

Payments to executives of target firms in mergers: tests using newly-available data*

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Abstract: Using data available as a result of a 2006 change in Securities and Exchange Commission reporting requirements, we document how large the change-in-control payments to executives of target firms are *in total*. For a sample of firms listed in the S&P small-cap 600 index in 2009, the average (hypothetical) change-in-control payment is 2.2% of target-firm market capitalization. Controlling for endogeneity, we find a *positive* association between change-in-control payments and firm value. Furthermore, firms that are eventually acquired have change-in-control payments that are statistically indistinguishable from those firms that do not become targets. Overall, our conclusion from this study of *total* change-in-control payments to named executive officers is that such payments appear to be reasonable, not overly punitive to target shareholders, and do not appear to impede the takeover process.

* Preliminary and incomplete – please do not quote.

“Accelerated equity awards along with substantial pensions and other deferred compensation all but guarantee significant payouts at many of America’s largest corporations in every termination situation...”¹

Introduction

Until recent (2006) changes in Securities and Exchange Commission (SEC) reporting requirements, outsiders have had scant detail of what is arguably the most important component of change-in-control payments to CEOs: accelerated vesting of equity (options and restricted stock), tax gross-ups, and accelerated vesting of performance awards. In fact, the existing academic literature on change-in-control payments is almost exclusively focused on golden parachutes paid to departing target CEOs (cash awards, usually as a fixed multiple of the CEO’s final salary). However, for the median named executive officer in our sample, a golden parachute represents only 44% of the value of benefits conferred upon the executive around a change-in-control transaction. This suggests that the existing literature ignores a potentially important component of these critical, and criticized, change-in-control payments to executives.

In this paper, we take advantage of recent changes in SEC disclosure requirements to document how large change-in-control payments to target executives are *in total*, not just golden parachutes. The extant literature establishes benchmarks for the size of the golden parachutes for all executives within a given firm. For example, Lambert and Larcker (1985) estimate that at the median in their sample the sum of the (present) value of golden parachutes to the top executives in a given firm is 0.97% of a firm’s market capitalization. Machlin, Choe, and Miles (1993) find that between 1975 and 1988 the average value of executive golden parachutes is 2.98% of the market value of the target, while Lefanowicz, Robinson, and Smith (2000) estimate it to be 2.2% for firms acquired over the period from 1980-1995. However, as noted above, golden parachutes

¹ From “Twenty-One U.S. CEOs with Golden Parachutes of More Than \$100m,” GMI Ratings, January 2012.

comprise less than half of the median *total* change-in-control payments made to target managers in acquisitions. Therefore, we address the issue of whether considering the totality of change-in-control payment alters one's opinion about the size of such payments and their likely affect on the market for corporate control.

Ceteris paribus, shareholders would like to transfer the smallest possible portion of the value of the firm to the managers in an acquisition.² Consequently, the portion of the proceeds kept by the target's managers is sometimes referred to in the literature as a tax on the shareholders, a pejorative term that suggests a deadweight loss.³ In this paper, we focus on the change-in-control payments made to the top five officers of the firm – known as the Named Executive Officers (NEOs) – and refer to the payments to these individuals as the “NEO tax.” The term NEO tax is used for convenience, and is not intended to be construed as inherently negative. Just as taxes bring value to a community via roads and schools, an NEO tax may bring value to shareholders via a higher takeover premium.

Until recently, it was not possible to calculate the NEO tax because firms were not required to disclose the amounts that would be paid to managers upon a change-in-control. Beginning in 2006, the SEC mandates that companies listed in the United States disclose the dollar amount and form of such potential payments. To be clear, all active firms are now required to list all potential payments to their NEOs upon a change-in-control. The NEO tax calculations in this study are based on the hypothetical payments disclosed by firms pursuant to this rule change, not the actual payments made in takeovers. Furthermore, we focus on payments requiring the double-trigger of a change-in-control and termination of employment, as these are

² Subject to the constraint that the manager's payment is almost always in cash while the stockholders' share of the sale proceeds is frequently paid (at least partly) in acquirer stock.

³ Lambert and Larcker (1985) and Choi (2004).

always as large or larger than payments requiring a single trigger, and thereby, potentially the most harmful to shareholder wealth,

For a sample of firms listed in the S&P small-cap 600 index in 2009, the average NEO tax is 2.2% of market capitalization. Where there is some variance in the distribution, with the largest tax exceeding 20% of market capitalization, the vast majority of firms have a NEO tax below 3% of market capitalization. Takeover premiums increase the value of change-in-control payments made to NEOs because premiums increase the value of (vested) options and restricted stock. However, adjusting for the effects of a presumed 46% takeover premium on the change-in-control payments to NEOs generates an increase in the NEO tax to an average of just 2.8% of the *pre-deal* market value of equity. In addition, the median NEO tax is considerably lower: only 2% including the effect of a takeover premium. As a form of incentive compensation designed to properly align the incentives of the managers with those of the shareholders in an acquisition, the mean (and much-lower median) aggregate NEO taxes documented here appear to be reasonable and not overly punitive to target shareholders.

