variables are defined in Appendix B. The *t*-statistics and Wilcoxon *z*-statistics for univariate tests and robust *t*-statistics for regressions are shown. ***, **, and * denote significance at the 1%, 5% and 10% level, respectively.

Table 6
Acquirer long-run post-acquisition operating performance.

Panel A: Univariate analysis

	Statistics	All	Contract	No-contract	*t*/ [*z*]-statistics
		(1)	(2)	(3)	(2)–(3)
ΔOPINC [−1,+3] (%)	Mean	−2.32***	−1.58***	−3.01***	2.07**
	[Median]	[−1.77]***	[−1.79]***	[−1.71]***	[1.50]
	N	480	231	249	

Panel B: Multivariate regressions of *ΔOPINC* [−1,+3] on *Contract*

	OLS	IV	Heckman treatment	MLE treatment	OLS	IV	Heckman treatment	OLS	IV	Heckman treatment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Contract	0.005	0.033*	0.029*	0.034**	0.009	0.046**	0.034**	0.014	0.051***	0.037***
	(0.78)	(1.82)	(1.90)	(2.30)	(1.36)	(1.98)	(2.24)	(1.48)	(2.85)	(2.87)
Board characteristics										
Board size								−0.002	−0.001	−0.001
								(−0.96)	(−0.48)	(−0.79)
Board indep.								0.022	0.001	−0.001
								(0.62)	(0.05)	(−0.03)
Busy board								0.033	0.049	0.042
								(0.75)	(1.32)	(1.17)
TW co-option								−0.008	−0.024*	−0.025**
								(−0.51)	(−1.88)	(−2.10)
Fraction female								0.082	0.030	0.019
								(1.52)	(0.51)	(0.31)
Other related managerial protection										
CIC					−0.011	−0.037**	−0.017*	0.000	−0.018	0.004
					(−1.10)	(−2.08)	(−1.84)	(0.01)	(−0.98)	(0.31)
Stand-alone sever.					0.004	0.004	0.000	−0.009	−0.004	−0.000
					(0.52)	(0.46)	(0.03)	(−0.67)	(−0.28)	(−0.00)

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Table 6 (*continued*)

Panel B: Multivariate regressions of *ΔOPINC* [−1,+3] on *Contract*

	OLS	IV	Heckman treatment	MLE treatment	OLS	IV	Heckman treatment	OLS	IV	Heckman treatment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Staggered board					0.007	0.015*	0.013	−0.025	−0.024*	−0.019
					(0.88)	(1.69)	(1.40)	(−1.62)	(−1.94)	(−1.63)
Poison pill					0.017*	0.021**	0.019**	−0.005	−0.006	−0.007
					(1.82)	(2.25)	(2.07)	(−0.39)	(−0.48)	(−0.57)
Comp. plan					−0.008	−0.015*	−0.018**	−0.022	−0.031**	−0.042***
					(−1.12)	(−1.74)	(−2.41)	(−1.57)	(−2.10)	(−3.84)
G-Index	−0.001	−0.002	−0.002	−0.002	0.000	0.000	−0.000	−0.002	0.004	0.005
	(−0.40)	(−1.12)	(−1.19)	(−1.21)	(0.10)	(0.07)	(−0.01)	(−0.37)	(1.03)	(1.26)
BCF-Index	0.001	0.006	0.005	0.006	−0.005	−0.004	−0.004	−0.006	−0.008*	−0.009**
	(0.33)	(1.28)	(1.35)	(1.47)	(−1.24)	(−0.74)	(−0.74)	(−1.36)	(−1.93)	(−2.50)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IMR			−0.014				−0.015			−0.019**
			(−1.50)				(−1.55)			(−2.11)
N	480	412	412	412	480	412	412	220	192	192
R^2/ [χ^2 p-val.]	0.535	0.519	[0.000]	[0.000]	0.541	0.525	[0.000]	0.680	0.669	[0.000]
Ind. & Yr. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Over-identif. p-val.		0.554				0.446			0.402	
DWH endog. p-val.		0.139				0.133			0.031	
Stock-Yogo p-val.		0.000				0.000			0.000	
LR p-val. (rho)				0.060						

The full sample consists of 577 U.S. M&A announced and completed by the S&P 500 CEOs over 1993–2005. Panel A presents univariate tests and Panel B the OLS, IV, Heckman, and MLE treatment effects model regressions of acquirer post-acquisition operating performance on CEO contract. The dependent variable is *ΔOPINC* [−1,+3], defined as acquirer operating income before depreciation over assets for the third fiscal year since the fiscal end of deal completion minus the fiscal end prior to deal announcement. *Contract* equals one if the acquirer CEO has a contract as of the announcement day and zero otherwise. The IV, Heckman, and MLE models are described in Table 4 and Appendix C.2. Control variables (*Firm size, Tobin's q, Leverage, Free cash flow, OPINC/Assets, Stock ret[−3], LnVol[−3], CAR (−1,+1), Relative deal value, Pure cash, Hostile, Private target, Subsidiary target, CEO ownership, CEO equity/total pay, CEO-Chair, Tenure, Outside CEO, CEO age, CEO age > =65*) are included in all models but suppressed. Variables are defined in Appendix B. The *t*-statistics and Wilcoxon *z*-statistics for univariate tests and robust *t*-statistics for regressions are reported. ***, **, and * denote significance at the 1%, 5% and 10% level, respectively.

Collectively, the evidence suggests that contracts motivate value-increasing acquisitions. Specifically, acquirers with a CEO contract obtain better announcement returns than those without one. Further investigation of the sources of value creation reveals that contracts help lower acquisition premiums and encourage CEOs to pursue better deals with greater profitability.

4.2. Do CEO contracts encourage or discourage managerial risk-taking?

This section explores the relation between CEO contracts and managerial risk-taking. Acquisition risk is not directly observable ex ante; I use several proxies motivated by prior work (Coles et al., 2006; Cao et al., 2008; Titman et al., 2004) since each one of them captures certain aspect of risk. Ex ante target risk is measured by target pre-acquisition stock return volatility, Tobin's *q*, R&D to sales ratio (*R&D/Sales*), and growth options, *GO* [−3, −1], defined as the last three-year average of total capital and R&D expenditures to PP&E. To capture acquirer ex post risk changes, I compute acquirer post-acquisition stock return volatility and changes in growth options as proxied by Tobin's *q* and capital expenditures to total assets (*Capex/Assets*).

