Accelerated Vesting in Takeovers: The Impact on Shareholder Wealth

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We study the impact of accelerated vesting of equity awards on takeovers, whereby the restricted stock and/or stock options of the target chief executive officer (CEO) immediately vest and become unrestricted upon the close of the acquisition. We find that takeover premiums are significantly larger when the target CEO receives the benefit of accelerated vesting as compared to target firms with CEO's that continue to vest in their awards after closing the deal. Our evidence suggests that these cash windfalls triggered by accelerated vesting are beneficial to shareholders in completed deals. Accelerated vesting appears to be an efficient form of ex ante managerial contracting.

When Caesar's Entertainment was acquired by Harrah's in 2005, the chief executive officer (CEO) of Caesar's, Wallace Barr, received a payday of nearly $20 million. Mr. Barr's new-found riches were the result of the acceleration of vesting provisions on his stock options and restricted stock. For instance, Caesar's 1998 Stock Incentive Plan, under which Mr. Barr's options were granted, stipulated that "in the event of a Change in Control, any Stock Options and Stock Appreciation Rights outstanding as of the date such Change in Control is determined to have occurred, and which are not then exercisable and vested, shall become fully exercisable and vested." The New York Times described Mr. Barr and similarly situated CEOs as becoming "truly, titanically, stupefyingly rich."[1] Despite the rhetoric in the popular press about CEO windfalls due to accelerated vesting provisions, there is no evidence to date about whether these contractual terms hurt shareholder wealth.

We define accelerated vesting as a change in the vesting schedule for the CEO's stock options and restricted stock that results in such equity grants becoming vested and unrestricted as of the close of the acquisition.[2] For our purposes, stock options include stock appreciation rights, warrants, and all other equity-based incentives that behave like stock options for the recipient. Likewise, restricted stock includes phantom stock and similar instruments. When the CEO receives the benefit of accelerated vesting, they have the right to convert certain equity grants to cash on the date that the firm is acquired.

Our goal in this paper is to study the impact that accelerated vesting of the CEO's stock options and restricted stock has upon the premium received by target firm shareholders when their firm is acquired. In particular, we test two alternate hypotheses. The first, the Incentive Alignment

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[1] "No Wonder CEO's Love Those Mergers" by Gretchen Morgenson, July 18, 2004, p. 1.

[2] Aboody (1996) and Brisley (2006) provide more information about the vesting of equity grants.

Hypothesis, suggests accelerated vesting induces CEOs to bargain for higher premiums as they receive a larger payoff as their options get deeper in the money and restricted stock converts at a higher multiple. The second, the Risk Aversion Hypothesis, argues that CEOs are willing to trade a lower premium for certainty in completing the deal since accelerated vesting allows the CEO to cash out and reduce their exposure to risk. The significance of the deal to the target CEO is the value of the takeover premium plus the value of their private risk reduction via accelerated vesting. In other words, the CEO's reservation value may be met by a combination of a reduced premium and risk reduction.

This study is feasible since not all CEOs receive the benefit of accelerated vesting when their firm is acquired. Changes in the Security and Exchange Commission's (SEC's) disclosure rules for CEO compensation contracts starting in 2004 allow us to determine whether or not the CEO's unvested equity becomes vested at the close of the deal. We test our two competing hypotheses on a sample of 107 takeovers from 2005 to 2009, 80 (75%) of which result in accelerated vesting.[3]

We find support for the Incentive Alignment Hypothesis. Using various specifications of Schwert (1996)-inspired takeover premiums that include both the run-up and the mark-up, we find that the premiums received by firms with accelerated vesting are nearly double those received by firms without accelerated vesting, 30.6% versus 15.4%. The robustness of this result is documented in regression models that offer further evidence that accelerated vesting increases takeover premiums. Our evidence suggests that target CEOs who become "titanically rich" also make their shareholders wealthier.

A study of accelerated vesting is particularly timely in light of §951 of the Dodd-Frank Financial Reform Act. This section of the new law states that when a firm is being taken over, its shareholders must approve any payments to named executives that are contingent upon a change in control, such as accelerated vesting of restricted stock and stock options. (While the verbiage of the law states that the payments are "subject to shareholder vote," it also notes that the vote is nonbinding.) If shareholders have not already approved the accelerated vesting provisions prior to the takeover announcement, the shareholder vote is to be held simultaneously, but separately from the shareholder vote to approve the change in control.[4] Our evidence suggests that shareholders should vote in favor of accelerated vesting in ex ante contracts.

This study contributes to a growing literature on the impact of target executive compensation in acquisitions, and is also timely in light of evidence presented in Fich, Cai, and Tran (2011) and Heitzman (2011). Hartzell, Ofek, and Yermack (2004) describe the gains from stock and options as the "largest component of overall gains obtained by [target] CEOs." Hartzell et al. (2004) find that premiums are lower in deals where the CEO negotiates a large, fixed cash payment as part of the merger agreement. Fich et al. (2011) determine that premiums are lower in deals in which the CEO is unexpectedly granted stock options after the deal is announced, but before it closes. In other words, their evidence collectively suggests that bribing the CEO to get the deal done results in an economic loss to target shareholders. We find that premiums are actually higher in deals in which the target CEO receives a windfall. The difference in findings may be due to differences in the ex ante efficiency of managerial compensation contracts.

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[3] If the CEO does not receive accelerated vesting on their equity grants, then the stock options (restricted stock) convert to stock options (restricted stock) of the acquirer.

[4] This provision of the financial reform law appears to have been inserted at the urging of labor, consumer rights, and shareholder rights groups. For instance, the organization "Americans for Financial Reform" claimed that accelerated vesting "bring(s) little or no value to shareholders, impose(s) an economic cost on the company and can reflect a Board's misplaced allegiance to the Chief Executive rather than the shareholders." See http://ourfinancialsecurity.org/2009/07/executive-compensation/.

Executive compensation scholars have also recently taken an interest in the process by which equity incentives are granted and vested. Heron and Lie (2007) study the backdating of stock options at the grant date before and after the Sarbanes-Oxley reforms of 2002. Fu and Ligon (2010) document that CEOs are more likely to exercise their options on the vesting date, rather than the expiration date. Laux (2010) theoretically demonstrates that longer vesting periods can reduce the CEO's incentive to invest in long-term projects. In contrast, Chi and Johnson (2011) empirically find firm value and performance are positively correlated with the length of the vesting period. Our research complements and extends this literature as well.

To the best of our knowledge, this is the first paper to explore the impact of accelerated vesting of stock options and restricted stock on target premiums. Past studies have looked more broadly at golden parachutes, which can include various forms of nonequity-related cash payments and other benefits. Machlin, Choe, and Miles (1993) find that golden parachutes increase takeover premiums, whereas Cotter and Zenner (1994) find no such correlation.

Our paper is also similar to Lefanowicz, Robinson, and Smith (2000), but with a few key differences. Lefanowicz et al. (2000) collect data on the vesting of all forms of deferred compensation, not just options and restricted stock. However, they do not differentiate between accelerated vesting on equity incentives and other forms of deferred compensation (qualified and nonqualified deferred compensation plans, performance bonus plans, etc.). Furthermore, they only search for accelerated vesting provisions in the proxy, while we find such terms embedded in many other types of documents as described in detail in Section II, so they do not have an accurate measure of accelerated vesting. Finally, they do not measure the impact of accelerated vesting on the acquisition premium, as we do here.

The remainder of the study is organized as follows. Section I reviews the relevant literature and hypotheses. Section II describes our methodology for building our sample. Section III presents our empirical findings, while Section IV discusses our findings. Section V presents our conclusions.

I. Background

A. Literature Review

Research on acquisitions has generally found that target shareholders fare well if the takeover is successful. However, Jensen (1988) indicates that the managers of the target firm can lose their position or otherwise suffer sizable losses in compensation as a result of a successful tender offer. Thus, management of the target firm will frequently try to prevent the takeover or the CEO will bargain with the bidding firm to keep their job. These types of actions are typically not in the best interests of the target shareholders, leading many firms to implement compensation schemes to provide the proper managerial incentives, one of which includes the accelerated vesting of restricted stock and stock options.