Controlling for endogeneity, we find a *positive* association between the NEO tax and firm value (measured using the market-to-book ratio). Moreover, firms that are eventually acquired have NEO taxes that are statistically indistinguishable from those firms that do not become targets, suggesting that NEO taxes of the magnitudes presented in this paper do not deter takeover offers or acceptances by shareholders. While NEOs appear to receive about 26% greater change-in-control payments (at the median) in the event of takeovers than reported in SEC filings prior, such payments do not appear to intervene in the takeover process. Overall, our conclusion from this study is that assessing the effect of the *total* change-in-control payments to named executive officers (as opposed to just the effect of golden parachutes) still leaves the

impression that such transfers from shareholders to management are relatively small and do not seem to impair firm value or impede takeovers.

This article extends the findings in Lefanowicz, Robinson, and Smith (2000). The Lefanowicz et al. results are worthy of an update because golden parachutes (the focus of that study) are only one part of the change-in-control termination payments disclosed by most companies today. New disclosure rules imply that our data (and resulting estimates of the *total* change-in-control payments) provide a more accurate picture of the termination-related payments made by stockholders to named executive officers. Our paper is also related to Hartzell, Ofek, and Yermack 2004, which was possibly the first paper to consider change-in-control payments beyond golden parachutes. Given the disclosures available (from the SEC) to those authors in the mid-1990s, however, their sample was necessarily small and their empirical methods restricted. One way of thinking about this paper is as an extension of their work.

Another role of this paper is to clarify the current practices in change-in-control payments for academic researchers. Statements in Lambert and Larcker's seminal paper that "golden parachutes are typically not approved via a formal shareholder vote" and the House of Representatives has introduced a bill "to change the taxation of compensation obtained via a golden parachute" are clearly dated. Even the more recent papers, such as Fich et al. (2011), focus solely on cash severance and ignore all other forms of change-in-control payments. New disclosures make it clear that golden parachutes are but one portion of *total* change-in-control payments. It is no longer sufficient for scholars to study golden parachutes in isolation.

This research also helps close the gap between the theoretical and empirical golden parachute literature. Most published theoretical models do not separate out lump-sum cash severance payments from the total pay package received by the executive upon a change-in-

control termination, but virtually all of the existing empirical models only consider the lump-sum cash severance. The model of Harris (1990) does distinguish between the gains from the accelerated vesting of managerial equity holdings and golden parachutes, but even her model is too simple to predict how the premium will be affected by a combination of the two.

The remainder of the paper is organized as follows. Section 1 describes the SEC's disclosure requirements and Section 2 describes our data and empirical methods. Section 3 presents descriptive statistics, while Section 4 discusses our main results. Section 5 concludes.

1. Regulatory Background

In the United States, there is not a consistent legal definition of a golden parachute. For instance, rules of the SEC and IRS do not require a termination of employment for a payment to be classified as a golden parachute, whereas rules of the FDIC do require a termination. In all cases, golden parachutes are legally defined to include all payments contingent upon the change-in-control, including payments due to accelerated vesting of equity and tax gross-ups. To keep with convention in the academic literature, we define a golden parachute more narrowly as a lump-sum severance agreement between the executive and the firm that provides for compensation based on a multiple of the executive's past salary and bonus that is contingent upon a termination following a change in ownership or control.

SEC rule number 33-8732a (effective December 15, 2006) requires firms to describe all potential payments to their top five NEOs triggered by a change in control.⁴ The disclosure is required to be in the proxy statement, and must include all forms of compensation, including perquisites, that are to be paid by the firm to the manager upon a change in control. This

⁴ By definition, NEOs are the principal executive officer, the principal financial officer, and the three most highly compensated executive officers with compensation above \$100,000 in the latest fiscal year. Some firms report less than five NEOs due to this compensation threshold.

restriction implies that some “compensation” an executive receives when they leave the firm for control-related reasons, such as taking a vested 401(k) balance with them, is not reportable under this rule (since the underlying compensation was paid in a prior period and its payment is unrelated to the change in control). However, for the first time outsiders get information about all forms of compensation paid to NEOs upon a change-in-control.

While golden parachutes (based on multiples of salary) were previously required to be disclosed, other forms of payment to NEOs upon a change-in-control (for example, golden parachute excise tax gross-ups) were not. It turns out that this is not a trivial matter. Consider the case of James G. Carlson, the CEO of Amerigroup Corp. Upon a hypothetical change in control⁵ on December 31, 2009, Mr. Carlson would receive a total payment of \$14,987,254, of which \$3,604,944 (24%) is to gross up his exit compensation to compensate for taxes due. His traditional golden parachute would be \$6,393,750, meaning that the tax gross-up is more than half of the traditional golden parachute.⁶ Clearly the tax gross-up is an important component of change-in-control compensation that is missing from prior literature.

2. *Data and Methodology*

Our initial sample includes all firms in the S&P Small-Cap 600 at the end of 2009. These firms were chosen for two reasons. First, evidence presented by Palepu (1986) (and others) suggests that small firms are more likely than large firms to be acquired, so the hypothetical payments due to these executives are more likely to be made along with a change in control. Second, the firms in our sample have coverage in Compustat’s Execucomp database, which provides data on the

⁵ We use the term “hypothetical” in this paper because the disclosures that form the basis for our data do not list *actual* payments to NEOs but rather the hypothetical payments that would be due if a change of control occurred at the end of the relevant reporting period.