Table 7 contains Heckman treatment effects model regressions of acquisition risk on CEO contract and control variables motivated by literature. Panel A examines ex ante target risk and finds that *Contract* is positively and significantly related to all measures of target risk, suggesting that contracts motivate managers to purchase riskier targets. Specifically, CEOs with a contract are more drawn to targets with larger past return volatilities and recent underperformance (lower *q*). Results remain robust after controlling for other managerial protection and board attributes. Compared to their no-contract peers, acquiring CEOs with a contract tend to purchase targets with daily stock return volatilities of 0.009 higher over the past two years (model 2), equivalent to an increase of 29.2% from the sample mean of 0.0308.[41] Targets of bidder CEOs with a contract have Tobin's *q* (two years prior to the announcement date) of 0.72 lower (model 4) than targets of no-contract acquirers. Given that the mean target *q* is 2.06, this difference is economically non-trivial. Untabulated results show that CEOs with a contract tend to purchase riskier targets with greater growth opportunities (larger *R&D/Sales* and *GO* [−3, −1]).[42]

Panel B shows that acquirers with a CEO contract experience larger post-acquisition return volatilities and greater increases in growth options as approximated by Tobin's *q* and *Capex/Assets*.[43] Specifically, over one year following the M&A, daily stock return volatilities are 0.004 higher for acquirers with a contract (model 6), equivalent to an increase of 16.7% from the sample mean of 0.024. Over three years following deal completion, acquirers with a CEO contract exhibit changes in Tobin's *q* of 0.91 larger (model 8) and in *Capex/Assets* of 2% higher (model 10) than no-contract acquirers. Considering an average acquirer with pre-event *q* ratio of 2.24 and *Capex/Assets* of 5.63%, these changes are economically significant.

Overall, I find no evidence that contracts insulate CEOs who avoid risky investments. Rather, acquirers with a CEO contract tend to engage in riskier M&A and experience larger increases in post-acquisition risk, likely contributing to the greater acquirer value creation.

4.3. Alternative explanations and robustness

4.3.1. CEO contracts and the ex ante decision to acquire

The previous sections find evidence consistent with the incentive effect hypothesis in the M&A sample. I now examine directly whether contracts *ex ante* motivate better or worse deals using all S&P 500 CEOs. A priori, it is not clear whether CEO contracts induce managers to make more or fewer M&A. Indeed, untabulated results show that after controlling for endogeneity, *Contract* is insignificant in predicting M&A propensity. However, the key question is whether contracts ex ante motivate CEOs to pursue more or fewer value-*increasing* versus value-*destroying* M&A. To address this question, I follow Minnick et al. (2011) and divide the M&A sample into two groups, value-increasing and value-decreasing deals, based on acquirer *CAR* (−2, +2).[44] I then estimate a multinomial logit model using all S&P 500 CEO-firm-years regardless of M&A activity. Untabulated results show that compared to their no-contract peers, the odds of making a valuable acquisition is 1.6 times higher for CEOs with a contract, whereas the odds of making an inferior deal is 48% lower.

4.3.2. Addressing survivorship bias

While following prior literature in sample construction, I recognize a potential survivorship bias. The full sample is based upon the 2004 list of S&P 500 firms and their predecessors, and CEO contract information and M&A activity span the period of 1993–2005. A survivorship bias might arise if these firms have had strong performance and growth prior to 2004. To address this concern, I construct a new sample that starts with S&P 500 firms as of the beginning of 2000. CEO contract and M&A activity are then tracked from 2000 to 2006.[45] Unreported results show that the primary findings remain robust to this "rolling forward" approach.

4.3.3. Additional robustness

The main results are robust to (1) including an additional explanatory variable, *Outside Contract*, equal to one if the CEO is newly recruited from outside the firm and has a contract, and zero otherwise, to control for the possibility of outside

[41] While I present results using return volatilities to enable a direct interpretation of the economic magnitude, using the natural logarithms of return volatilities as dependent variables produce qualitatively the same results.

[42] Analysis for both variables are conducted without controlling for board attributes. Including board characteristics significantly reduces the sample size to 76 for target *R&D/Sales* [−2] and 68 for target *GO* [−3, −1], preventing well-specified tests on these variables.

[43] Results are robust to one- or two-year window, and to using *Capex/PP&E*.

[44] Results are robust to using *CAR* (−1, +1).

[45] The sample ends in 2006 since at least three additional years are needed to compute post-acquisition performance.

Table 7
CEO contract and acquirer risk-taking.

	Panel A: Ex ante target risk				Panel B: Acquirer post-acquisition risk changes					
	Stock ret. vol. 2-yr.		Tobin's *q* [−2]		Stock ret. vol. 1-yr.		ΔTobin's *q* [−1,+3]		*ΔCapex/assets* [−1,+3]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Contract	0.014***	0.009***	−1.313***	−0.715***	0.004***	0.004**	1.512***	0.912***	0.016**	0.020***
	(3.61)	(2.58)	(−3.80)	(−3.16)	(2.58)	(2.23)	(5.24)	(3.26)	(2.33)	(3.10)
Board characteristics										
Board size		−0.000		−0.031		0.001**		0.013		−0.002*
		(−0.03)		(−0.63)		(2.07)		(0.33)		(−1.77)
Board indep.		−0.006		1.654**		−0.000		−1.652**		−0.013
		(−0.70)		(2.05)		(−0.09)		(−2.53)		(−0.89)
Busy board		−0.010		−2.197**		0.003		0.759		0.008
		(−0.98)		(−2.02)		(0.55)		(0.94)		(0.43)
TW co-option		0.003		−0.751**		0.003**		0.005		−0.010
		(0.86)		(−2.50)		(2.03)		(0.02)		(−1.50)
Fraction female		−0.007		1.431		−0.004		1.766		0.000
		(−0.41)		(1.01)		(−0.50)		(1.30)		(0.00)
Other related managerial protection										
CIC		0.003		−0.263		−0.002		−0.266		−0.005
		(0.87)		(−0.84)		(−1.09)		(−1.00)		(−0.75)
Stand-alone sev.		−0.002		−0.501*		0.000		−0.087		0.002
		(−0.67)		(−1.83)		(0.37)		(−0.40)		(0.42)
Staggered board		−0.001		0.162		−0.002		0.203		−0.001
		(−0.30)		(0.64)		(−1.30)		(1.03)		(−0.11)
Poison pill		−0.001		−0.134		−0.000		0.103		−0.001
		(−0.37)		(−0.48)		(−0.24)		(0.49)		(−0.21)
Comp. plan		0.002		0.114		0.002		−0.361		0.001
		(0.80)		(0.38)		(1.63)		(−1.53)		(0.22)
G-Index	−0.000	−0.000	−0.027	−0.065	−0.001***	−0.001**	0.040	0.045	−0.000	−0.000
	(−0.05)	(−0.18)	(−0.87)	(−1.14)	(−3.68)	(−2.27)	(1.58)	(1.02)	(−0.49)	(−0.06)
BCF-Index	0.003***	0.003			0.001	0.002**				
	(3.30)	(1.25)			(1.62)	(2.25)				
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IMR	−0.009***	−0.007***	0.631***	0.000	−0.003***	−0.003***	−0.980***	−0.696***	−0.007	−0.008
	(−3.92)	(−3.14)	(2.92)	(0.00)	(−3.05)	(−2.73)	(−5.44)	(−3.67)	(−1.55)	(−1.62)
N	255	134	262	140	500	263	449	192	447	192
χ^2 p-val.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ind. & Yr. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table estimates Heckman two-stage treatment effects model regressions of acquirer risk-taking on CEO contract. The full sample consists of 577 U.S. M&A announced and completed by S&P 500 CEOs over 1993–2005. Including *State Contract Ratio* in the first stage reduces sample size to 500. Panel A examines ex ante target risk. The dependent variables are respectively the standard deviation of target daily stock returns over two years prior to the announcement and target Tobin's *q* at the fiscal end two years prior to announcement date. Panel B studies acquirer post-acquisition risk changes. The dependent variables are respectively the standard deviation of acquirer stock returns over one year since deal completion and changes in growth options proxied by Tobin's *q* and *Capex/Assets* measured at the third fiscal end after deal completion minus that prior to deal announcement. *Contract* equals one if the CEO has a contract and zero otherwise. The inverse Mills ratio (IMR) is computed by estimating respectively probit models 1 and 2 of Table 3. Control variables (*Firm size, Tobin's q, Leverage, Free cash flow, ROA, Capex/Assets, Stock ret[-1], LnVol[-1], Relative deal value, Pure cash, Pure Stock, Tender offer, Hostile, Private target, Subsidiary target, Diversifying deal, Institutional ownership, CEO ownership, CEO equity/total pay, CEO-Chair, Tenure, Outside CEO, CEO age*) and their various combinations are included in all models but suppressed. Variables are defined in Appendix B. Robust *t*-statistics are shown in parentheses. ***, **, and * denote significance at the 1%, 5% and 10% level, respectively.