Stulz (1988) builds a model that demonstrates a positive correlation between managerial equity ownership and takeover premiums. In his model, the equity owned by the managers has additional value due to the attached voting rights. However, stock options and restricted stock do not have voting rights, so they do not behave like the equity in Stulz's (1988) model. Furthermore, equity grants are not uniformly viewed as being an effective agency management tool. Bettis et al. (2010) examine 983 equity-based awards and find that performance-vesting provisions are associated with subsequently better operating performance than firms without these provisions.[5] Billett,

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[5] When equity awards are subject to performance vesting, ownership of the equity typically transfers to the executive if certain performance benchmarks are met.

Mauer, and Zhang (2010) similarly find positive stock returns around the first equity grant to a CEO, and Zhang (2009) determines that the CEO's stock options help mitigate agency costs. In contrast, Moeller (2005) finds no correlation between CEO stock option holdings and takeover premiums. Brown and Lee (2010) confirm a negative relationship between firm governance and the value of stock options and restricted stock that they attribute to the ability of a powerful CEO to extract higher compensation than is economically justifiable.

With regard to the threat of takeover, Stein (1989) suggests that a manager's fear of their firm's acquisition can cause the manager to focus on short-term stock prices. Chi and Johnson (2011) indicate that the risk to shareholders is that the focus on short-term results could override the contractual vesting period. Chi and Johnson (2011) examine the length of vesting periods and find that longer vesting periods do result in better managerial decision-making and higher share price reactions to acquisition announcements, but they examine the abnormal returns to the acquirer rather than the target. It is less clear whether the vesting structure of the target CEO's equity compensation is associated with wealth gains for the target shareholders. If accelerated vesting provides the proper managerial incentives, all else being equal, we would expect a higher takeover premium for firms implementing this type of scheme.

As several authors point out, the takeover premium is also related to the expectations of the target CEO upon completion of the merger. Lefanowicz et al. (2000) find that target managers negotiate for higher premiums to compensate for lost salary suggesting that managers who do not expect future employment will actually bargain more heavily for the shareholders. However, the takeover premium is lower with the presence of a golden parachute implying that golden parachute payments reduce the incentive for target managers to get the best deal for their shareholders. Hartzell et al. (2004) confirm that target CEOs will accept a lower acquisition premium in exchange for special treatment postmerger, including cash bonuses and a position in the merged firm. Similarly, Wulf (2004) determines that target CEOs who share control rights postmerger are willing to accept a lower premium. Cai and Vijh (2007) find that liquidity concerns related to the stock and option holdings of a target CEO can motivate that CEO to accept a lower premium in an acquisition. These papers collectively suggest that target CEOs trade private future benefits for a lower acquisition premium.

In contrast to the previous studies suggesting opportunism by the target CEO at the expense of the target shareholders, Bargeron et al. (2009) find that target managers do not trade off future employment benefits in the merged firm for a lower premium. Their results indicate that the acquisition premium is actually higher when the target manager is retained, although this is only true when the acquisition is initiated by a private bidder. They attribute their findings to possible managerial synergies that override the incentives of target managers to "bribe" the target shareholders. The fact that this finding does not hold for public acquirers suggests different negotiating tactics and/or different considerations faced by the target CEO and their board. Overall, these studies reveal the complexity of the source of the takeover premium. Our paper attempts to isolate the effect of one element that is likely to influence the incentives of the target CEO in the acquisition process.

B. Hypotheses

In this section, we develop two alternative hypotheses that describe how accelerated vesting provisions should impact acquisition premiums. The Incentive Alignment Hypothesis is based on the theory of agency costs discussed in Jensen and Meckling (1976). The agency problem arises from the divergence of interests between the manager and the shareholders as the manager is not the owner of the firm. Therefore, the manager will maximize their own utility through

nonpecuniary benefits because they only bear a fraction of the cost of these perquisites. In order to offset the incentive to expropriate corporate resources, the board can structure part of the manager's pay to include stock options and/or direct shares in the firm that convert to cash upon a change in control. This compensation scheme better aligns the interests of the manager with that of the outside equity holders since the wealth of the manager is tied to share price. With regard to acquisitions, incentive alignment suggests that accelerated vesting of equity awards will induce the target CEO to negotiate for the highest possible premium.

Our alternate hypothesis is based upon risk aversion, which suggests that target CEOs may accept a lower premium from a bidding firm because the CEO gains value from the deal in two ways: 1) the premium and 2) the private value of risk reduction. In fact, there are many risk factors that the CEO can mitigate by cashing out equity via accelerated vesting in a takeover. First, the CEO gets the benefit of diversification. The CEO gets to choose how their wealth is invested, rather than being forced to invest in the acquirer. Additionally, the CEO's equity grants are no longer exposed to forfeiture. Under a typical vesting schedule, if the employee leaves the firm before the equity grant has vested, all unvested awards are forfeited. However, with accelerated vesting, all awards convert to cash, so there is no longer a risk of forfeiture. Moreover, the equity holdings of the CEO will no longer be susceptible to public disclosure in the proxy statement. As a result, the CEO gains privacy and the benefit of not having their trades scrutinized by investors. Accelerated vesting also offers the benefit of an immediate cash payment at a higher stock price. As a result, if risk aversion is the motivating factor for target CEOs, we would expect the takeover premium to be the same or lower for firms with accelerated vesting as for firms without it.

II. Methodology

A. Regulatory Framework

This study is now possible due to recent changes in SEC regulations that made more executive compensation data available. Starting in late 2004, SEC Rule 33-8400 required firms to publicly disclose a "description of the material terms of any employment agreement between the company and the [chief executive] officer." The terms of the contract were typically disclosed in item 5.02(c) of an 8-k filing. A review of these documents on electronic data-gathering analysis retrieval (EDGAR) suggests that most firms found it was less costly to disclose the entire contract, rather than paying lawyers to write a detailed summary. In almost all of the cases we reviewed, the entire contract is posted, less personal information. Although SEC Rule 33-8765, approved in 2006, altered the filing requirements slightly, companies continued to submit the entire compensation contract for public viewing. There are now a wealth of historical employment contracts and change of control agreements, available on the SEC's EDGAR website. Many of these contracts are explicitly described as confidential, some with shocking levels of personal information.[6]

There is no regulation that sets a time frame over which a CEO becomes vested in his equity incentives in the normal course of business without a change in control. Rather, ownership of the restricted stock and options transfers from the company to the CEO according to a schedule in the appropriate agreement. For instance, according to the terms of his employment agreement signed on November 19, 2002, Wallace Barr of Caesar's was scheduled to become vested in his options at a rate of 25% per year. He would be fully vested after four years. He was scheduled to vest in his restricted stock at a rate of 20% after the first and second years, and 30% after his

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[6] The authors found one document that contained an executive's home address and passport number.

third and fourth years. The majority of the documents that we read had vesting schedules in a range from three to five years. Of course, the accelerated vesting initiated by a change of control supersedes a predetermined vesting schedule and creates an immediate payoff.

It is important to note that compensation received through accelerated vesting is technically a golden parachute, as defined by the Internal Revenue Service (IRS). However, the empirical research on golden parachutes to date, such as Machlin et al. (1993) and Cotter and Zenner (1994), specifically studies lump sum cash severance and bonus payments only, and ignores the equity portion of the compensation. The key difference between accelerated vesting payments and broader golden parachute payments is the floating versus fixed nature of the cash flow. Most golden parachute provisions provide a fixed dollar amount upon a change in control, whereas accelerated vesting payments are determined by the size of the takeover premium, which, in turn, is determined by the CEO's actions.

B. Sample

As in Lefanowicz et al. (2000), we form our sample from firms that have been delisted from Center for Research in Security Prices (CRSP) for reasons of an acquisition. The sample is constructed by first identifying publicly traded, nonregulated US firms that were delisted from CRSP in the five years from 2005 to 2009, with CRSP delisting codes in the range from 231 to 271. These delisting codes indicate firms that were acquired. The acquired firms were then matched to Compustat, to add in financial data, and Execucomp, to add in data on the CEO. That matching produced a sample of 122 firms. We further eliminate two reverse mergers. Finally, we read through the remaining 120 firms' filings on the SEC's EDGAR website to determine if provisions were in place to accelerate vesting before the deals commenced. We were able to find sufficient documents for 107 of the 120 firms. This is our final sample. By comparison, Wulf (2004) has a sample size of 40, and Hartzell et al. (2004) has a sample size of 239.[7] The firms in our sample are drawn from the ExecuComp universe, so they are primarily drawn from the S&P indices. One quarter of the firms belongs to the S&P 500, one-sixth is members of the S&P Midcap 400, and about half are part of the S&P Smallcap 600. Arguably, this is a diverse and representative sample of publicly traded firms.[8]

In searching the EDGAR database, we consider all possible documents that may offer the terms of accelerated vesting for the CEO. We find definitive language in a wide variety of documents including employment contracts and change of control agreements, as well as equity award notifications, proxy statements, equity incentive plan documents, and annual reports. We code a firm as participating in accelerated vesting if provisions were in place to accelerate the CEO's vesting before the Agreement and Plan of Merger was signed. Of our 107 firms, 80 accelerate vesting (75% of our sample) and 27 do not.