⁶ Mr. Carlson also would receive accelerated vesting of all equity and performance awards and a pro-rata bonus payment for fiscal 2009, which would all be subject to taxation.

executives' holdings of stock options and restricted stock. Fiscal-year 2009 was chosen for collection because early disclosures under the new rule were often incomplete. Even in 2009, improper disclosure of executive compensation (not just change-in-control compensation) was the second-leading offense resulting in comment letters from the SEC (CFO, 2010), indicating that firms are still struggling to meet the SEC's disclosure demands.

The total payments due to the CEO, CFO, and other NEOs upon a termination following a change in control were hand collected from fiscal year 2009 proxy statements. Of the 600 firms, 542 fully disclosed such payments. There were 27 firms that did not disclose the dollar value of the potential payments and 21 firms did not file a proxy for the year (either due to a pending acquisition or bankruptcy). An additional seven firms were not allowed to make severance payments due to a loan covenant from the U.S. federal government's Troubled Asset Relief Program (TARP), so they were excluded from the sample. Finally, three firms did not have a CEO at the end of their fiscal year.

For each firm, we collect the total amounts payable to the NEOs under a double-trigger (change-in-control with termination). The difference between single-trigger and double-trigger payments is that double-trigger payments require *both* a takeover and the termination of the NEO in order to be triggered: this is the most common form of change-in-control compensation. We focus on double-trigger payments because they are always as big or bigger than single trigger payments, so they have the most power to harm shareholder wealth. Note that the termination in a double-trigger does not have to happen at the same time as the deal closes to trigger the disbursement. In most cases, the executive will receive the payment if he or she is terminated within two years after the change in control. Companies frequently break the total payments

down into eleven different categories, which are described in Appendix A. A sample of the data for ten randomly-drawn observations is presented in Appendix B.

In Table 1 we document the various categories of change-in-control payments made to CEOs using 2009 data. The average CEO has 5.39 different categories of payments upon termination following a change in control, ranging from the traditional golden parachutes, to accelerated vesting of equity grants, to welfare benefits and outplacement services. The most common type of payment is a golden parachute (included in approximately 89% of change-in-control provisions), followed by accelerated vesting (77% for options; 76% for restricted stock), and the continuation of medical, dental, and life coverage post termination (called welfare benefits, and included in 75% of cases). While the majority of CEOs do receive golden parachutes upon a change-in-control related termination, as documented in Table 1, there are a number of different payment types also included in such termination packages. Furthermore, as noted in the introduction but not tabulated, for the median CEO a golden parachute represents only 44% of the total hypothetical change-in-control payment. At the median, therefore, 56% of the value of change-in-control related benefits comes from the other categories noted in Table 1.

Financial data for our sample firms is gathered from Compustat. The market value of equity is calculated as the fiscal year-end price times the number of shares outstanding. The market value of assets is the sum of the market value of equity, book value of current and noncurrent long term debt, and preferred stock liquidation value, less deferred taxes and investment tax credits. Stock price data is from CRSP, and acquisition data is hand collected from either the proxy (for mergers) or Schedule T (for tender offers). Data on poison pills and board structure is also collected from the SEC filings.

3. *Descriptive statistics*

Table 2 shows the distribution of double-trigger payments due to the CEO, CFO, and NEOs. The average reported hypothetical payment is \$5.96 million for the CEO, \$2.00 million for the CFO, and \$12.68 million for the NEOs combined. The medians are about 75% of the means, so outliers skew the distributions. The largest personal hypothetical payment of \$45,823,271 goes to James Rubright, CEO of Rock-Tenn Company. As reported on September 30, 2009, upon termination due to a change in control he would be paid \$11,461,942 in severance, \$2,428,004 in the accelerated vesting of his stock options, \$18,289,657 in the accelerated vesting of his restricted stock, and \$13,643,668 as a lump sum from his supplemental executive retirement plan (SERP), which includes an increase to 15 years of service for purposes of calculating his benefit. As a group, the largest potential payment of \$93.32 million goes to the NEOs at Treehouse Foods Inc. It is also notable that 49 CEOs have hypothetical payments of \$0 at the end of their 2009 fiscal year. In some of these cases, the amount actually received could be considerably larger depending on the valuation of stock options – the options were underwater at the disclosure date. However, in most of these cases the firm has a policy against providing severance or change-in-control payments and the CEO would get no additional payments as a result of an acquisition.

Panels B and C of Table 2 shows the amount of these change-in-control payments relative to the firm's market value. The average payment for the NEOs collectively is 1.63% (2.24%) of the market value of assets (equity), with the CEO responsible for 0.78% (1.06%). Even relative to market values, however, there are some outliers. The NEOs of soon-to-be-delisted C&D Technologies Inc. could receive 20.45% of the firm's market cap in change-in-

control termination payments.⁷ As with all forms of executive compensation, there are seemingly abusive outliers that expropriate wealth from shareholders, but the vast majority of change-in-control termination payments cost shareholders less than 3%.