CEOs with a mandate to restructure the firm, (2) including only the first M&A made by each CEO during the sample period to maintain independence of observations, (3) setting the minimum deal value at $1 million and relative deal value at 1%, 2%, or 10%, (4) calculating *premium* as cumulative market-adjusted abnormal returns for the *target* over [−42, 126] or through the delisting date if earlier (Schwert, 2000), and (5) using *ROA*, *ROE*, or Tobin's *q* to measure acquirer operating performance.

5. Exploring the heterogeneity of CEO contracts: which provisions matter?

In order to capture the overall protection provided to a CEO by her employment contract, I analyze an indicator variable for the existence of a contract in the previous section. However, CEO employment contracts are not all equal. This section explores specific characteristics of these contracts and their heterogeneous effects on acquirer value creation.

5.1. Details of CEO employment contract provisions

Table 8 describes individual contractual provisions for the 293 deals made by CEOs with a contract as of the announcement date. I am able to collect actual copies of contracts for 163 (55.6%) deals and rely on proxy summaries for the remainder.[46] Acquiring CEOs in 270 deals (92.2%) have a comprehensive employment contract as opposed to the combination of a severance and CIC agreement.

5.1.1. Contract term and length

Panel A analyzes overall contract term. Remaining (initial) duration measures the remaining time from deal announcement date (contract effective date) to expiration or renewal date. The longer the duration, the greater the explicit legal protection, job security, and guaranteed compensation for a CEO.[47] I identify the duration for each of the 293 M&A, and set it to zero for the 284 deals made by CEOs without a contract.[48] I follow Gillan et al. (2009) and set duration equal to one day (1/365 years) for contracts that do not specify duration at all or state that the CEO is employed at will or indefinitely. An evergreen contract is automatically renewed for a fixed term continuously unless either party decides to terminate the agreement; I use the renewable term as its duration.

Consistent with Gillan et al. (2009), the average (median) initial duration is 3.72 (3.00) for contract subsample, and 1.89 (0.003) for the full M&A sample.[49] At deal announcement, the remaining contract term of an average (median) acquiring CEO is 2.37 (1.92) years for the contract subsample and 1.2 (0.003) for the full sample. Of 293 cases with an explicit contract, 239 (81.57%) are fixed term, 46 (15.7%) are at will or indefinite, and 8 (2.73%) do not specify duration. One hundred and twenty one contracts (41.3%) have an evergreen term. To the extent that contract length measures the complexity of the contractual relationship (Gillan et al., 2009), the average (median) length is 12.72 (11.00) pages for the 163 actual copies of contracts.

5.1.2. Compensation, benefits, and perquisites

Panel B shows that the majority of contracts mention or specify initial salary (90.1%), and 202 (68.9%) stipulate that future salary will be at the discretion of the board for possible increases only. The mean (median) salary is $908,170 ($750,000) for 222 contracts with dollar amount. CEOs participate in annual bonus plans 86.4% (253) of the time, with an average target bonus of approximately one time salary. Annual compensation also includes specifics on cash signing bonus (7.85%), restricted stock grants (43%), option grants (60.4%), and employee benefits (80.9%) such as insurance benefits (75.8%), pension (64.9%) and supplemental employee retirement plans (SERPs) (57.7%). Panel C shows that contracts also allow for perquisites, including but not limited to legal fees, aircraft use, automobile allowance, financial planning, club membership, loans to CEO, family travel, purchase of house/apartment, outplacement services, and safeguard and security, etc.[50]

5.1.3. Severance pay provisions

Panel D describes severance provisions, typically upon no-cause termination and good-reason resignation. On average, severance pay contains a minimum (maximum) salary multiple of 2.28 (2.54), bonus multiple of 2.25 (2.52), in a few cases an additional lump sum payment, immediate or accelerated vesting of restricted stocks (42.3%) and options (53.2%), employee and pension benefits such as defined pensions, SERPs, continued insurance coverage, perquisites, and severance or change-in-control excise tax gross-up.[51] In return, executives may agree to sign restrictive covenants that protect the firm. For example, 149 of 293 contracts (50.9%) carry confidentiality, 26 (8.9%) non-disparagement, 183 (62.5%) non-compete and 126 (43%) non-solicitation agreements. The average minimum contract length is 2.46 (2.67) years for non-compete (non-solicit) covenants. Only 14 contracts (4.8%) contain clawback clause, which is typically triggered by executive violation of restrictive covenants.[52]

5.1.4. Just cause and good reason

Panel E describes actions defined as just cause for CEO termination and good reason for resignation. Of the 293 contracts, 114 (38.9%) fail to mention or specify just cause and 112 (38.2%) fail to specify good reason.[53] I define just cause and good reason pursuant to the contracts. I then group various causes into three categories. *Criminal* involves CEO actions in violation of laws (81%

[46] It is possible that some acquiring CEOs in my sample might have had an employment contract prior to but not at deal announcement date; these CEOs do not enter my M&A contract subsample, unlike other studies, e.g., Schwab and Thomas (2006) and Gillan et al. (2009). As discussed later, however, the overall structure and characteristics of my contract sample are similar to prior studies. For acquiring CEOs that have multiple versions of contracts and/or restatements and amendments, I use the latest one as of deal announcement date.