The control variables used in this study are motivated by previous research on the source of takeover premia. The financial variables are calculated as follows. The market-to-book ratio divides the quantity of price (Compustat variable PRCCF) times number of shares of common stock outstanding (CSHO) by the book value of the common stock (CEQ). This variable captures the target firm's growth opportunities. The cash to sales ratio divides cash and equivalents (CHE) by sales (SALE). Long-term debt to assets divides long-term debt (DLTT) by the market value of assets [(DLTT+DLC) + PRCCF*CSHO + PSTKL – (TXDC + ITCI)]. Fich et al. (2011)

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[7] Later, in Section III.C of this paper, we further extend our sample by adding 91 matching unacquired firms, increasing our sample size to 198 observations.

[8] While our firms are predictably larger than the 388 non-Execucomp firms delisted in CRSP from 2005 to 2009, they do not have significantly different leverage ratios, market-to-book ratios, or cash-to-sales ratios (unreported).

document a positive association between leverage and the acquisition premium. All of these values are calculated at the end of the fiscal year immediately preceding the takeover.

The age of each CEO is collected from Execucomp. When those data are missing, we search proxy statements and Lexis/Nexis for the age. We were able to find ages for all 107 of our CEOs. Fich et al. (2011) find that acquisition premiums are lower when a CEO is near retirement (age 62 or older). Tenure is calculated as the number of years that the CEO appears as an executive for the firm in Execucomp. We determine whether the CEO became an executive or board member in the acquiring firm by reading press releases surrounding the offer, and by reading the next proxy statement of the acquirer after the close of the deal.

Hartzell et al. (2004) document the importance of golden parachutes and special bonuses in change in control compensation for CEOs. To that end, we harvest the golden parachute multiple for each target CEO from the last proxy statement prior to the announcement of the deal. By definition, the golden parachute multiple is the number of years of salary plus bonus paid as severance upon termination following a change in control. We find a golden parachute multiple for 97% of our CEOs.[9] We also read all of the 8-k filings after the deal is announced to learn about augmentation of the golden parachute and special bonuses.

We include board characteristics to capture the quality of governance of the target firm. We define board members as independent if they are not current or former employees of the firm, family members of current or former employees, or providing services to the firm. We define board members as busy if they serve on three or more boards in total including the board of the target. We determine the independence and busyness of each board member, as well as CEO duality, by reading the proxy statement immediately preceding the takeover.

Most variables describing the deal characteristics were hand collected. We determine if each deal was a tender offer by reading the SEC filings. We also measure the percentage of the offer price that is paid in cash. Huang and Walkling (1987) and Fich et al. (2011) report higher acquisition premia for cash and for tender offers. Furthermore, the merger background in the proxy statement provides information regarding whether the target was looking to be acquired. If it appears that the target wanted to be acquired, we assume that the target solicited the bidder, and assign a value of one to the indicator variable we call *Solicited*. If it appears that the negotiations were mutual from the beginning and there is no evidence of which party initiated the transaction, we assume the bidder initiated the offer and assign a value of zero. Following Boone and Mulherin (2007), we read the merger backgrounds to determine if there were multiple bids for the target. Presumably the premium will be higher if there is more than one bidder. To proxy for synergies, we use the acquirer's stock return. The acquirer's announcement period cumulative abnormal return (CAR) is calculated using the market model over the window from one day before to one day after the announcement. We would have included a deal hostility indicator in our data if a sufficient portion of the acquisitions had been hostile. However, only two of the 107 deals are hostile, which is not enough from which to make meaningful inferences.[10] A summary of all of our variables is presented in Table I.

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[9] Hartzell et al. (2004) find that 69% of their CEOs receive a golden parachute. Presumably, the difference is due to better disclosure rules since the end of their sample in 1997.

[10] We follow Morck, Shleifer, and Vishny (1988) in classifying a deal as hostile "if it was not negotiated prior to the initial bid, was not accepted by the board from the start, or was contested by target management in anyway." We learn this information from SEC filings and LexisNexis.

Table I. Description of Variables

Variable	Description	Source
Offer Qualities		
Market Model premium	Acquisition premium calculated as in Schwert (1996) using the market model over the window [−40, close].	CRSP
Fama-French premium	Acquisition premium calculated as in Schwert (1996) using the Fama-French (1993) three-factor model over the window [−40, close].	CRSP
Tender offer	An indicator variable set equal to one if the target is acquired via tender offer, and zero otherwise.	Edgar
Cash as a % of offer	The percentage of the total offer price for the target that is paid in cash.	Edgar
Relative size	The size of the target divided by the size of the acquirer, as measured by sales.	Compustat
Solicited	An indicator variable set equal to one if the target solicits itself for sale, and zero otherwise.	Edgar
Acquirer's CAR (%)	Cumulative announcement period return for the acquirer for days [−1, 1].	CRSP
Multiple bids	An indicator variable set equal to one if the target received multiple bids, and zero otherwise.	Edgar
CEO Qualities		
Accelerated (0,1)	An indicator variable that takes a value of one if the CEO of the target firm receives accelerated vesting of his equity grants at the close of the acquisition, and zero otherwise.	Edgar
CEO age	The age of the target's CEO as of the last proxy statement before the acquisition or, if new, the press release announcing the hiring of CEO.	Execucomp, Edgar
CEO tenure	The number of years that the CEO has been a named executive with the target firm.	Execucomp, Edgar
CEO offer	An indicator variable set equal to one if the target's CEO is offered a job with the acquiring firm, and zero otherwise.	Edgar, Lexis Nexis
CEO ownership	The dollar value of shares of common stock held by the CEO plus the dollar value of unexercised options all divided by TDC2 (as defined below).	Execucomp, Compustat
Financials		
Cash/Sales	The ratio of cash (Compustat item CHE) to sales (SALE) as of the end of the fiscal year immediately preceding the acquisition.	Compustat
Ln(Sales)	The natural log of sales (SALE) as of the end of the fiscal year immediately preceding the acquisition.	Compustat
Market value of assets	Debt (DLTT+DLC) plus common stock (PRCCF*CSHO) plus preferred stock (PSTKL) minus deferred taxes (TXDC) and investment tax credits (ITCI).	

(Continued)

Table I. Description of Variables (*Continued*)

Variable	Description	Source
LT Debt/Assets	The ratio of long-term debt (DLTT) to the market value of assets (see above) as of the end of the fiscal year immediately preceding the acquisition.	Compustat
Market/Book	The market value of assets (see above) divided by the book value of assets (AT).	Compustat
Return on equity	The net income in year t divided by the market value of equity in year $t-1$.	Compustat
Board Qualities		
CEO duality	An indicator variable set equal to one if the CEO is also Chairman of the board, and zero otherwise.	Execucomp, Edgar
Board outsiders (%)	The percentage of the board of directors that is independent.	Edgar
Busy board (%)	The percentage of the board of directors that sits on three or more boards.	Edgar
CEO Compensation		
GP multiple	Number of years of Salary plus Bonus paid as a golden parachute to the CEO upon termination following a change in control.	Edgar
GP increase	An indicator variable set equal to one if the CEO's golden parachute was increased after the deal was signed, and zero otherwise.	Edgar
New bonus	An indicator variable set equal to one if the CEO was offered additional compensation after the deal was signed, and zero otherwise.	Edgar
Salary	CEO's cash salary.	Execucomp
Bonus	CEO's cash bonus.	Execucomp
TDC1	Total dollar value of CEO compensation including the value of option grants, as recorded by Execucomp.	Execucomp
TDC2	Total dollar value of CEO compensation including the value of options exercised, as recorded by Execucomp.	Execucomp
Res. stock ownership	The market value of the restricted stock held by the CEO (Execucomp variable: Stock_Unvest_Val).	Execucomp
Unvested options	The exercise value of all unvested options held by the CEO (Execucomp variable: Opt_Unex_Unexer_Est_Val).	Execucomp
Unvested ownership	The dollar value of restricted stock and unvested stock options held by the CEO.	Execucomp

Table II. Sample Summary

This table reports a summary of the sample of firms that were acquired from 2005 to 2009. Panel A presents firm counts by year. The column labeled "Accelerated" includes firms for which the CEO's vesting on stock and options accelerates at the close of the deal. Panel B provides firm counts by industry, where firms are grouped into the 12 Fama-French (1997) industries.