The most prominent flaw in the computation of double-trigger payments disclosed in annual proxy statements is that they ignore a takeover premium: options and restricted stock are valued based on the share price at the end of the fiscal year. However, in the vast majority of takeovers the bidder pays a premium to acquire the target's shares. This premium would switch some outstanding options from an out-of-the-money position to in-the-money, leading to larger cash windfalls for the affected NEOs. Of course, restricted stock would also be worth more with a premium. For example, if the stock price of Abaxis Inc included just a 20% premium over its fiscal 2009 closing price, the NEO tax would grow from \$13 million to \$30 million. Therefore, the preceding analysis understates the true tax imposed by the NEOs.

To address this issue, we recalculate the value of all outstanding equity grants assuming a 46% premium over the stock price at the end of the fiscal year.⁸ More specifically, for each outstanding option award in the Execucomp "Outstanding Awards" table, the value of the option is calculated as the year-end closing price times 1.46, minus the strike price. The option value multiplied by the number of options granted gives the total value of each grant. Similarly, the restricted stock is revalued at a 46% premium. The total dollar value of the NEO tax is then recalculated assuming that all NEOs get the benefit of accelerated vesting upon the takeover. This second assumption will lead to an overestimate of the size of the tax, as not all NEOs will receive accelerated vesting. However, if the following results do not change much, this

⁷ C&D's common stock price fell over 80% in the 18 months leading up to the end of fiscal 2009. The result was that the fixed payments, including the golden parachutes, comprised 92% of the change-in-control payments, and the NEO tax was inflated relative to the equity. C&D was delisted in October, 2010 and defaulted on its debt the following month.

⁸ 46% is the average takeover premium reported in Eckbo (2009).

overestimation will be trivial. Furthermore, if the CEO is contracted to receive an excise tax gross-up, we adjust the revalued equity to include a gross-up for all of the NEOs by dividing the change in the equity value by the quantity of one minus the excise tax rate of 20%.

The revised hypothetical payments are presented in Table 3. The mean NEO tax changes from about \$12.6 million without the premium to about \$16.4 million with the premium, an increase of only 29.1%. Relative to the market value of equity at the end of fiscal 2009, the NEO tax rises from 2.24% to 2.80% with the premium, a change of 25%. There are two important implications from these results. First, options that were out-of-the-money at the end of the year, but that would be in-the-money with a 46% takeover premium, do not represent a large portion of the executives' change-in-control compensation. There are firms, such as Abaxis Inc, for which even a relatively modest 20% takeover premium would change the NEO tax substantially, but those firms are the exception rather than the rule. Of course shareholders do need to be aware that the change-in-control termination payments could jump substantially if the executives' options are just barely under water.

Second, despite a 46% takeover premium, the NEO tax only increases by about 29%. In other words, the fixed portion of the NEO tax, such as (salary-based) golden parachutes and pro-rata bonuses, represents a considerable portion of the compensation paid to the NEOs at the close of the deal. Therefore, on average, the estimates of the change-in-control payments presented in the proxies are reasonable estimates of the relative size of the final payments that the named executives will receive.

To be thorough, we also apply a 46% premium to our calculation of the market value of equity, and then recalculate the NEO tax relative to the market value of equity with this premium. On average, the NEO tax decreases from 2.24% to 1.93% of the hypothetical

acquisition proceeds. Again, this happens because the equity increases 46%, but the dollar value of the payments to the NEOs only increases 29%, so the NEO tax *decreases* relative to the market value of equity. On average, our initial calculations in Table 2 may be overstating the relative size of the NEO tax.

4. *The effect of change-in-control payments on firms*

A question that has received much attention in the literature is whether golden parachutes have any tangible effect on control-related outcomes for shareholders (e.g., frequency of bids, success of bids, offered premiums, etc.). Results in the extant literature are relatively mixed. In their seminal paper, Lambert and Larcker (1985) report that *adoptions* of golden parachutes are associated with positive stock price reactions, although it is not clear if this increase is due to a higher probability of takeover or a higher expected takeover premium. The broad conclusion that golden parachutes are associated with better outcomes for shareholders (either at adoption or in takeover contests) is also (largely) supported by Bebchuk, Cohen, and Wang (2010) and Fich, Tran, and Walkling (2011). However, numerous other papers, such as Cotter and Zenner (1994), Lefanowicz, Robinson, and Smith (2000), and Bange and Mazzeo (2004), find no association between golden parachutes and shareholder outcomes.

We take a slightly different approach. First, our data account for *all* (disclosed) change-in-control payments, not just golden parachutes, so we can analyze the effect of the aggregate NEO tax. Second, we examine the cross-sectional relationship between firm value (the market-to-book ratio of assets) and the (hypothetical) NEO tax for all of our sample firms in 2009, as opposed to assessing the relation between change-in-control payments and outcomes in actual takeovers (as most of the rest of the literature does).

The methodological problem with measuring the correlation between firm value (the market-to-book assets ratio) and the NEO tax in a regression is that both dependent and independent variables would be directly related to firm size. Specifically, the market-to-book assets ratio and the NEO tax (change-in-control payments to NEOs divided by the book value of assets) both have book value in the denominator, inducing a correlation between the two. Therefore, the coefficient on the NEO tax will be positive, regardless of whether the NEO tax actually increases firm value. Similarly, the equity portion of the NEO tax is dependent on the market value of the equity, as is the market value of the assets. Again we have a forced correlation that requires special treatment.