[47] Often a CEO contract stipulates that, upon early termination, exit CEOs (without cause or for good reason) continue to receive contractual payment for the remaining term of a contract.

[48] For a few contracts that specify the term of employment as "until retirement", I use 65 as retirement age.

[49] Gillan et al. (2009) report a mean (median) initial duration of 3.41 (3.00) years for explicit contract sample, and 1.38 (0.00) for all S&P 500 CEOs. Xu (2011) finds an average remaining term of 2.14 yrs for fixed-term contracts.

[50] Yermack (2006b) and Rajan and Wulf (2006) study executive perks in more detail.

[51] Figures are consistent with prior work such as Rusticus (2006), Lys and Sletten (2006), and Rau and Xu (2013).

[52] In stark contrast to CEOs who are fired without cause or quit with good reason, untabulated results show that CEOs departing for-cause or without good reason forfeit most of the contractual payment. Out of 262 contracts with available information, 215 (82.1%) specify termination pay to amount accrued, deferred, or earned (prorated) by, but not yet paid to the executive as of termination day, 44 (16.8%) contracts constitute zero payment, two (0.68%) have a two-year multiple of payment, and only one (0.34%) contains payment for the remaining term of the contract.

[53] Schwab and Thomas (2006) find 26 of 375 S&P 1500 CEO contracts (6.9%) have missing just cause, and 100 (26.7%) have missing definitions for good reason. The higher ratio of missing just cause definition in my M&A sample may be partly because it includes not only actual contract copies (55.6%) but also proxy summaries on contract terms, which are less likely than the former to provide more detailed definitions. However, the percentages of different causes and good reasons in the non-missing sample are similar to Schwab and Thomas (2006).

Table 8
Details of CEO employment contract provisions.

Panel A: Overall contract term

Contract provision	N	% Sample	Mean	Median
Remaining duration (yrs)	293	100.00	2.37	1.92
Initial duration (yrs)	293	100.00	3.72	3.00
At will	46	15.70		
Evergreen term	121	41.30	2.34	2.00
Contract length (pages)	163	55.63	12.72	11.00

Panel B: Annual compensation and benefits

	N	% Sample	Mean	Median
Salary indicator	264	90.10		
Initial salary ($)	222	75.77	908,170.00	750,000.00
Future salary increase only	202	68.94		
Cash signing bonus ($)	23	7.85	981,739.00	500,000.00
Annual bonus indicator	253	86.35		
Target bonus (multiple of annual salary)	95	32.42	0.96	1.00
Min target bonus	59	20.14	0.67	0.60
Max target bonus	59	20.14	2.10	2.00
Restricted stock grant indicator	126	43.00		
Option grant indicator	177	60.41		
Employee benefit plan indicator	237	80.89		
Insurance (life/health/dental/accident/disability)	222	75.77		
Pension	190	64.85		
Supplemental retirement plan (SERP)	169	57.68		

Panel C: CEO perquisites

Perquisites	N	% Sample	Perquisites	N	% Sample
Automobile use	85	29.01	Estate-related expenses	42	14.33
Legal/attorney fees	72	24.57	Loan to CEO	20	6.83
Tax or financial planning	68	23.21	Outplacement services	20	6.83
Office and secretarial support	62	21.16	Annual physical exam	18	6.14
Aircraft use	57	19.45	Safeguard and security	14	4.78
Club membership	55	18.77	Spouse or family travel	6	2.05

Panel D: Severance pay provisions

Contract provision	N	% Sample	Mean	Median
Cash-related severance compensation				
Salary indicator	272	92.83		
Min salary multiple	263	89.76	2.28	2.00
Max salary multiple	263	89.76	2.54	2.00
Additional lump sum payment ($)	14	4.78	5,474,428.00	3,000,000.00
Bonus indicator	215	73.38		
Min bonus multiple	212	72.35	2.25	2.00
Max bonus multiple	212	72.35	2.52	2.00
Restricted stock vesting indicator	124	42.32		
Option vesting indicator	156	53.24		
Retirement, insurance, and perquisites				
Employee benefit indicator	209	71.33		
Pension benefit indicator	173	59.04		
SERP indicator	156	53.24		
Insurance indicator	243	82.94		
Min insurance benefits (yrs)	156	53.24	6.17	3.00
Max insurance benefits (yrs)	156	53.24	6.35	3.00
Severance pay tax gross-up	110	37.54		
Change-in-control (CIC) tax gross-up	155	52.90		
Severance perk continuation indicator	136	46.42		
Restrictive covenants and clauses				
Confidentiality	149	50.85		
Nondisparage	26	8.87		
Noncompete	183	62.46		
Min length of noncompete (yrs)	139	47.44	2.46	2.00
Nonsolicit	126	43.00		
Min length of nonsolicit (yrs)	93	31.74	2.67	2.00
Arbitration clause	93	31.74		

Table 8 (*continued*)

Panel D: Severance pay provisions

Contract provision	N	% Sample	Mean	Median
Executive release of claims	11	3.75		
Clawback	14	4.78		

Panel E: Actions defined as just cause and good reason for CEO termination and resignation

	N	% Sample	% Non-missing
Just cause action			
Missing: not mentioned or specified in document	114	38.91	
Criminal:	145	49.49	81.01
Conviction of felony	119	40.61	66.48
Fraud, embezzlement, and theft	104	35.49	58.10
Professional:	169	57.68	94.41
Breach of fiduciary duties or agreement	80	27.30	44.69
Willful misconduct	118	40.27	65.92
Gross or illegal misconduct	75	25.60	41.90
Failure to perform duties	121	41.30	67.60
Personal:	116	39.59	64.80
Moral turpitude and dishonesty	116	39.59	64.80
Substance abuse	5	1.71	2.79
Good reason action			
Missing: not mentioned or specified in document	112	38.23	
Diminution in position or authority	158	53.92	87.29
Duties inconsistent with CEO position	78	26.62	43.09
Relocation	133	45.39	73.48
Failure to compensate or reduction in pay & benefits	139	47.44	76.80
Failure to secure successor agreement	10	3.41	5.52
Failure to reelect or (re)appoint executive	75	25.60	41.44
Material breach of agreement by company	107	36.52	59.12
Other	58	19.80	32.04

This table presents detailed characteristics of acquiring CEO employment contracts for 293 U.S. M&A announced and completed by S&P 500 CEOs with a contract over 1993–2005.

of 179 contracts with non-missing cause), including conviction of felony or misdemeanor (66.5%), and fraud, embezzlement and theft (58.1%). *Professional* constitutes CEO actions associated with carrying out fiduciary or professional duties, actions typically harmful to shareholders but not necessarily breaking the law. These include breach of fiduciary duties or agreement (44.7%), willful misconduct (65.9%), gross misconduct (41.9%), and failure to perform duties (67.6%). *Personal* contains actions pertaining to personal preferences and moral attitudes that may or may not adversely affect shareholder value, such as moral turpitude and dishonesty (64.8%) and substance abuse (2.8%).[54]