Panel A. Observation Counts by Year						
Year	**All**		**Accelerated**		**Nonaccelerated**	
	N	**%**	**N**	**%**	**N**	**%**
2005	34	32%	21	26%	13	48%
2006	21	20%	17	21%	4	15%
2007	32	30%	25	31%	7	26%
2008	15	14%	14	18%	1	4%
2009	5	5%	3	4%	2	7%
Total	107	100%	80	100%	27	100%
Panel B. Observation Counts by Industry						
Industry	**All**		**Accelerated**		**Nonaccelerated**	
	N	**%**	**N**	**%**	**N**	**%**
Consumer nondurables	6	6%	4	5%	2	7%
Consumer durables	2	2%	2	3%	0	0%
Manufacturing	12	11%	9	11%	3	11%
Oil, gas, and coal extraction and products	6	6%	4	5%	2	7%
Chemicals and allied products	2	2%	2	3%	0	0%
Business equipment	14	13%	11	14%	3	11%
Telephone and television transmission	6	6%	3	4%	3	11%
Wholesale, retail, and some services	13	12%	11	14%	2	7%
Healthcare, medical equipment, and drugs	20	19%	17	21%	3	11%
Other	26	24%	17	21%	9	33%
Total	107	100%	80	100%	27	100%

III. Results

Summary statistics for the sample are presented in Table II. Panel A of Table II reports how the sample is split by year. As expected, a majority of the deals happen before the financial crisis. Fifty-five deals, or about half the sample, occur in 2005 and 2006. The sample tapers off notably, with only five deals in 2009. While this seems like a data error at first glance, it is, in fact, correct. It appears that acquisition markets seized up during the crisis.[11] Panel B of Table II presents the distribution of firms across industries. For this panel, we group the companies in our sample into the 12 Fama-French (1997) industry classifications. Note that the two industry

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[11] Our results do not change significantly if we ignore deals that closed in 2008 and 2009.

groups representing financials and utilities are excluded. We do have a wide representation in each of the 10 industries.

A. Univariate Results

Table III reports average and median values (in italics) for the sample as a whole, and for the accelerated and nonaccelerated subsamples. The two subsamples are similar in offer characteristics, board composition, market-to-book ratio, sales, and assets. There are significant differences in the CEOs who serve these firms. Accelerating firms have older and longer serving leaders than nonaccelerating firms. The CEOs of accelerating firms are also more likely to serve the dual role of Chairman and have larger golden parachutes. We control for these differences in our regressions that explain the variation in takeover premiums later in this paper.

In the analysis that follows, we calculate premiums two different ways. In our Market-Model Specification, we calculate the premium as a market model abnormal return. In our Fama-French Specification, we adjust the returns over the same time frame for the three Fama-French (1993) factors. Following Schwert (1996), we estimate these two specifications of premiums from 40 trading days before the announcement through the close of the deal. We use the Schwert (1996) calculation as it alleviates the anticipation problem with event study returns described in Offenberg and Officer (2010). It also has the benefit of including the run-up in the stock price leading up to the announcement, the mark-up in the stock price from the original offer, and all future revised offers.

Table IV reports the differences in acquisition premiums for the firms with and without accelerated vesting. When premiums are measured with the market model, accelerated firms earn an average premium of 30.63%, whereas the premium for nonaccelerated firms is about half at 15.35%. The difference is significant at the 5% level. We arrive at similar results if we measure premiums with the Fama-French (1993) three-factor model rather than the market model. These findings present the first evidence that accelerated vesting of the CEO's equity aligns their interests with those of their shareholders.

Further evidence regarding the relationship between the acquisition premium and accelerated vesting, as well as other key explanatory variables, is revealed by the correlation matrix in Table V. This is a truncated correlation matrix. For brevity, we only report the correlation coefficients of the three main variables with all of the explanatory variables. In the first column, the correlation between the two measures of acquisition premiums is reported to be 0.83, which is significant at the 1% level. As expected, our premiums are highly correlated. The premiums are also positively correlated with tender offers, but lower when the target solicits the bid. Building on the results in Table IV, we also report a significantly positive correlation between the presence of accelerated vesting provisions and the premium. In the third column, we document a strong positive correlation between accelerated vesting and the age and tenure of the CEO, as well as the size of their golden parachutes.

Perhaps what is most surprising about Table V is the lack of correlations. For instance, we fail to find a relationship between accelerated vesting and the CEO receiving a job with the acquirer. Hypothetically, if the CEO knew they would not benefit from accelerated vesting, they would be motivated to negotiate harder for a position with the buyer. Thus far, our results do not support that theory. We also fail to find a correlation between accelerated vesting and augmentations of golden parachutes or new bonuses. The CEOs who are not getting rewarded with accelerated vesting are not getting rewarded in these other ways either. Our results also indicate that there is no association between accelerated vesting and the target's efforts to solicit a bid for itself. In other words, CEOs, who would potentially receive the benefit of accelerated vesting, are not

Table III. Summary Statistics

This table reports summary statistics for a number of control variables as described in Table I. The means are presented in the plain text, whereas medians are reported in italics. The column labeled "Accelerated" includes firms for which the CEO's vesting on stock and options accelerates at the close of the deal. Differences of means between the accelerated and nonaccelerated groups are measured with a *t*-test, whereas differences of medians are measured with a Wilcoxson signed-rank test.

Variable	All	Accelerated	Nonaccelerated	Difference
Offer Qualities				
Tender offer	16.80%	17.50%	14.80%	2.70%
	0.0%	*0.0%*	*0.0%*	*0.00%*
Cash as a % of offer	69.60%	74.30%	55.80%	18.50%**
	100.0%	*100.0%*	*55.0%*	*45.00%*
Relative size	81.90%	82.71%	79.44%	3.27%
	82.0%	*83.3%*	*79.6%*	*3.71%*
Solicited	28.97%	30.00%	25.92%	4.08%
	0.0%	*0.0%*	*0.0%*	*0.00%*
Acquirer's CAR (%)	−2.19%	−1.72%	−3.67%	1.95%*
	−1.56%	*−1.12%*	*−1.71%*	*0.59%*
Multiple bids	21.50%	21.25%	22.22%	−0.97%
	0.00%	*0.00%*	*0.00%*	*0.00%*
CEO Qualities				
CEO age	54.64	55.66	51.59	4.07***
	54	*56*	*51*	*5***
CEO tenure	6.51	7.04	4.96	2.07***
	6	*7.50*	*4*	*3.5***
GP multiple	2.41	2.55	2.00	0.55***
	2.99	*3.00*	*2.00*	*1.00***
GP increase	4.67%	3.75%	7.41%	−3.66%
	0.0%	*0.0%*	*0.0%*	*0.00%*
New bonus	28.97%	28.75%	29.63%	−0.88%
	0.0%	*0.0%*	*0.0%*	*0.00%*
CEO offer	21.50%	18.75%	29.63%	−10.88%
	0.0%	*0.0%*	*0.0%*	*0.00%*
CEO ownership	7.44	7.56	7.10	0.46
	3.05	*3.91*	*1.46*	*2.45***
Board Qualities				
CEO duality	67.28%	71.25%	55.56%	15.69%*
	100.0%	*100.0%*	*100.0%*	*0.00%*
Board outsiders (%)	78.16%	78.90%	76.09%	2.81%
	80.0%	*83.3%*	*80.0%*	*3.33%*
Busy board (%)	33.70%	32.86%	36.22%	−3.36%
	33.3%	*33.3%*	*37.5%*	*−4.17%*
Target Financials				
Sales ($ billions)	3.4	3.69	2.53	1.17
	0.778	*1.00*	*0.436*	*0.564*
Assets (book)	3.65	3.79	3.23	0.55
	0.825	*0.931*	*0.669*	*0.262*
Cash/Sales	0.503	0.553	0.355	0.197
	0.144	*0.116*	*0.233*	*−0.117***
LT Debt/Assets	12.87%	13.85%	9.97%	3.88%
	7.35%	*8.79%*	*0.003%*	*8.79%**
Market/Book	1.87	1.89	1.82	0.07
	1.60	*1.59*	*1.65*	*−0.06*

***Significant at the 0.01 level.
**Significant at the 0.05 level.
*Significant at the 0.10 level.

Table IV. *t*-Tests for Differences of Premiums

This table reports the averages and differences in premiums. Premiums are measured from 40 days prior to the announcement to the close of the deal. Firms are assigned to the Accelerated Vesting column if the firm's CEO receives accelerated vesting of restricted stock or stock options upon the close of the deal.