To alleviate this concern, we use a two-stage model and scale the change-in-control payments to NEOs by sales (rather than assets). In the first stage regression, the natural log of sales from 2008 is regressed against the CEO or NEO Tax, return on sales, cash-to-sales, and debt-to-sales ratios. All of these ratios use 2009 values, including 2009 sales in the denominator. The residual values from the first stage are used as the Sales variable in the second stage to ensure that our regression is not corrupted by multicollinearity. Furthermore, we use the market-to-book ratio from 2010 to break the endogenous link between the NEO tax and firm value. The results from the second stage regression are presented in Table 4.

In the first column of Table 4, we use the CEO tax (defined as payments to the CEO divided by the size of the firm) as our main explanatory variable. The coefficient on the CEO tax is positive and significant at the 5% level, suggesting that a larger CEO tax (in the cross section) is associated with greater shareholder wealth. In the second column, we instead use the NEO tax as the explanatory variable of interest. Again, we find a positive and significant relation between the size of the change-in-control payments and firm value. As a robustness

check, we note that we observe a size discount in these regressions as well – a negative (and highly significant) association between size (sales) and firm value (market-to-book). The size discount is widely observed in past studies, and the fact that we detect it here lends credence to our regression approach.⁹

One interpretation of the evidence presented in Table 4 is that firms use change-in-control payments as a means to attract managerial talent. Executives who are the most talented should be paid the most, presumably across all dimensions of executive compensation. Thus, we should expect managers with the highest change-in-control pay packages to create the most value for their shareholders. In any event, the coefficients on the NEO and CEO tax variables in Table 4 are *not* negative, which at the very least implies that, considering the *totality* of termination packages for CEO and named officers, change-in-control payments do not appear to be negatively related to firm value. If anything, the effect we observe in the 2009 cross section is that firms with more generous change-in-control packages for their executives have *higher* firm values.

To be consistent with the golden parachute literature, we examine whether the aggregate size of CEO/NEO taxes affects the probability of a firm being subject to a takeover. Of the 542 firms in our 2009 sample, 31 are subject to takeover offers in 2010 or 2011. We then match these firms that are targeted with in-sample peers that were not targeted. We use a propensity score model to do this matching. Specifically, we estimate a probit regression explaining the probability of being acquired using the following explanatory variables: the market-to-book ratio of assets, the market value of assets, the cash-to-sales, R&D-to-sales, the capital expenditure-to-sales ratios, and industry codes. The targets in our sample are then matched to non-target in our

⁹ Examples include McConnell and Servaes (1990), Hermalin and Weisbach (1991), Lang and Stulz (1994), Agrawal and Knoeber (1996), Yermack (1996), Cho (1998), and Daines (2001).

sample based on propensity scores (within 0.1, without replacement). This procedure results in valid matches for 28 (out of 31) target firms in 2009.

In Table 5, we present the average (and median) NEO taxes for target firms and the matched sample, relative to both the market value of equity and the market value of assets. Not only are the estimates quantitatively close (for example, targets have average hypothetical NEO taxes of 2.1% of the market value of equity while the corresponding average for matched non-targets is 2.0%), they are not statistically different. In other words, the size of the disclosed change-in-control payments to named executives is almost identical between firms from 2009 that later became targets and those that did not. Consequently, we conclude that NEO taxes do not appear to influence the probability that the firm is subject to a takeover offer.

While the results in Table 5 imply that the size of the change-in-control compensation does not affect the likelihood of a takeover, the values used in Table 5 are hypothetical payments (disclosed in SEC filings) and ignore a potential takeover premium. We can observe the revised payments for the firms from our sample that actually became targets and see how the payments change once the deal is crafted. By law, target firms only have to disclose the revised amount of the change-in-control payments in mergers, not in tender offers. Of our sample of 31 firms from 2009 that were subject to a takeover, 16 involve tender offers. An additional four had a change in CEO between the last annual proxy and the signing of the deal. That leaves us with eleven deals in which we can observe *actual* change-in-control payments made to target executives. Clearly this is not a statistically large sample, so we interpret our evidence cautiously.

In Table 6, we compare the size of the Reported and Revised change-in-control payments for these eleven deals. The Reported payments come from the last annual proxy before the deal was signed (DEF 14A), and the Revised from the proxy asking shareholders to vote on the deal

(DEFM 14A). In column 1, we report the deal value as disclosed by the firms in the filings, which is effectively the fully-diluted market capitalization of the target firm. These deals range in size from \$232 million (Kendle International) to \$4.9 billion (Varian Semiconductor). In the second column, we calculate the premium as the change in stock price from the close of the fiscal year immediately before the deal was announced to the offer price. This is the most appropriate premium for our purposes because it matches the timing of the revision in the change-in-control payments that we observe.

Similarly, we calculate the change in the CEO tax and NEO tax over the period from the fiscal year end to the close of the acquisition. In columns 3 and 4, we provide the Reported and Revised CEO tax, with the change in column 5. The change in the CEO tax ranges from 0% to 40,769%. In the former case, the CEO is not contracted to receive a change-in-control termination payment. In the latter case, the increase is due to a combination of equity appreciation and a supplemental change-in-control payment (as in Fich, Cai, and Tran, 2011) of \$1.5 million.