Diminution in CEO position and responsibility ranks the top for good reason (87.3% of non-missing categories). Others include duties inconsistent with CEO position (43.1%), relocation (73.5%), failure to compensate the CEO or reduction in pay and benefits (76.8%), failure to reappoint the executive (41.4%), material breach of agreement by the firm (59.1%), and failure of the firm to secure a successor's written assumption of contract (5.5%).[55]

5.2. Contract heterogeneity and acquirer value creation: which provisions matter?

In light of the heterogeneity of contract characteristics, this section explores the potential effects of different provisions on acquirer value creation. Table 9 presents coefficient estimates from IV regressions of acquirer *CAR* $(-1, +1)$, acquisition premium, and acquirer post-acquisition operating performance on individual provisions.[56] I employ two instruments for each provision, *Industry (State) Provision Ratio*, defined as the percentage of acquiring CEOs in the same two-digit SIC industry (headquartered in the same state) that have a contract containing such a provision. Regression specifications follow previous

[54] I thank Chuck Knoeber for discussions on corporate law perspectives of CEO employment agreements. The point is that the more detailed the definition of just cause, the less ambiguity, and the lesser degree to which both parties will have to rely solely on the interpretation of the court to enforce a contract in the case of a dispute. However, even the most detailed definitions are subject to important caveats. For example, Cediant Corp's 2002 employment contract with its CEO Henry R. Silverman stated "no act or failure to act on the part of the Executive shall be considered 'willful' unless it is done, or omitted to be done, by the Executive without reasonable belief that Executive's action or omission was in the best interests of the Company." Similar statements are ubiquitous.

[55] The overall distributions of just cause and good reason are consistent with Schwab and Thomas (2006). However since I draw definitions directly from languages used in CEO contracts, I include more refined and detailed categories, some of which are not covered in Schwab and Thomas (2006), such as breach of agreement by the firm.

[56] For brevity, coefficient estimates on controls are omitted but available upon request.

Table 9
IV regression analysis of the heterogeneity of CEO contracts: which provisions matter?

Provision coefficient	Control variables and other related managerial protection			Control variables, other related managerial protection and board characteristics		
	CAR (−1, +1)	*Premium*	*ΔOPINC* [−1, +3]	CAR (−1, +1)	*Premium*	*ΔOPINC* [−1, +3]
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Overall contract term						
At will	−0.050**	0.349**	0.001	-0.032**	0.247**	0.008
	(−2.27)	(2.55)	(0.05)	(−2.12)	(2.41)	(0.55)
Remaining duration	0.004	−0.003	0.005**	0.008	−0.064**	0.001
	(1.53)	(−0.19)	(2.51)	(1.45)	(−1.96)	(0.13)
Remaining duration > Median	0.075**	−0.419**	0.046	0.030**	−0.235**	−0.008
	(2.04)	(−1.98)	(1.20)	(1.97)	(−2.33)	(−0.59)
Evergreen	−0.006	−0.216*	0.007	−0.008	−0.348	−0.008
	(−0.46)	(−1.75)	(0.46)	(−0.46)	(−1.60)	(−0.37)
Contract length	0.001	−0.005	−0.001	−0.000	−0.006	0.001
(pages)	(1.13)	(−0.59)	(−0.77)	(−0.13)	(−0.92)	(1.04)
Panel B: Annual compensation						
Salary indicator	0.049**	−0.281**	0.013	0.032**	−0.227**	0.015
	(2.13)	(−1.98)	(0.46)	(2.15)	(−1.99)	(0.88)
Salary increase only ind.	0.005	−0.233	−0.008	0.016	−0.302**	0.002
	(0.38)	(−1.53)	(−0.56)	(1.08)	(−2.24)	(0.15)
Bonus indicator	0.046**	−0.365**	0.018	0.036**	−0.209*	0.027*
	(2.25)	(−2.03)	(0.84)	(2.28)	(−1.74)	(1.77)
Restricted stock	0.013	−0.173	0.032**	0.021	−0.388**	0.017
	(1.02)	(−1.55)	(2.34)	(1.22)	(−2.21)	(0.77)
Option grant	0.017	−0.191*	0.044***	0.021	−0.438***	0.029
	(1.12)	(−1.68)	(2.64)	(1.21)	(−2.75)	(1.08)
SERP indicator	0.024*	0.006	0.029**	0.022	0.055	0.015
	(1.78)	(0.06)	(2.07)	(1.49)	(0.42)	(0.87)
Panel C: Severance pay provisions						
Severance salary ind.	0.062*	-0.427*	0.026	0.029*	-0.176	0.019
	(1.91)	(−1.83)	(0.78)	(1.78)	(−1.60)	(1.30)
Sev. min. salary multiple	0.009	−0.031	0.018**	0.003	−0.053	0.011*
	(0.96)	(−0.46)	(2.03)	(0.40)	(−0.98)	(1.89)
Severance bonus ind.	0.020	−0.204	0.036*	0.015	−0.130	0.012
	(1.10)	(−1.45)	(1.84)	(0.99)	(−1.17)	(0.81)
Sev. min. bonus multiple	0.007	−0.016	0.013**	0.003	−0.015	0.014**
	(1.21)	(−0.33)	(1.96)	(0.56)	(−0.30)	(2.14)
Additional lump sum ind.	0.064*	−0.081	−0.146***	0.060	−0.227	−0.013
	(1.75)	(−0.42)	(−2.74)	(1.25)	(−1.01)	(−0.36)
Stock vesting	0.028*	−0.283**	0.045***	0.036*	−0.199	0.054**
	(1.72)	(−2.00)	(2.76)	(1.86)	(−1.11)	(2.51)
Option vesting	0.022	−0.224*	0.033**	0.031*	−0.204	0.040**
	(1.44)	(−1.84)	(2.31)	(1.69)	(−1.20)	(2.23)
Benefit indicator	0.033**	0.006	0.050***	0.015	−0.052	0.027
	(2.26)	(0.04)	(3.33)	(0.96)	(−0.38)	(1.51)
Insurance indicator	0.033	−0.224	0.052**	0.020	−0.194	0.032**
	(1.48)	(−1.31)	(2.24)	(1.27)	(−1.54)	(2.15)
Min insurance benefits (yrs)	0.001	−0.008	0.002**	0.001	−0.010	0.002*
	(0.96)	(−1.21)	(2.16)	(1.13)	(−1.30)	(1.86)
Severance perk	−0.022	0.221**	0.013	−0.029*	0.191	0.024
continuation ind.	(−1.44)	(2.10)	(0.72)	(−1.85)	(1.39)	(1.15)
Panel D: Restrictive covenants and just cause (good reason) for CEO termination (resignation)						
Confidentiality	0.004	−0.044	0.040**	0.009	−0.240	0.034**
	(0.29)	(−0.42)	(2.18)	(0.48)	(−1.47)	(2.12)
Noncompete ind.	0.014	−0.153	0.023	0.015	−0.378**	0.034***
	(0.93)	(−1.34)	(1.42)	(0.87)	(−2.29)	(2.65)
Noncompete min. yrs	0.003	−0.051	0.004	0.012	−0.250	−0.005
	(0.50)	(−0.93)	(0.60)	(1.43)	(−1.60)	(−0.65)
Nonsolicit ind.	0.026*	−0.181	0.050***	0.030*	−0.407*	0.032*
	(1.84)	(−1.24)	(3.15)	(1.78)	(−1.69)	(1.90)
Nonsolicit min. yrs	0.006	−0.006	0.013*	0.006	−0.083	−0.010
	(1.05)	(−0.13)	(1.92)	(0.77)	(−0.81)	(−1.00)
Cause missing	−0.026*	0.087	−0.055***	−0.029*	0.227**	−0.043***
	(−1.66)	(0.87)	(−3.16)	(−1.78)	(1.99)	(−2.69)
Reason missing	−0.017	0.076	−0.030**	−0.016	0.176	−0.032***
	(−1.11)	(0.62)	(−2.04)	(−1.19)	(1.58)	(−2.64)