	Accelerated Vesting	Nonaccelerated Vesting	Difference	*p*-Value for Difference	*n*
Market Model premiums	30.63%	15.35%	15.28%	0.0117	107
Fama-French premiums	27.17%	15.35%	11.82%	0.0291	107

Table V. Correlation Matrix

This table presents a truncated correlation matrix for the variables used in this study. Only three columns of the matrix are shown. *Accelerated* (0,1) is an indicator variable that takes a value of one if the CEO of the target firm receives accelerated vesting of his equity grants at the close of the acquisition, and zero otherwise. All variables are described in Table I.

	Market Model premiums	Fama-French premiums	Accelerated (0,1)
Offer Qualities			
Fama-French premiums	0.830***		
Tender offer	0.270***	0.290***	0.030
Cash as a % of offer	0.130	0.300***	0.210**
Relative size	−0.103	−0.171*	0.078
Solicited	−0.214**	−0.215**	0.039
Acquirer's CAR (%)	0.125	0.117	0.129
Multiple bids	0.202**	0.242**	−0.010
CEO Qualities			
Accelerated (0,1)	0.220**	0.180*	1.000
CEO age	0.000	−0.060	0.280***
CEO tenure	0.000	−0.020	0.250***
CEO offer	0.050	−0.030	−0.120
CEO ownership	0.172*	0.165*	0.014
GP multiple	−0.116	−0.153	0.281***
GP increase	0.000	0.026	−0.075
New bonus	0.166*	0.189	−0.008
Board Qualities			
CEO duality	−0.080	−0.120	0.150
Board outsiders (%)	0.040	0.010	0.110
Busy board (%)	−0.020	−0.020	−0.070
Target Financials			
Cash/Sales	0.150	0.130	0.040
Ln(Sales)	−0.050	−0.020	0.110
LT Debt/Assets	0.100	0.090	0.120
Market/Book	−0.120	−0.130	0.030

***Significant at the 0.01 level.
**Significant at the 0.05 level.
*Significant at the 0.10 level.

putting forth more effort to sell the firm than CEOs who do not get accelerated vesting. While we expect to learn more about these relationships in the regression analysis that follows, the univariate statistics are compelling.

B. Regression Analysis

We begin our multivariate analysis with ordinary least squares (OLS) regressions that model the takeover premium against the accelerated vesting dummy variable and control for the characteristics of the CEO, the deal, the target's board, and the target's financials in addition to the year and industry fixed effects. The fixed effects are included to account for differences in premiums between industries and between years during this volatile time in the markets. The goal of these regressions is to test whether accelerated vesting is still a significant predictor of the takeover premium, even after controlling for other explanatory variables. Our regression model is as follows:

$$\text{Premium} = \alpha + \beta_1 \,(\text{Accelerated Vesting dummy}) + \beta_W \,(\text{CEO qualities})$$
$$+ \beta_X \,(\text{Offer qualities}) + \beta_Y \,(\text{Board qualities}) + \beta_Z \,(\text{Target financials}). \qquad (1)$$

The results of these regressions are presented in Table VI. In the first regression, we exclude two types of variables: 1) those that are potentially endogenous (CEO Offer), and 2) those that are censored by a lack of data (acquirer's CAR and relative size). This gives us a clean test with all 107 observations and most of our explanatory variables. Even after accounting for all of the other factors that may impact the premium, the accelerated vesting dummy variable in the first model carries a coefficient of 0.158, and is statistically significant at the 5% level. This is our main result, as it documents a significant, positive correlation between the presence of accelerated vesting provisions and takeover premiums. This result supports the Incentive Alignment Hypothesis, implying that accelerated vesting provisions give target managers the proper incentive to maximize shareholder wealth, thereby reducing agency costs in a takeover.

The positive correlation between accelerated vesting and premiums is further supported by the results in the second column, which replaces the market model premium with the Fama-French (1993) premium. The size and significance of the coefficient on the accelerated vesting dummy variable changes little in this second model. In the third and fourth columns, we add in the dummy variable indicating that the CEO accepted a job offer from the acquirer, as well as the acquirer's CAR and relative size. In the process, 12 observations are lost, representing the firms that were acquired by private buyers. Once again, our results are unchanged.

There are two potential endogeneity issues that may be skewing our results. First, it is possible that firms put accelerated vesting provisions in place because they expect to be the target of a takeover with a large premium in the near future. If that is the case, then our accelerated vesting dummy is merely proxying for management's expectations of a lucrative takeover rather than proxying for management's incentive alignment. In order to rule out the possibility that accelerated vesting provisions are simply well timed, we need to demonstrate that such provisions were put in place before management could estimate the takeover premium. Given that Harford (2005) finds that merger waves last about two years, we argue that any provision enacted three years before the deal could not have been motivated by the expectation of a high takeover premium. Therefore, we exclude all firms that enacted accelerated vesting provisions within three years of the announcement date of the takeover.[12] By excluding firms with newer accelerated vesting

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[12] We read through the relevant documents on EDGAR to determine the age of the accelerated vesting provisions.

Table VI. Determinants of Takeover Premiums

This table provides the coefficient estimates from OLS regressions. The dependent variable is the acquisition premium. The independent variables are described in Table I. Fixed effects are by year and Fama-French (1997) 48 industries. Robust standard errors are used to calculate p-values (shown in parentheses). Models 5 and 6 only include firms that had accelerated vesting provisions in place for at least three years.