Many of the changes in the CEO tax documented in Table 5 exceed the premium paid to shareholders in the merger. Mathematically, this can only happen through one of two mechanisms: either out-of-the-money options became in-the-money, or additional payments are offered to the CEO in the transaction. In six of our seven deals in which the change in the CEO tax exceeds the premium, the CEO was offered additional compensation. This additional compensation came in the form of bonuses, additional equity, and new provisions for tax gross-ups. These additional payments seem to have been used to catch these CEOs up with termination payments to their peers. The median CEO tax relative to market capitalization we report in column 9 of Table 6 is 0.79%, compared to the hypothetical average from Table 1 of

0.72%. Even with the additional payments noted above, and the revaluation of stock options and restricted stock, these eleven CEOs are seemingly not burdening their shareholders disproportionately. Anecdotally, it does not appear that change-in-control payments to CEOs are hurting shareholder value.

Columns 6 and 7 of Table 6 also display the Reported and Revised NEO tax, with column 8 reporting the change in the NEO tax. Note that the table is sorted by column 10, which calculates the Revised NEO tax as a percentage of deal value. We observe that the largest increase in the NEO tax (column 8) is for the firms with the smallest revised NEO tax. This observation reinforces the notion that the revisions are made to catch the executives up with their peers, rather than for more nefarious purposes of shareholder exploitation.

Ultimately, we cannot interpret the evidence in Table 6 as proof that change-in-control payments do not harm shareholder wealth. However, we can claim that the observations in Table 6 further support the notion that *total* change-in-control payments do not appear to overly burden shareholders of firms that are acquired.

5. *Conclusion*

This paper takes a first look at new data on aggregate change-in-control termination payments. As firms release more data over the years, and more acquisitions occur, it will offer researchers a better opportunity to explore the implications of the NEO tax. The NEO tax calculations in this paper assume that all of NEOs are terminated upon the change-in-control. In most cases, the executives would receive significantly lower payments if they were retained by the acquirer. Therefore, to the extent that some NEOs do keep their jobs after the deal closes, the NEO tax would be even lower than estimated here.

Section II.C.5.c of SEC rule 33-8732a requires, “disclosure of specific aspects of written or unwritten arrangements that provide for payments at, following, or in connection with ... a change in control of the company.” In other words, firms are required to disclose *single-trigger* payments that are initiated by the takeover, and paid regardless of the employment situation of the NEO. However, only 202 of the 542 firms in our sample disclose single-trigger payments. Following the methodology in Elkinawy and Offenber (2012), we read several filings for firms that did not disclose single trigger payments to determine if all of the missing data points could be assumed to mean that the firm provided no such payments. However, we quickly found several cases in which accelerated vesting of equity that constitutes a single trigger payment was disclosed in filings other than the proxy. It is reasonable to assume that a significant proportion of firms are failing in their duty to report all payments connected to a change-in-control.

Elkinawy and Offenber (2012) conclude that accelerated vesting is good for shareholders when firms are acquired, but cannot claim that accelerated vesting increases shareholder wealth. Our evidence in Table 4, showing a positive correlation between firm value and change-in-control payments (including the accelerated vesting of equity), suggests that accelerated vesting of the NEOs’ equity is wealth-maximizing.

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Appendix A: Categories of Post-Termination Payments

Fixed Payments: value does not depend on the acquisition premium

Golden Parachute

Payment of salary and bonus for a time period extending past the NEOs termination date, but usually not more than three years. Can be paid in installments over the life of the agreement or as a single lump sum.

Enhancements to SERP

Changes to the NEO's supplemental executive retirement plan (SERP) account. Usually an increase in the account balance, an increase in the number of years of service, or an immediate payout of the balance as a lump sum.

Outplacement Services

Support for the NEO in finding a new job, typically in the form of a lump-sum payment.

Payout of Non-Qualified Deferred Comp.

NEO receives all compensation that has been deferred to a non-qualified plan for tax purposes, with accrued interest, at the close of the acquisition.

Welfare Benefits

Continuation of medical, dental, life insurance, or disability benefits over a period extending past the termination date.

Miscellaneous

All other payments made to the NEO that do not fit into the categories above, including automobile allowance, additional contributions to 401(k), donations to charity, unused vacation payout, consulting fees, and legal expense reimbursement (not exhaustive).

Variable Payments: value depends on the acquisition premium

Accelerated Vesting of Restricted Stock

The NEO's restricted stock becomes unrestricted at the close of the acquisition. Also applies to phantom stock.

Accelerated Vesting of Stock Options

The NEO's unvested stock options become vested at the close of the acquisition. Also applies to stock appreciation rights and warrants.

Excise Tax Gross-Up

Additional payment to the executive to cover excise taxes due under IRC Section 4999.

Performance Vesting

Equity or non-equity grants that normally vest upon the completion of a performance target become vested at the close of the acquisition.

Pro-rata Bonus

Accrued fiscal year-end bonus for the fiscal year of the acquisition. Separate from the bonus payments in the Golden Parachute, which pays out the hypothetical bonus for future years.

Appendix B: Example Observations

This table contains ten randomly-chosen firms from the S&P small-cap 600 in 2009. For each firm, the values reported are the dollar amounts payable to the CEO upon a termination following a hypothetical change-in-control at the end of fiscal 2009. The payment categories are described in Appendix A. These data are reported by the firms in their proxy statements.