Table 9 (*continued*)

Provision coefficient	Control variables and other related managerial protection			Control variables, other related managerial protection and board characteristics		
	CAR (−1, +1)	*Premium*	*ΔOPINC* [−1, +3]	CAR (−1, +1)	*Premium*	*ΔOPINC* [−1, +3]
	(1)	(2)	(3)	(4)	(5)	(6)
Cause: criminal	0.024*	−0.121	0.046**	0.028	−0.227	0.060***
	(1.70)	(−0.94)	(2.57)	(1.54)	(−1.31)	(2.70)
Cause: Professional	0.023	−0.072	0.056***	0.030*	−0.207*	0.044***
	(1.52)	(−0.73)	(3.55)	(1.75)	(−1.73)	(2.61)
Cause: failure to perform duties	0.013	−0.092	0.040***	0.027	−0.162	0.027
	(1.04)	(−0.91)	(3.09)	(1.54)	(−1.21)	(1.62)
Cause: willful misconduct	0.008	−0.065	0.045***	0.024	−0.228	0.059***
	(0.57)	(−0.63)	(2.86)	(1.31)	(−1.11)	(3.26)
Cause: moral turpitude	0.027**	−0.057	0.030**	0.029	−0.112	0.033*
	(2.07)	(−0.40)	(2.08)	(1.62)	(−0.68)	(1.75)
Reason: diminution in position/authority	0.016	−0.050	0.045***	0.013	−0.166	0.036***
	(1.18)	(−0.42)	(3.41)	(0.91)	(−1.53)	(2.75)
Reason: duties inconsist. with CEO position	0.006	−0.072	0.004	0.021	−0.163	0.024
	(0.45)	(−0.66)	(0.28)	(1.06)	(−1.29)	(1.56)

This table estimates the IV regressions of acquirer value creation on individual provisions of CEO contracts. The full sample consists of 577 U.S. M&A announced and completed by S&P 500 CEOs over 1993–2005. The IV model instruments each individual contract provision by *Industry (State) Provision Ratio*, defined as the percentage of acquiring CEOs in the same two-digit SIC industry (headquartered in the same state) that have a contract containing the individual provision, and estimates the two stages jointly. Model specifications follow previous tables and contain the full set of controls, other related managerial protection, and fixed effects for models 1–3, except that now individual provision is substituted for *Contract*, and *Severance*, which equals one if the CEO has any contractual severance pay provision and zero otherwise, is substituted for stand-alone severance. Models 4–6 also control for board characteristics as specified in previous tables. Variables are defined in Appendix B. Robust *t*-statistics in parentheses underneath coefficient estimates are reported for individual contract provisions and suppressed for all control variables. ***, **, and * denote significance at the 1%, 5% and 10% level, respectively.

tables, except that individual provision is now substituted for *Contract*.[57] Regression models 1–3 include all control variables and other related managerial protection while models 4–5 also control for board characteristics. Results are consistent across model specifications.

Panel A examines the overall term structure of contracts. Interestingly, at will contracts are significantly negative (positive) in predicting *CAR*s (*Premium*), suggesting that absent definite protection, CEOs may be more risk averse and less willing to pursue risky value-creating M&A. Consistent with longer duration providing greater protection to a CEO and encouraging long-term, risky, and value-creating M&A, an indicator that equals one if the remaining duration of a contract is above the median is positively (negatively) associated with acquirer *CAR*s (*Premium*). Neither evergreen terms nor contract length affects acquirer profitability. While the automatic renewal of a contract may provide better ex ante job security, it also makes it harder to remove poorly-performing CEOs. These opposing effects may cancel each other. To the extent that contract length approximates contract complexity (Gillan et al., 2009), the evidence suggests that contract complexity has no material impact on value-creation in M&A.

Panel B analyzes annual compensation. Minimum salary and bonus are positively (negatively) associated with *CAR*s (*Premium*), suggesting that explicitly guaranteed protection from below mitigates managerial risk aversion and lead to better deals. In contrast, the stipulation that allows for salary increases only does not matter generally. While guaranteed increases of future salary may provide insurance for a CEO's expected minimum pay, it may also induce managerial entrenchment due to reduced pay-for-performance. It is possible that the two opposing incentives offset each other. Consistent with equity incentives more closely aligning managerial interests and horizon with shareholders (Jensen and Meckling, 1976; Jensen and Murphy, 1990; Datta et al., 2001), long-term equity incentives (restricted stock and option grants) are positively associated with acquirer long-run post-acquisition performance. This positive relation also holds for SERPs.[58]

Panel C investigates severance pay provisions. Consistent with the findings for basic compensation, guaranteed salary and bonus multiples represent minimum protection on the downside and are positively related to acquirer profitability, albeit only marginally significant. A lump sum cash payment *in excess* of salary and bonus multiples are significantly and negatively related to acquirer post-acquisition operating performance, reflecting managerial rent extraction at shareholder expense. However after controlling for board characteristics, this effect disappears. Accelerated vesting provisions for restricted stocks and options in severance arrangement are associated with greater acquirer value creation, consistent with the hypothesis that equity incentives more closely link managerial wealth to long-term shareholder value and motivate value-increasing M&A. This positive incentive

[57] I also include *Severance*, equal to one if the CEO has any ex ante severance pay provision and zero otherwise, in place of stand-alone severance to more completely control for severance-related incentives. Results do not change if I include stand-alone severance and/or *Contract* as controls.