	(1) Market Model Premiums	(2) Fama-French Premiums	(3) Market Model Premiums	(4) Fama-French Premiums	(5) Market Model Premiums	(6) Fama-French Premiums
Accelerated (0,1)	0.158	0.131	0.176	0.173	0.194	0.162
	(0.026)	(0.092)	(0.016)	(0.029)	(0.001)	0.000
CEO age	0.001	−0.002	−0.002	−0.002	0.000	−0.001
	(0.838)	(0.659)	(0.539)	(0.700)	(0.898)	(0.783)
CEO tenure	0.018	0.004	0.016	−0.002	0.007	−0.006
	(0.278)	(0.684)	(0.394)	(0.842)	(0.524)	(0.468)
GP multiple	−0.045	−0.049	−0.026	−0.026	−0.023	−0.042
	(0.143)	(0.194)	(0.443)	(0.553)	(0.590)	(0.385)
GP increase	−0.111	−0.010	−0.214	−0.185	−0.411	0.132
	(0.364)	(0.949)	(0.149)	(0.276)	(0.292)	(0.365)
New bonus	0.126	0.138	0.110	0.13	0.083	0.118
	(0.093)	(0.068)	(0.082)	(0.019)	(0.275)	(0.111)
CEO offer			0.100	0.111	0.111	0.110
			(0.275)	(0.174)	(0.121)	(0.112)
CEO ownership	0.003	0.002	0.003	0.003	0.003	0.003
	(0.080)	(0.173)	(0.141)	(0.134)	(0.154)	(0.198)
Tender	0.278	0.192	0.298	0.224	0.155	0.081
	(0.000)	(0.035)	(0.002)	(0.031)	(0.201)	(0.395)
Cash as a % of offer	−0.059	0.068	−0.010	0.101	−0.007	0.102
	(0.466)	(0.352)	(0.923)	(0.239)	(0.951)	(0.169)
Solicited	−0.127	−0.071	−0.173	−0.11	−0.209	−0.142
	(0.032)	(0.245)	(0.005)	(0.068)	(0.012)	(0.131)
Relative size			0.362	0.066	0.377	0.136
			(0.176)	(0.763)	(0.252)	(0.617)
Acquirer's CAR (%)			0.395	−0.413	0.290	−0.459
			(0.632)	(0.411)	(0.722)	(0.518)
Multiple bids	0.108	0.115	0.086	0.066	−0.012	−0.045
	(0.046)	(0.154)	(0.130)	(0.401)	(0.875)	(0.596)
CEO duality	−0.047	−0.026	−0.033	−0.016	0.024	0.043
	(0.240)	(0.605)	(0.237)	(0.763)	(0.590)	(0.368)
Board outsiders (%)	−0.158	−0.284	−0.111	−0.231	−0.287	−0.416
	(0.623)	(0.346)	(0.794)	(0.477)	(0.515)	(0.289)
Busy board (%)	−0.196	−0.201	−0.102	−0.106	−0.011	−0.069
	(0.218)	(0.202)	(0.369)	(0.426)	(0.944)	(0.674)
Cash/Sales	0.024	0.015	0.024	0.012	0.139	0.164
	(0.053)	(0.124)	(0.090)	(0.329)	(0.112)	(0.197)
Ln(Sales)	−0.025	0.007	−0.061	−0.004	−0.102	−0.020
	(0.338)	(0.718)	(0.088)	(0.892)	(0.075)	(0.599)
LT Debt/Assets	0.309	0.382	0.332	0.645	1.066	0.909
	(0.318)	(0.225)	(0.380)	(0.099)	(0.045)	(0.043)
Market/Book	−0.013	−0.019	−0.011	−0.003	−0.015	−0.041
	(0.563)	(0.360)	(0.805)	(0.949)	(0.704)	(0.325)
Constant	0.412	0.426	0.339	0.196	0.416	0.365
	(0.110)	(0.093)	(0.284)	(0.552)	(0.417)	(0.441)
Year dummies	yes	yes	yes	yes	yes	yes
Industry dummies	yes	yes	yes	yes	yes	yes
Observations	107	107	95	95	74	74
Adjusted R^2	0.361	0.353	0.395	0.377	0.514	0.465

contracts, we lose 33 observations. Our results are reported in Columns 5 and 6 of Table VI. The coefficient on the accelerated vesting dummy is still significantly positive. It appears that our original results are not influenced by this endogeneity issue.

As noted previously, the target's CEO may take actions in the merger negotiations to protect their future. For instance, the CEO may make trade-offs between the premium and a job offer with the acquirer. Therefore, the premium and whether the CEO takes a position with the acquirer may be endogenous. To study this possibility, we test the robustness of the models in Columns 3 and 4 of Table VI with a two-stage probit as in Maddala (1983) to control for the CEO's simultaneous decisions to negotiate for a premium and accept an offer with the acquirer. In the first stage, a probit model sets the CEO Offer dummy as the dependent variable and uses the CEO's age, tenure, stock ownership, golden parachute multiplier, and duality as the independent variables. The estimated probability of the CEO receiving an offer from the first stage then becomes an explanatory variable in the second stage. The OLS model used in the second stage sets the premium as the left-hand side variable and also uses the accelerated vesting dummy with the deal characteristics, firm characteristics, and board characteristics from Column 1 of Table VI as additional explanatory variables. In untabulated results, we find that the coefficient on the accelerated vesting dummy is still positive and significant at the 5% level, regardless of which measure of premium we use. Our results in Columns 3 and 4 of Table VI are robust to controls for this second endogeneity issue. The data suggest that the takeover premium is not affected by the CEO's future employment with the acquirer. Our key result still holds that accelerated vesting aligns the incentives of the manager with those of the shareholder.

C. Robustness

While our results thus far suggest that accelerated vesting provisions are beneficial to stock holders, it is not clear whether some selection bias is at play. More specifically, it could be the case that firms enact accelerated vesting provisions when they think they are likely to be taken over. To help test for this possibility, we build a matching sample of firms that are not acquired from 2005 to 2009. These matching firms are important to our analysis precisely because they have not been taken over. Therefore, they offer us a glimpse of how the rest of the executive compensation market behaves with respect to accelerated vesting.

As in Rosenbaum and Rubin (1983), we use propensity score matching to control for a possible selection bias. In our case, the propensity score measures the probability that a firm is taken over. If firms enact accelerated vesting provisions when they are more likely to be taken over, then we should observe a higher rate of accelerated vesting in firms with higher propensity scores. Therefore, using a propensity score matched sample should allow us to determine if accelerated vesting is put in place in preparation for a takeover or if it is a common clause in executive compensation contracts.

To build the matching sample, we initially calculate the probability of each firm being acquired based on a series of financial and CEO characteristics. To do so, we estimate a probit model as follows:

$$\text{Pr(Acquired)} = \alpha + \beta_1(\text{CEO tenure}) + \beta_2(\text{CEO Ownership}) + \beta_3(\text{Sales}) + \beta_4(\text{M/B})$$
$$+ \beta_5(\text{ROE}) + \beta_6(\text{Cash/Sales}) + \beta_7(\text{Debt/Assets}). \tag{2}$$

The control variables for this model come from a long literature that attempts to predict takeover likelihood, from Palepu (1986) through Offenberg (2009). Our probit model also contains year and industry fixed effects. This probit model is estimated for all firm-years in Execucomp from

Table VII. Probit Model to Predict Takeover Targets for Propensity Score Matching

This table reports the coefficient estimates from the probit regression that generated the propensity score used to build the matching sample of nonacquired firms. The dependent variable is an indicator set to one if the firm is acquired and zero otherwise (the matching sample). The independent variables are described in Table I. Fixed effects are by year and Fama-French (1997) 48 industries. Robust standard errors are used to calculate p-values (shown in parentheses).

Dependent Variable = Pr(acquired)	
CEO tenure	−0.114
	(0.000)
CEO ownership	−0.597
	(0.000)
Ln(Sales)	−0.148
	0.058
Market/Book	−0.052
	(0.515)
Return on equity	2.748
	(0.000)
Cash/Sales	−0.036
	(0.383)
LT Debt/Assets	0.285
	(0.737)
Constant	4.642
	(0.001)
Year dummies	yes
Industry dummies	yes
Observations	3723
Pseudo-R^2	0.263
Wald Chi^2	264.92

2005 to 2009, including both acquired firms and nonacquired firms. The coefficient estimates from our probit model are presented in Table VII.

The next step in building the matching sample is to use the coefficients from the probit model to estimate the propensity score for each firm in each year. We then match each acquired firm to the nonacquired firm-year with the nearest propensity score without replacement of the firm. Through this process, we are able to find reasonable matches for 91 of the 107 firms in our main sample. In unreported tests, we reestimate the main regressions in Table VI for these 91 target firms, and find that the results are qualitatively similar. Accelerated vesting provisions occur in 79% (72 of 91) of these target firms. In other words, the subsample of targets with good matches appears to be representative of the entire sample.

To determine if the propensity score matching created statistically similar samples, we compare the 91 target firms with their matched pairs across variables that were not used in the regression in Table VII. The variables that we consider include the age of the CEO, the book value of assets (Compustat variable AT), operating cash flow (OIBDP-TXT), the ratio of research and development expenses to assets (XRD/AT), capital expenditures to assets (CAPX/AT), and the current ratio (ACT/LCT). Each of these variables was chosen because they are common indicators of financial or operational fitness and they are distinctly different from the variables employed in

Table VIII. Comparison of Matched Samples

This table compares average values for target firms and a matching sample across a number of variables, as described in Table I. Targets are matched to nonacquired firms using propensity score matching. None of the differences of means between the groups in Panel A are statistically significant. Only 91 of the 107 acquired firms are used in this sample because good matches are not available for the other 16. In Panel B, the percentages in *italics* represent the proportion of the sample in each index. In Panel C, firms are split by their propensity scores into Higher Probability and Lower Probability subsamples around the median propensity score.