Firm	Golden Parachute	Accelerated Vesting of Restricted Stock	Accelerated Vesting of Stock Options	Welfare Benefits	Excise Tax Gross-Up	Pro-rata Bonus	Accelerated Performance Vesting	Out-placement Services	Enhancements to SERP	Payout of Non-Qualified Deferred Comp.	Total
ADVANCED ENERGY INDS INC	974,100			19,028		657,518		15,000			1,665,646
AMSURG CORP	1,612,500	3,600,732								13,649	5,226,881
BARNES GROUP INC	3,950,527	1,915,277	1,242,055	160,800			1,597,050				8,865,709
CALGON CARBON CORP	2,627,551	468,198		43,314	1,318,233		636,620		41,650		5,135,566
CROSS COUNTRY HEALTHCARE	508,200	926,189	168,750	11,220							1,614,359
INTEVAC INC	936,042										936,042
JOHN BEAN TECHNOLOGIES	3,586,251	3,198,633		12,689		545,417	4,254,398	97,500	1,067,103		12,761,991
MARINEMAX INC	1,677,000	1,765,060	397,230	24,120							3,863,410
TELETECH HOLDINGS INC (1)	700,000	3,004,500		6,730			3,004,500				6,749,682
WORLD ACCEPTANCE CORP	1,821,833	577,966	78,520	15,288			1,139,298				3,632,905

(1) Telettech Holdings also reported \$33,952 as miscellaneous compensation for two years of "Automobile."

Table 1: Sources of Post-Termination Change-in-Control Payments

This table reports the frequency with which payments would be made to CEOs upon a hypothetical termination following a change-in-control. The categories are defined in Appendix A. Data are from 2009.

Category	Frequency
Traditional Golden Parachute (lump-sum severance)	88.6%
Accelerated Vesting of Stock Options	77.7%
Accelerated Vesting of Restricted Stock	76.1%
Welfare Benefits	75.0%
Pro-rata Bonus	73.6%
Excise Tax Gross-Up	43.0%
Performance Vesting	20.2%
Payout of Non-Qualified Deferred Comp.	17.7%
Outplacement Services	17.3%
Enhancements to SERP	12.1%
Miscellaneous	38.0%
Average number of payment categories per CEO	5.39

Table 2: Distribution of Reported Payments in 2009

This table reports summary statistics for hypothetical change-in-control termination payments to the CEO, CFO and NEOs for 2009. There are 542 firms in the sample.

Panel A: Dollar value of payments

	Mean	Median	Min	Max	25%ile	75%ile	95%ile	99%ile
NEOs	12,683,523	9,651,608	-	93,318,502	4,573,746	17,648,217	36,032,757	57,630,908
CEO	5,959,489	4,388,274	-	45,823,271	1,780,259	8,041,332	17,956,520	29,858,966
CFO	2,007,537	1,386,531	-	16,034,485	582,366	2,786,901	6,162,242	9,731,129

Panel B: Size of payments relative to market cap.

	Mean	Median	Min	Max	25%ile	75%ile	95%ile	99%ile
NEOs	2.24%	1.65%	0.00%	20.45%	0.78%	2.89%	5.83%	12.34%
CEO	1.06%	0.72%	0.00%	11.98%	0.34%	1.36%	2.96%	6.13%
CFO	0.36%	0.24%	0.00%	3.97%	0.10%	0.44%	1.12%	2.25%

Panel C: Size of payments relative to market value of assets

	Mean	Median	Min	Max	25%ile	75%ile	95%ile	99%ile
NEOs	1.63%	1.22%	0.00%	12.33%	0.59%	2.08%	4.76%	7.65%
CEO	0.78%	0.53%	0.00%	7.18%	0.23%	1.01%	2.43%	4.64%
CFO	0.26%	0.18%	0.00%	2.21%	0.08%	0.34%	0.83%	1.59%

Table 3: Hypothetical Distribution of NEO Tax with a 46% Takeover Premium

This table shows the distribution of hypothetical termination change-in-control payments to the NEOs, both as reported and assuming a 46% premium over the closing price at the end of fiscal 2009. The premium is applied to all unvested options and restricted stock reported in Execucomp at the end of 2009. In addition, in firms in which the CEO is due an excise tax gross-up, the equity revaluation includes a gross-up for all five NEOs. There are 542 firms in the sample.

Dollar Value (\$)	As Reported	With 46% Premium	% Increase
Mean	12,683,523	16,370,976	29.1%
Median	9,651,608	12,569,618	30.2%
Max	93,318,502	98,610,015	5.7%
<u>Relative to FYE 2009 Market Value of Equity</u>			
Mean	2.24%	2.80%	25.0%
Median	1.65%	2.10%	26.8%
Max	20.45%	21.36%	4.4%
<u>Relative to Market Value of Equity with 46% Premium</u>			
Mean	2.24%	1.93%	-14.0%
Median	1.65%	1.44%	-12.7%
Max	20.45%	14.63%	-28.5%
<u>Relative to Market Value of Assets</u>			
Mean	1.63%	2.09%	27.8%
Median	1.22%	1.61%	32.1%
Max	12.33%	14.76%	19.7%

Table 4: Firm Value and the NEO Tax

This table reports two-stage least squares regressions in which the market-to-book ratio of assets is the dependent variable and the dollar value of the reported double-trigger CEO tax or NEO tax (scaled by the dollar value of sales) is the key independent variable. In the first stage, the natural log of sales is regressed against the CEO or NEO Tax, return on sales, cash-to-sales, and debt-to-sales ratios. The residual values from the first stage are used as the Sales variable in the second stage (reported). Fixed-effects by Fama-French 48 industries are included but not reported. Robust standard errors are used to calculate p-values (in parentheses). All values other than market-to-book are from 2009; market-to-book is from 2010.