[58] Interestingly, untabulated results show that not all perks are detrimental. While acquiring CEOs with country club membership and spouse/family travel allowance are received negatively by the market, managers with financial planning and security provisions are favorably met. Automobile use has no effect on M&A outcome.

effect holds for employee benefit and insurance plans as well. Finally, allowances for continued CEO perks after departure are negatively related to acquirer value creation, suggesting the agency problems of perks.

Panel D suggests that indeed the presence of confidentiality, non-compete, and non-solicit covenants benefits shareholders. Interestingly, the minimum number of years covered under these covenants is not related to bidder value, possibly due to the little variation in the number of years of coverage. Missing definitions of just cause or good reason negatively relate to acquirer value, implying detrimental effect of ambiguity and uncertainty in disputes. In contrast, detailed definitions of cause, in particular those related to criminal conduct, professional and fiduciary duties benefit acquiring shareholders. This suggests that more refined definitions may provide more structure and grounds for just cause termination as well as resolving ambiguity in the case of a dispute.

To the extent that various contract provisions are correlated with each other, I also run the OLS and Heckman (1979) selection model regressions to examine the relative explanatory power of each term. In untabulated analysis, I include various contract provisions in one regression and control for all factors including related managerial protection and board characteristics.[59] I find that largely consistent with Table 9, definite contract term, longer contract duration, long-term equity incentives, accelerated stock and option vesting provisions in severance, and more refined definitions of just cause for termination motivate value-increasing M&A. In contrast, at will contract, guaranteed future salary increases, and missing definitions for termination terms are associated with lower acquirer profitability.

6. Conclusions

This paper examines the impacts of CEO employment contracts on shareholder value-creation and risk-taking in mergers and acquisitions. Using a unique dataset on S&P 500 CEO employment contracts, I find that acquirers with a CEO contract garner significantly higher announcement returns than their peers without a contract. Further investigation of the sources of value-creation shows that contracts motivate managers to purchase targets at lower premium, and undertake better deals with greater profitability as measured by post-acquisition operating performance, thus generating larger gains to acquiring shareholders. Moreover, contracts encourage managerial risk-taking. For example, acquirers with a CEO contract are more likely to pursue riskier targets and experience more stock return volatilities and greater increases in growth options following M&A. Finally, CEOs with a contract are more inclined to make value-enhancing but avoid value-destroying acquisitions ex ante. The results are robust across time and industries, to a variety of model specifications, to alternative control variables, after adjusting for endogeneity, sample selection, and survivorship bias, and to alternative explanations.

An investigation of individual provisions of CEO contracts uncovers substantial heterogeneity. The definite contract term, longer contract duration, long-term equity incentives in annual compensation, and accelerated stock and option vesting provisions in severance arrangement are associated with larger acquirer value creation. This is consistent with the hypothesis that fixed term and longer duration provide greater protection to managers, thereby motivating long-term, risky, and value-creating investments. It is also consistent with the classic view that equity incentives help align managerial interests and horizon with shareholders, and lead to long-term value creation. Finally, more structured and detailed definitions of CEO just-cause termination and good-reason resignation appear to benefit shareholders, possibly by resolving uncertainty about termination grounds and reducing ambiguity in the case of a dispute.

Overall, I find no evidence that contracts insulate poor managers from the discipline and provide perverse incentives in M&A. Instead, by protecting managers against the downside should a risky project fail ex post, CEO contracts play a critical role ex ante in mitigating managerial risk aversion and encouraging risky value-increasing acquisitions. The findings in this paper add new perspectives to the rigorous on-going debate over the efficiency of executive contracts and suggest that these contracts may have considerable effects on other corporate decisions as well, offering ample research avenues.

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[59] Specifically, the inverse Mills ratio (IMR) for the Heckman two-stage selection model is estimated from the first-stage probit regression as specified in model 2 of Table 3. In the second stage, I run OLS regressions of acquirer *CAR* (−1, +1), *Premium*, and *ΔOPINC* [−1, +3] on various contract provisions altogether, along with the IMR for the contract subsample to mitigate any sample selection bias.

Appendix A. Employment agreement between Dr. McKinnell and Pfizer

Pfizer Inc. 2002 proxy statement:

In 2001, we entered into an employment agreement with Dr. McKinnell that provides for his employment as Chief Executive Officer of the Company through February 29, 2008. Dr. McKinnell's agreement provides that he will receive an annual base salary of at least $1,350,000, and will be eligible to receive an incentive bonus in accordance with the guidelines established by the Executive Compensation Committee, as well as to participate in our executive benefit and incentive plans (including stock-based plans).

Under the terms of the agreement, if Dr. McKinnell's employment is terminated by reason of death, disability or retirement, he is entitled to receive (a) a payment equal to his base salary through the date of termination to the extent not already paid, (b) a prorated portion of his incentive bonus based on his prior year's incentive bonus, (c) his actual earned incentive bonus for any period not already paid, (d) amounts to which he is entitled under our benefit plans, (e) vesting of outstanding unvested stock options and other equity-based awards, and (f) continued coverage in our health benefit plans. If Dr. McKinnell's employment is terminated by the Company without cause or by Dr. McKinnell for good reason (as defined in the agreement), he is entitled to receive (a) a payment equal to his base salary earned but unpaid through the date of termination, a prorated portion of his incentive bonus based on the prior year's incentive bonus, and any incentive bonus amount earned but not yet paid, (b) a payment equal to his annual base salary plus the most recent year's incentive bonus multiplied by the greater of (i) two or (ii) the number of years remaining on the contract, (c) vesting of outstanding stock options and equity-based awards, (d) benefits under all plans for a period of two years following termination, as well as vesting of all awards under the plans, and (e) continued coverage in the Company's health benefit plans.

If any payment or distribution by the Company to Dr. McKinnell is determined to be subject to the excise tax imposed by Section 4999 of the Internal Revenue Code, he is entitled to receive from the Company a payment on an after-tax basis equal to the federal, state and local income and excise taxes imposed, and any penalties and interest. The agreement also contains provisions that restrict Dr. McKinnell's ability to engage in any business which is competitive with the Company's business for a period of one year following his retirement or termination for cause or without good reason or to solicit Company employees for a period of two years following such retirement or termination.