Panel A. Population Means

Variable	Targets	Matching Firms	Difference
Accelerated	79%	75%	4%
CEO age	54.91	54.6	0.31
Assets (book, Ln)	7.18	7.29	−0.11
R&D/Assets	6.13%	5.51%	0.62%
CapEx/Assets	4.81%	4.60%	0.21%
Current ratio	2.48	2.56	−0.08
Operating cash flow (Ln)	4.96	5.1	−0.14
N	91	91	

Panel B. Index Distribution

Index	Targets	Matching Firms
S & P 500	24	25
	26%	*27%*
S & P Midcap 400	15	24
	16%	*26%*
S & P Smallcap 600	44	35
	48%	*38%*
None	8	7
	9%	*8%*
Total	91	91
	100%	*100%*

Panel C. Accelerated Vesting in Subsamples

	Targets	Matching Firms	All
Higher probability	72%	64%	68%
Lower probability	87%	85%	86%
Difference	15%	21%	18%
p-value for difference	0.0815	0.0256	0.0047

the logit model. We use a *t*-test to determine if there is a difference of means between the target and matching samples. The results are presented in Panel A of Table VIII. Note that there is no statistical difference between the two samples among any of these variables. The propensity score matching harmonizes well on variables that were not part of the original probit model. Our two samples are remarkably similar across both the variables used in the logit and these new variables introduced for robustness.

Of course, the variable of interest in Panel A is the accelerated vesting indicator. We find that 68 of our 91 matching companies (75%) provide their CEOs with accelerated vesting. The difference in proportions between the two samples is insignificant with both a one-tailed test and a two-tailed test. In other words, CEOs of target firms are not significantly more likely to benefit from accelerated vesting than CEOs of the matched sample.

To offer a little more richness to our matching sample, we also include a breakdown of the firms into their S&P indices in Panel B of Table VIII. Not only do our targets and matches have a broad distribution of takeover probabilities, but they are also broadly distributed in terms of size. Arguably, our sample is diversified and representative.

The real power of the propensity score matched sample is that it gives us a range of takeover probabilities from less than 1% to 71%. This distribution of takeover probabilities is identical in the target and matching samples by design. We break the sample in half, with one group having a greater probability of being acquired and the other with a lower probability. If firms enact accelerated vesting provisions because they anticipate being acquired, then we should observe a higher preponderance of accelerated vesting in the high probability group.

A *t*-test for the difference of proportions is reported in Panel C of Table VIII. Among the targets, we find the opposite of our expectations is true. The higher probability group has a lower occurrence of accelerated vesting than the lower probability group (72% vs. 87%). The difference is significant at the 10% level. More importantly, the same is true about the sample of matching firms. Again splitting the sample in half at the median, we find a significantly higher rate of accelerated vesting for firms that are less likely to be acquired (64% vs. 85%). To be complete, we combine the targets and matching firms into one sample and rerun the test. Our results are no different. Firms do not appear to adopt accelerated vesting because they expect to be taken over. Based on this finding, we conclude that the presence of accelerated vesting in our sample of acquisition targets is not driven by a selection bias.

Table IX offers a further comparison of the compensation of the matched CEOs. All of the data for Table IX are drawn from the ExecuComp database. For target firms, the data are taken from the last proxy statement filed by the firm. For matching firms, the data are drawn from the proxy statement filed in the year in which the firm was matched to a target. For instance, Sears Roebuck and Company was acquired in 2005. Through our propensity score matching, it had nearly the same probability of being acquired as BJ's Wholesale Club Inc. in 2009. For Sears, we use compensation data from the last proxy statement filed in 2004, and the matching data for BJ's comes from the proxy covering the 2008 fiscal year, filed in 2009.

On the whole, these two groups seem remarkably similar. For instance, our average target CEO earned a salary of $739,000 in the year before the takeover, whereas their matched counterpart earned $738,000. Across all seven of the variables presented in Table IX, none of the means are significantly different between the two groups. However, the standard deviations on all but the salary exceed the mean, often quite substantially. Outliers could have a large impact on the statistics. To work around the outliers in compensation in Table IX, we also test for differences of medians with a signed test of matched pairs. While the median values are smaller, we only find a weakly significant difference in median bonuses. The results in Table IX reinforce the notion that the matched sample harmonizes very well with the target firms.

Note that these CEO compensation comparisons are qualitatively similar if we use the natural log of the dollar values in Table IX or if we divide each dollar value by total compensation, such as TDC1 (unreported). Dividing the option values by the tenure of the CEO to derive an annual figure also fails to produce a difference between these two samples. Simple transformations of the data do not change the sign or significance of our findings. Overall, our findings suggest that any differences between the takeover targets in our sample and their peers are minimal at best.

Table IX. CEO Compensation Comparison of Matched Samples

This table compares target firms and a matching sample across a number of variables as described in Table I. Acquired firms are matched to nonacquired firms using propensity score matching. The significance of the differences of means between the groups is measured with a *t*-test, whereas the significance of the difference of medians is measured with a signed test of matched pairs. Only 91 of the 107 acquired firms are used in this sample as good matches are not available for the other 16. All values are in thousands of dollars.

Variable		Targets	Matching Firms	Difference
Salary	mean	739	738	1
	median	637	687	−50
	std. dev.	349	343	
Bonus	mean	445	620	−175
	median	100	0	100*
	std. dev.	725	1,853	
TDC1	mean	4,732	6,003	−1,271
	median	3,125	3,793	−668
	std. dev.	4,935	6,526	
TDC2	mean	5,463	5,897	−434
	median	2,546	3,592	−1046
	std. dev.	8,675	6,522	
Res. stock ownership	mean	2,774	3,659	−885
	median	909	565	344
	std. dev.	6,151	7,039	
Unvested Options	mean	2,098	1,434	664
	median	528	238	290
	std. dev.	4,087	2,460	
Unvested ownership	mean	4,872	5,093	−221
	median	2,090	1,931	159
	std. dev.	7,650	8,283	
N		91	91	

*Significant at the 0.10 level.

D. Accelerated Vesting as a Proxy?

While we have framed our Risk Aversion and Incentive Alignment Hypotheses around equity that is affected by accelerated vesting, these hypotheses could also apply to equity that transfers to the stock of the acquirer. For instance, under Incentive Alignment, a target CEO with shares of restricted stock that will become a yet to be determined number of shares of the acquirer still has incentive to negotiate for the highest possible exchange ratio in the takeover. This CEO would rather get 100 shares in the acquirer than 95. It is not immediately clear why a CEO with accelerated vesting would negotiate differently than a CEO without. Nonetheless, we find a different response by the CEOs with accelerated vesting and those without. It may be the case that our accelerated vesting indicator is a proxy for some other unobservable variable.

Having established that our matching samples are similar, we can use this expanded sample to test whether there is a difference in the CEO characteristics and compensation structure between firms that offer accelerated vesting and those that do not. In doing so, we hope to find

Table X. CEO Comparison between Accelerated and Nonaccelerated Firms

This table compares firms with accelerated vesting and those without across a number of variables as described in Table I. The firms included in this table are both targets and their matches. The significance of the differences of means between the groups is measured with a *t*-test, whereas the significance of the difference of medians is measured with a signed test of matched pairs. Only 91 of the 107 acquired firms are used in this sample as good matches are not available for the other 16. All compensation values are in thousands of dollars.

Variable		Accelerated	Nonaccelerated	Difference
CEO age	mean	55.6	51.9	3.7***
	median	56.0	51.5	4.5***
	std. dev.	6.3	6.3	
CEO tenure	mean	7.3	5.3	2.0**
	median	7.0	4.5	2.5**
	std. dev.	4.0	3.6	
CEO duality	mean	63.0%	35.7%	27%**
	median	100.0%	0.0%	100%***
	std. dev.	48.5%	48.5%	
Salary	mean	773	622	151**
	median	717	500	217***
	std. dev.	331	370	
Bonus	mean	495	660	−165
	median	6	90	−84
	std. dev.	1,000	2,306	
TDC1	mean	5,537	4,804	733
	median	3,896	2,496	1,400***
	std. dev.	5,825	5,771	
TDC2	mean	5,984	4,630	1,354
	median	3,711	2,309	1,402**
	std. dev.	7,940	6,566	
Res. stock ownership	mean	3,439	2,476	963
	median	807	273	534
	std. dev.	6,882	5,603	
Unvested options	mean	1,895	1,337	558
	median	370	544	−174
	std. dev.	3,727	1,762	
Unvested ownership	mean	5,333	3,814	1,519
	median	1,923	2,053	−130
	std. dev.	8,316	6,548	
N		140	42	

***Significant at the 0.01 level.
**Significant at the 0.05 level.

some pattern that reveals more about the CEOs and firms with accelerated vesting provisions in place.