Dependent variable = Market-to-book ratio

	(1)	(2)
CEO Tax	0.010 (0.003)***	
NEO Tax		0.006 (0.052)*
Sales	-0.352 (0.000)***	-0.348 (0.000)***
Cash/Sales	0.187 (0.149)	0.178 (0.163)
ROS	1.191 (0.001)***	1.171 (0.000)***
Debt/Sales	0.015 (0.301)	0.011 (0.407)
CapEx/Sales	0.025 (0.955)	-0.103 (0.829)
Delaware	0.088 (0.338)	0.089 (0.328)
Poison Pill	-0.113 (0.206)	-0.113 (0.205)
Staggered Board	-0.057 (0.457)	-0.057 (0.474)
Constant	1.22 (0.000)***	1.20 (0.000)***
Observations	488	488
Adjusted R-squared	0.136	0.137
F-Statistic	10.434	17.17

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5: Tests for differences of NEO Tax between targets and non-targets

This table reports the NEO tax for a sample of firms that have been acquired and a matching sample of non-acquired firms. The NEO tax is calculated as the dollar value of all hypothetical payments to the NEOs divided by either the market value of equity or assets. Propensity scores were used to build the matching sample. The propensity score is the probability of the firm being acquired. It is calculated using a probit model that uses the following variables as controls: market-to-book ratio of assets, market value of assets, the cash-to-sales, R&D-to-sales, and capital expenditures-to-sales ratios and the industry code. The propensity score matching uses a caliper of 0.1 and matches without replacement. There are good matches for 28 out of the 31 targets. None of the differences reported are significantly different than zero.

		Targets	Non-targets	Difference
Relative to Market Value of Equity	mean	2.13%	2.03%	-0.10%
	median	1.69%	1.87%	0.18%
Relative to Market Value of Assets	mean	1.81%	1.63%	-0.18%
	median	1.44%	1.49%	0.05%
Observations		28	28	

Table 6: Comparison of Reported and Revised Change-in-Control Payments for Actual Acquisitions

This table shows the potential termination change-in-control payments that could be received by the CEO and top five executive officers (NEOs) following the conclusion of announced acquisitions. Values are in millions of dollars. The deal value is disclosed by the firms in the SEC filings. The Reported Payments are from the proxy statement at the end of the immediately prior fiscal year. The Revised Payments are from the proxy statement associated with the deal. The Premium measures the change in stock price from the close of the fiscal year immediately before the deal was announced to the offer price. The Revised CEO Tax (%) is the Revised Payment to the CEO divided by the deal value. The Revised NEO Tax (%) is the sum of the Revised Payments to the firm's NEOs divided by the deal value. Note that Revised payments are not reported for tender offers. The table is sorted by the Revised NEO Tax (%).

Name	(1) Deal Value (\$)	(2) Premium	(3) CEO Tax: Revised (\$)	(4) CEO Tax: Reported (\$)	(5) CEO Tax: Change	(6) NEO Tax: Revised (\$)	(7) NEO Tax: Reported (\$)	(8) NEO Tax: Change	(9) CEO Tax: Revised (%)	(10) NEO Tax: Revised (%)
Labranche & Co Inc	242.43	66%	-	-	0%	1.09	1.08	0%	0.00%	0.45%
Sterling Bancshrs/Tx	1,027.00	95%	4.28	3.80	13%	7.87	6.96	13%	0.52%	0.96%
Optionsxpress Holdings Inc	1,030.27	16%	9.71	1.90	412%	10.28	2.48	315%	0.94%	1.00%
Integral Systems Inc	266.00	76%	1.77	0.004	40,769%	2.30	0.04	5198%	0.79%	1.02%
Varian Semiconductor Equipmt	4,891.35	119%	25.94	8.73	197%	47.71	16.34	192%	0.57%	1.04%
American Medical Systms Hlds	2,727.35	59%	12.20	6.98	75%	24.75	11.28	119%	0.54%	1.10%
Compellent Technologies Inc	948.16	22%	6.72	3.07	119%	13.72	10.44	31%	0.76%	1.56%
Kendle International Inc	232.29	40%	2.08	1.04	100%	4.31	3.43	26%	0.92%	1.90%
Rehabcare Group Inc	845.24	16%	13.65	11.29	21%	21.42	18.82	14%	1.61%	2.53%
Jo-Ann Stores Inc	1,645.90	74%	33.85	29.76	14%	54.04	49.95	8%	2.12%	3.38%
Gerber Scientific Inc	282.46	53%	5.56	5.36	4%	12.45	11.37	10%	2.01%	4.51%
Median		59%			48%			26%	0.79%	1.10%

* Of 31 takeovers, 16 were tenders and 4 had a change in CEO between the last proxy and the takeover.