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Growth-promoting Bonuses and Mergers and Acquisitions

Finance Working Paper N° 906/2023
March 2023

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Abstract

We study how growth-promoting bonuses - bonuses that are explicitly tied to size measures such as sales - impact firms' acquisition activity. Firms whose executives are granted growth-promoting bonuses are more likely to do acquisitions. Acquisitions by such firms tend to destroy value for acquirers, as indicated by lower acquirer announcement returns. Lower acquirer returns appear to be a result of selecting targets with lower synergies and to a lesser extent, higher value transfers to targets. Among firms that grant growth-promoting bonuses, many would have missed their bonus goals without doing an acquisition.

Keywords: Merger and Acquisitions, Executive Compensation, Annual Incentive Plans, Growth-promoting Bonuses

JEL Classifications: G32, G35, J23

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Introduction

"*Show me the incentive and I will show you the outcome.*"

Charlie Munger

Acquisitions are widely-viewed as being value-destroying for acquirers (Moeller et al. 2004, 2005).[1] In explaining the tendency for firms to engage in value-destroying acquisitions, the focus is often the behavior of entrenched executives, who are assumed to be predisposed towards empire building — undertaking investment projects and growing firms for their own personal benefit rather than maximizing shareholder value (Harford et al. 2012; Masulis et al. 2007; Morck et al. 1990; Williamson 1963).

Annual incentive plans that tie the payment of cash bonuses to performance metrics constitute a significant part of executive compensation, accounting for roughly 20% of total CEO compensation in recent years (De Angelis and Grinstein 2015; Martin et al. 2017). Although linking executives' pay to firm performance is advocated by principal-agent theory (e.g Holmstrom 1979), Murphy and Jensen (2011) argue that many executive bonus plans have design flaws that provide incentives for executives to destroy rather than create value for their shareholders. In explicitly tying pay to increases in metrics such as sales, many bonus plans directly reward executives for increases in firm size, regardless of how the increase is achieved.[2] Acquisitions are in turn a means for executives to grow a firm and meet the performance goals under such bonus plans, that can destroy shareholder value. Therefore, there exists a potential for bonus plans that reward increases in firm size to lead to value-destroying acquisitions.

We term incentive plans that explicitly and directly reward growth in firm size by tying bonus payments to metrics such as sales, "growth-promoting bonuses" (GPB henceforth). Although it is clear that GPB can in theory create incentives to engage in value-destroying ac-

[1] See also, for example, *The Financial Times* (July 20, 2022) "Mergers destroy value. Without reform, nothing will change"; *The Economist* (August 24, 2022) "Firms' unwise addiction to mergers and acquisitions".

[2] In addition to the monetary incentive associated with a bonus plan, there is also a career concern incentive as executives face an increased risk of turnover if they fail to meet the performance goals under bonus plans(Bennett et al. 2017).

quisitions, existing work seeking to explain value-destroying M&A activity has largely focused on entrenchment and empire-building preferences of executives. We shed light on how the design of incentive plans contributes to value-destroying acquisitions by studying the relationship between firms' use of GPB and their acquisition activity and outcomes. We find that the GPB are associated with value-destroying acquisitions.

Our sample consists of firms from Incentive Lab, which covers about 1,200 of the largest firms by market capitalization listed on U.S. exchanges each year, over the period from 2007 to 2017. Incentive Lab provides data on bonus grants, the metrics they are tied to, and the metric thresholds and targets. We define bonus grants as growth promoting if they are tied to a quantifiable measure of firm size. 96% of such grants are tied to sales (96%), with the remainder being tied to either market share, production or bookings. 21% of all grants meet our definition of GPBs and 65% of firms in our sample have a GPB at some point during sample period. Over a third of firms have outstanding GPB grants (they are equally prevalent for CEOs and CFOs) with an average total value of $3.24 million and average vesting period of 11 months. Consistent with other studies (e.g. Bennett et al. 2017), a disproportionate portion of firms just beat the sales threshold for GPBs relative to the proportion that just miss the threshold. We identify acquisitions made by our sample firms via SDC — there are a total of about 5000 acquisitions of which 27% involve targets that are either publicly listed or are subsidiaries of publicly-listed firms.

Our first main finding is that GPBs are associated with more acquisitions. In particular, we examine the relationship between GPBs and the likelihood of announcing an acquisition in a panel, where we collapse the grant level data to the firm-year level. Firms where a larger fraction of top executives have GPBs, as well as firms with larger values of GPBs, are significantly more likely to announce acquisition. A one standard deviation in either the fraction of top executives with GPBs or the total value of GPBs is associated with a 25% increase in the likelihood of announcing an acquisition.