We now split our 182 firm matched samples into an accelerated vesting subset and a nonaccelerated vesting subset. Comparisons of the CEOs in these two groups of firms are presented in Table X. There are distinct differences in the characteristics of the CEOs, but few differences in their compensation structures. For instance, CEOs with accelerated vesting provisions in place are older, more tenured, more likely to also be the chairman of the board, and have a higher salary.

Table XI. Probit Model to Predict Accelerated Vesting

This table reports the coefficient estimates from a probit regression that estimates the likelihood of an executive receiving accelerated vesting. The independent variables are described in Table I. Values for *Salary, Restricted Stock*, and *Unvested Options* are in millions of dollars. Fixed effects are by year and Fama-French (1997) 48 industries. Robust standard errors are used to calculate *p*-values (shown in parentheses).

	Dependent variable = Pr(Accelerated)		
	(1)	**(2)**	**(3)**
CEO age	0.042		0.041
	(0.024)		(0.040)
CEO tenure	0.062		0.080
	(0.063)		(0.031)
CEO duality	0.434		0.401
	(0.069)		(0.098)
Salary		8.613	0.150
		(0.058)	(0.977)
Restricted stock		−0.124	0.057
		(0.491)	(0.834)
Unvested options		0.135	0.048
		(0.663)	(0.913)
Constant	−2.156	0.146	−2.415
	(0.033)	(0.624)	(0.029)
Year dummies	no	no	yes
Industry dummies	no	no	yes
Observations	182	182	182
Wald Chi^2	20.37	5.64	21.13
	(0.000)	(0.131)	(0.020)

The biggest difference we would expect in compensation is in the value of restricted stock and unvested stock options, which would be directly affected by accelerated vesting. However, there is no significant difference in the means or medians of either. It does not appear that CEOs with the largest unvested equity balances negotiate harder for accelerated vesting.

To further test the robustness of these findings, we estimate a probit model that attempts to explain which CEOs receive accelerated vesting provisions. The dependent variable in the probit is equal to one if the CEO has accelerated vesting, and zero otherwise. The explanatory variables include the CEO's age and tenure, CEO duality, salary, and the value of the CEO's restricted stock and unvested options. The results are presented in Table XI. The coefficients on age, tenure, and duality are all positive and significant indicating that older, longer serving chairmen are more likely to have accelerated vesting. Also note that the coefficients on the compensation variables are not significant in the full regression in the third column.[13] Our evidence suggests that the amount of restricted stock and unvested options that would convert to cash for the CEO under accelerated vesting has no bearing on whether the CEO has accelerated vesting provisions. As such, it does not appear that CEOs are more likely to negotiate for accelerated vesting because they have more to gain from it.

These three significant determinants of accelerated vesting (e.g., age, tenure, and duality) may collectively describe CEO quality. Older CEOs have more wisdom and experience than younger

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[13] Our results are qualitatively similar if we use the natural log of the dollar value of each compensation variable or if we divide each dollar value by total compensation, TDC1.

CEOs. The longer a CEO serves the firm, the more they have demonstrated their worth to the shareholders. CEOs who become chairmen are put in that position because they have significant value to the shareholders. The main determinant of the presence of accelerated vesting could be CEO quality, which should also determine the acquisition premium. One plausible interpretation of our evidence is that accelerated vesting proxies for CEO quality, and firms with accelerated vesting provisions for the CEO receive higher premiums as they have CEOs who negotiate better deals for their shareholders.

An alternative explanation is that age, tenure, and duality describe CEO entrenchment. It may also be the case that more entrenched CEOs receive the benefit of accelerated vesting, and these CEOs need a bigger incentive (e.g., a higher premium) to give up their entrenched positions. As a result, the positive correlation between accelerated vesting and takeover premiums may be due to self-interest, rather than superior negotiating skills. Luckily, in either case, the shareholders benefit from a higher premium. Greater exploration of this topic is left for future research.

IV. Discussion

Fich et al. (2011) report that a CEO receives a windfall via unscheduled option grants in 13% of takeovers in their sample. We find that a CEO receives a windfall via accelerated vesting in 75% of our deals. Although these two samples are not mutually exclusive, it is notable that accelerations are far more common than unscheduled grants and likely play a larger role in the formation of shareholder wealth. While Fich et al. (2011) find that premiums are lower in deals where the CEO earns an unexpected equity windfall, we demonstrate that premiums are higher in deals where the target CEO receives a cash windfall. The difference in our results may be due to differences in the ex ante efficiency of managerial compensation contracts. CEOs with accelerated vesting may have well-aligned incentives before the deal is struck, whereas CEOs who receive unscheduled grants may have poorly aligned incentives. We are unable to test this hypothesis as only one of our CEOs receives an unscheduled grant, but it may be the case that unscheduled grants are passé. Our sample encompasses the period from 2005 to 2009, but the sample used in Fich et al. (2011) covers 1999-2007 and Heitzman (2011) covers 1996-2006. It is not possible to see the time trend of the unscheduled grants in Fich et al. (2011) or Heitzman (2011), so we cannot confirm if, in fact, unscheduled grants were dwindling toward the end of their samples.

In our reading of SEC filings, we found that many options awarded within six months of the deal are not subjected to accelerated vesting. For instance, in the summary term sheet for the acquisition of Centex Corp. by Pulte Homes, Inc., the reader is notified that, "Certain equity compensation awards held by Centex's executive officers and directors will vest in connection with the merger, except that awards granted after execution of the Merger Agreement will not vest upon completion of the merger."[14] Centex is acknowledging that it issued options after the deal was announced, but is not giving special treatment to those options. Therefore, the unscheduled option grants described by Fich et al. (2011) are not likely a cash windfall, but rather an equity windfall, specifically equity of the acquirer. These circumstances may have created some perverse incentive for the CEO to negotiate for a lower premium.

We began this paper as a horse race between the Incentive Alignment Hypothesis (arguing for higher premiums) and the Risk Aversion Hypothesis (arguing for lower premiums). In essence, the Risk Aversion Hypothesis is a branch of the Jensen and Meckling (1976) Managerial Interest

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[14] Centex Corp. DEFM14A, filed with the SEC on July 20, 2009.

Hypothesis. There is also a third hypothesis, developed by Choi (2004), that the payments created by accelerated vesting result in a tax on the acquirer, forcing the acquirer to offer a lower premium. Our empirical tests cannot differentiate between the Risk Aversion Hypothesis and the Tax Hypothesis. However, neither is supported by our results, so this is not an important issue for us to explore further.

V. Conclusions

With a sample of 107 acquisitions completed from 2005 to 2009, we study the impact of accelerated vesting of the target CEO's restricted stock and stock options on the takeover premium. We find a positive correlation between accelerated vesting and premiums. The evidence suggests that accelerated vesting provides a meaningful incentive for the CEO to negotiate the highest possible premium. It is important to note that although the results offer strong empirical support for our Incentive Alignment Hypothesis, we cannot claim that CEOs are indifferent to risk. Rather, our findings simply suggest that incentive alignment dominates the effects of risk aversion. Assessing the level of risk tolerance of target CEOs is beyond the scope of this study, but warrants further research.

Accelerated vesting may play an important role in keeping the CEO's incentives aligned with the shareholders', especially as the CEO nears retirement. Anecdotal evidence suggests that some CEOs nearing retirement try to sell their firm and receive a windfall as a way to cash out at the end of their career. This is potentially problematic if the bonus is not tied to an increase in shareholder wealth. Accelerated vesting does seem to properly align the CEO's interests with those of the shareholders.

Like Hartzell et al. (2004) and Lefanowicz et al. (2000), our main sample consists of completed transactions. Although our evidence allows us to conclude that accelerated vesting is positively correlated with premiums in completed deals, we cannot say that accelerated vesting is universally positive. It may be the case that some acquisitions fall apart before they are completed because CEOs with accelerated vesting provisions push for premiums that are too large from prospective buyers. Future research should examine how accelerated vesting provisions affect the value of all firms, not just acquisition targets.

This paper takes advantage of a recent change in the SEC's rules to build a unique sample. While ours is the first to study the impact of accelerated vesting on premiums, it should not be the last. As more data become available over time, future work should incorporate larger samples covering longer time periods and varying international markets.

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