Appendix B. Variable definitions

Variable	Definitions
Dependent variables-acquirer value creation	
CAR (−1, +1)	Following Masulis et al. (2007), *CAR* (−1, +1) is acquirer three-day cumulative abnormal returns around the announcement date (day 0), computed using the market model, the CRSP value-weighted market return, and an estimation period of [−210, −11]. Results are robust to alternative estimation periods, e.g., [−250, −50], and to measuring *CAR*s by subtracting contemporaneous CRSP value (equally)-weighted returns, since estimating market parameters does not add to the precision of the event study estimates (Brown and Warner, 1985).
Premium	Following Datta et al. (2001), acquisition premium is defined as the percentage difference of offer price over target share price four weeks prior to the announcement date (*PREM4WK* from SDC).
Δ*OPINC* [−1,+3]	Changes in acquirer three-year post-acquisition operating performance, defined as income before depreciation scaled by total assets for the third fiscal year after deal completion minus the ratio preceding deal announcement.
Acquirer characteristics	
Assets ($mn)	Book value of total assets [data6].
Sales ($mn)	Sales for the fiscal year [data12].
Firm size	Logarithm of sales [Log (data12)].
Mkt. cap ($mn)	Bidder market capitalization measured on 42 trading days prior to the announcement.
ROA	Return on assets [data18/data6].
Leverage ratio	Book value of debts over market value of total assets [(data34 + data9)/(data6 − data60 + abs(data199) * data25)].
Free cash flow	Free cash flow/book value of assets [(data13 − data15 − data16 − data128)/data6].
Tobin's *q*	Market value of total assets over book value of total assets [(data6 − data60 + abs(data199) * data25)/data6].
Capex/assets	Capital expenditure over total assets [data128/data6].
Capex/PP&E	Capital expenditure over net property, plant and equipment [data128/data8].
R&D/assets	Research and development expenditure over assets [data46/data6].
R&D/sales	Research and development expenditure over sales [data46/data12].
OPINC/assets	Operating income before depreciation over total assets [data13/data6].
Stock Ret [−*t*]	CRSP (value-weighted)-adjusted buy-and-hold return over last *t* years.
LnVol. [−*t*]	Natural logarithm of the standard deviation of daily stock returns over previous *t* years.
Deal characteristics	
Deal value ($mn)	Value of the transaction from SDC.
Relative deal value	Deal value over bidder market capitalization measured 42 trading days prior to the announcement.
Pure cash	Dummy variable: 1 if the deal is financed with 100% cash, 0 otherwise.
Pure stock	Dummy variable: 1 if the deal is financed with 100% equity, 0 otherwise.
Tender offer	Dummy variable: 1 if the deal is identified by SDC as a tender offer, 0 otherwise.
Hostile	Dummy variable: 1 if the deal is identified by SDC as hostile, 0 otherwise.
Diversifying	Dummy variable: 1 if the acquirer and the target have different two-digit SIC codes, 0 otherwise.
Focus deal	Dummy variable: 1 if the bidder and the target share the same two-digit SIC code, 0 otherwise.

(continued on next page)

Appendix B (*continued*)

Variable	Definitions
Public target	Dummy variable: 1 if the target is public, 0 otherwise.
Private target	Dummy variable: 1 if the target is private, 0 otherwise.
Subsidiary target	Dummy variable: 1 if the target is subsidiary, 0 otherwise.
Bidders	Number of bidders for the target.
Acquirer CEO characteristics	
CEO age	CEO age in years.
CEO age > =65	Dummy variable: 1 if the executive is older than 65, 0 otherwise.
Tenure	The number of years the executive has worked for the firm.
Outside CEO	Dummy variable: 1 if the executive has been with the firm for less than or equal to three years, 0 otherwise.
CEO tenure	The number of years the executive has worked for the firm as a CEO.
Founder	Dummy variable: 1 if the CEO is a founder or from a founding family, 0 otherwise.
CEO-chair	Dummy variable: 1 if the CEO is also the Chairman of Board, 0 otherwise.
Acquirer CEO compensation and corporate governance	
Salary ($000)	The dollar value of the annual base salary (cash and non-cash).
Bonus ($000)	The dollar value of the bonus (cash and non-cash) during the fiscal year.
Options ($000)	The total value of stock options granted to the executive during the fiscal year as valued by S&P's Black-Scholes model.
Total pay ($000)	Total compensation for the fiscal year, comprised of salary, bonus, other annual, restricted stock granted, stock options granted, long-term incentive payouts, and all other total.
Cash/TotPay	The total value of salary and bonus as a percentage of annual total pay.
Options/ToPay	The total value of new options granted to the executive as a percentage of annual total compensation.
Equity/TotPay	The total value of new restricted stocks and stock options granted as a percentage of annual total pay.
CEO ownership	The percentage of the company's shares owned by the executive.
Institution. own.	The percentage of the company's shares outstanding owned by institutional investors.
G-Index	The anti-takeover provisions index from Gompers et al. (2003).
BCF-Index	An index based on six anti-takeover provisions as in Bebchuk et al. (2009): staggered board, poison pill, supermajority to approve mergers, limits to amend bylaws, limits to amend charters, and golden parachutes.
Board characteristics	
Board size	Total number of directors on the board.
Board independence	The percentage of independent directors (Number of independent directors/Board size).
Busy board	The percentage of directors with three or more directorships (Ferris et al., 2003).
Board co-option	Number of new directors/Board size
TW co-option	Tenure-Weighted Co-option (Number of director years served since the CEO assumed position / the number of years served on the board by all directors) (Coles et al., 2010).
Fraction female	The percentage of female directors (Number of female directors/Board size).
Target characteristics	
Target size	Log of target market capitalization measured on 42 trading days prior to the announcement date.
ROE	Return on common equity [data18/data60].
ME/BE	Market value to book value of equity [abs(data199) * data25/data60].
GO [−3, −1]	Growth options defined as the last three-year average of total capital and R&D expenditures to PP&E.

Appendix C. Research methodology

Appendix C.1. Key word search for CEO employment contracts in the SEC filings

I search for various combinations of keywords, and the majority of contract information is obtained by the following: "Employment agreement", "Employment contract", "Employment arrangement", "Termination of employment", "Termination arrangement", "Termination benefits", "Severance agreement", "Severance arrangement", "Severance plan", "Severance policy", "Change in control", "Change-in-control", "Change of control", "Separation plan", "Separation agreement", "Retention arrangement", "Retention agreement", "Employee retention", "Management continuation" "Management continuity", "Contractual obligation", "Post-termination payment", "Agreement", "Contract", "Termination", "Severance", "Separation", "Retention", "Continuation", "Continuity", and "Employment". While the more general terms (e.g., "Contract" or "Termination") ensure a lower probability of missing information, the more specific terms (e.g., "Employment contract" or "Termination of employment") are more efficient and return less irrelevant information. Thus, I usually start a search with more specific keywords, and continue with more general terms as needed. If none of the keywords return any relevant information, I search again by the executive's last name.

Appendix C.2. IV, Heckman treatment effects, and MLE treatment effects regression models

For regression analyses on the relation between *Contract* and acquirer value-creation measures, the IV model instruments *Contract* by *Industry* and *State Contract Ratio* and estimates the two stages jointly. The p-values are reported for the over-identification, Durbin–Wu–Hausman (DWH) endogeneity, and Stock and Yogo (2005) weak instruments tests. The inverse Mills ratio (IMR) of Heckman treatment effects model is computed in the first stage by estimating respectively the probit models

1 and 2 of Table 3. The MLE treatment effects model estimates the main and selection equations (probit model 1 of Table 3) simultaneously and reports the LR p-value for rho (the correlation between the errors of the two equations).

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