We further find that GPBs are primarily associated with acquisitions of relatively small

target firms that are less than 2% of the size of the acquirer, rather than acquisitions of larger targets. We also find that GPBs are associated with an increase in acquisitions where cash is used as a method of payment rather than in all-stock deals, and an increase in within rather than across-industry acquisitions. These results suggest that GPBs are associated with an increase in acquisitions that can be executed with relatively less effort and are less likely to be challenged. Finally, we find that the relationship between GPBs and the likelihood of announcing an acquisition is more pronounced in firms with CEO-Chairs, and in firms with larger cash holdings. Such firms are more likely to exhibit agency problems that might lead to value-destroying acquisitions (e.g. Jensen 1986).

Our second main finding is that GPBs are associated with lower value-creation in acquisitions. We find that the fraction of executives receiving GPBs and the value of outstanding GPBs are both strongly negatively associated with bidder announcement returns. Having an executive with a GPB is associated with bidder announcement returns that are about 1 percentage point lower. Given that the average acquirer returns are only slightly positive (0.3%), this means that acquisitions by firms with GPBs destroy value for the acquiring shareholders on average. Indeed the average acquisition announcement returns of firms with GPBs is -0.21% versus 0.64% for firms without GPBs. Interestingly, although we find that GPBs are associated with an increase in the types of acquisitions that other studies suggest are more likely to create value for firms — acquisitions of smaller targets, cash acquistions and within-industry acquisitions (e.g. Fich et al. 2018; Harford et al. 2012; Morck et al. 1990) — they are still associated with lower gains for acquirers.

We next investigate whether the source of lower bidder announcement returns is overpayment for targets or the selection of low-synergy targets. To this end, we examine target returns and the combined announcement returns of the bidder and target. We find weak evidence that GPBs are associated with higher target premiums and announcement returns, and relatively stronger evidence that GPBs are associated with lower combined bidder and target announcement returns. Our results thus suggest that the mechanism through which GPBs are

associated with lower returns for acquirers appears to primarily be the selection of low-synergy acquisition targets, and to a lesser extent, overpayment.

Finally, we conduct the following exercise to illustrate the extent to which acquisitions contribute to the attainment of the payout thresholds for GPBs, focusing on sales which is by far the most common metric for GPBs. We compare the realized sales of acquiring firms with GPBs — sales at the first fiscal-year end following the completion of the acquisition — to an estimate of what the acquiring firm's sales would have been without the acquisition, i.e. the counterfactual sales. We compute the counterfactual sales by subtracting the target's sales from the acquirer's sales, weighting the target sales by the portion of the fiscal year remaining following the completion of the acquisition. We estimate the target's sales by dividing the transaction value by the median enterprise value to EBITDA ratio of the target firm's 2-digit SIC industry (for all targets, public or private). In particular, 30% of firms whose counterfactual sales miss the threshold by 5% or less exceed the threshold following the acquisition — i.e. these firms meet the threshold only because of the acquisition. We find similar results when we instead estimate the target's sales using the actual sales reported at the last fiscal year-end prior to the acquisition's completion for the target (publicly-listed targets only).

Our results broadly support the view that managers with GPBs undertake acquisitions that are detrimental to their shareholders, to boost sales in order to meet their GPB grant goals. GPBs therefore foster value-destroying acquisition. An alternative possibility is that our results reflect reverse causality, where companies intend to (optimally) make acquisitions and encourage their managers to do so by awarding them more GPBs. However, this possibility is somewhat inconsistent with firms with GPBs engaging in acquisitions that decrease value for acquiring shareholders. Moreover, making pay sensitive to shareholder value, with equity pay for instance, would seem more appropriate for motivating optimal investment decisions, including mergers, relative to GPBs (see e.g. Datta et al. 2001).[3] Another possibility is that an

[3]Baker and Hall (2004) point out that the appropriate incentive for activities whose dollar impact does not scale with the size of a firm, such as an acquisition, is the dollar change in CEO wealth per dollar change in firm value à la Jensen and Murphy (1990).

omitted variable drives both GPB's and value-destroying acquisitions — a plausible candidate for such an omitted variable is weak corporate governance. Although we control for measures of governance in our regressions, we cannot completely rule out this possibility. However this possibility is also somewhat unlikely given that in a weak governance environment, existing evidence suggests that a preferable option for powerful executives might be to manipulate payout metrics and thresholds to make them weaker and more easily attainable (Bennett et al. 2017; Morse et al. 2011). Moreover, as we noted previously, a substantial fraction of firms with GPBs that would have just missed the payout threshold, meet the threshold only because of an acquisition.

Our paper informs the literature on value-destroying acquisitions (Harford 1999; Harford et al. 2012; Jensen 1986, 1993; Moeller et al. 2005) by showing that the design of incentive plans contributes to value-destroying acquisitions. Previous studies examining the drivers and determinants of value-destroying acquisitions point to antitakeover provisions (Masulis et al. 2007), shareholder investment horizons (Gaspar et al. 2005), hedge fund activism (Gantchev et al. 2020), director gender (Levi et al. 2014), stock liquidity (Chatterjee et al. 2021), and operating performance (Baker et al. 2012).

Our paper fits within the literature that studies role of managerial incentives in acquisition decisions. For instance, equity-based compensation and pay-for-performance sensitivity are associated with value-enhancing acquisitions (Datta et al. 2001; Minnick et al. 2011), while other characteristics of compensation such as pay-risk sensitivity (Hagendorff and Vallascas 2011), inside debt (Phan 2014) and duration (Li and Peng 2021) are also associated with acquisition performance. Some studies examine the relationship between implicit growth-promoting incentives that arise from the general size-elasticity of executive pay and changes in pay following acquisitions, with mixed evidence (e.g. Anderson et al. 2004; Avery et al. 1998; Bliss and Rosen 2001; Harford and Li 2007; Ozkan 2012).[4]. Our paper offers new insights to this literature by focusing on compensation incentives that are explicitly linked to firm size and directly reward

[4]See also Williams et al. (2008) for a survey

growth (i.e. GPB), which have not been studied before in the context of acquisitions. Moreover, in contrast to equity-based compensation, GPB appear to be negatively associated with acquisition performance.

Our paper is also related to Grinstein and Hribar (2004) who study discretionary bonus payments awarded following the completion of acquisitions i.e. *ex post* — the GPB grants we study are in contrast awarded *ex ante*. Although they find that such bonuses are more likely to be paid to more powerful CEOs, they do not find that the bonuses are related to deal performance. Moreover, such bonuses are also predominantly associated with large deals whereas GPBs, in addition to being used far more frequently, appear to impact smaller deals. Our paper also complements Dasgupta et al. (2019) and Aboody et al. (2000) who show that compensation tied to earnings per share (EPS) impacts the structure of acquisition deals.

Finally, our paper is broadly related to papers that study the impact of bonuses tied to performance metrics on corporate outcomes such as share buybacks (Cheng et al. 2015) and accruals, discretionary spending and R&D (Bennett et al. 2017). These studies focus on bonus contracts that tie performance to EPS, whereas firms use a wide array of accounting measures in executive bonus contracts (De Angelis and Grinstein 2015) — the GPB that we study account for 21% of bonus grants. In focusing on GPB grants, we draw attention to the link between performance bonuses and acquisitions.[5]

2 Data and Sample

We obtain data from ISS Incentive Lab that identifies metrics used in executive compensation bonus contracts for the five highest-paid executives. Our data spans the years between 2007 and 2017, and during this period, Incentive Lab covers around 1,200 of the largest firms by market capitalization listed on U.S. exchanges each year. We match the Incentive Lab data

[5]Our findings also speak to the issue of multi-tasking in a principal-agent setting (Holmstrom and Milgrom 1991) in that they are consistent with the idea that incentive pay can lead to an agent sacrificing some dimensions of their task (e.g., shareholder value) to achieve a more narrowly defined goal (e.g., growth) that is explicitly specified in their contract.

to Compustat and CRSP.

We next obtain data on M&A transactions from SDC announced between 2007 and early 2017, with a status of either completed or withdrawn, and for which the acquirer is U.S.-domiciled and either a publicly-listed firm or a subsidiary of a publicly-listed firm. We match acquirers to Compustat using a list provided by Ewens et al. (2019) (on Ewens' Github page). We use data from CRSP to compute abnormal returns around the transaction announcement date as specified in SDC.

Finally, we merge firms in our panel from incentive lab to the firms in the M&A data, to identify firm-years in which there is an acquisition announcement.

2.1 Summary Statistics

We start by reporting summary statistics for the grant-level data from IncentiveLab in Table 1. Panel A shows that our data consists of a total of 159,178 bonus grants in IncentiveLab across 1,403 unique firms. Of these bonus grants, 33,837 (21% of the total) are specifically tied to quantifiable measures of firm size, i.e. our definition of growth-promoting bonuses (GPB). 909 (65%) of the unique firms in the sample have at some point had a GPB, indicating that a majority of these largest firms at least occasionally employ bonus grants that hinges specifically on firm size.

It is important to point out that 2.5% of observations (at the award level) that are tied to a firm size measure (e.g., sales) include the word "organic", so we exclude those. In these cases the firm's compensation committee requires only organically-achieved sales to be considered in the GPB contract. We exclude these grants from our sample of GPBs as sales from M&A would not be accounted for in the sales metric used in these contracts.[6]

Table 1 About Here

[6]Another 0.1% of the observations have some version of the word "acqui" or "merge" mentioned. We exclude those grants too.

Panel B of Table 1 details which specific measures of firm size that these grants depend on. By far the most common is sales (96.1% of grants). Around one quarter of these are specifed in relative terms (i.e., as percent growth in sales), and the remaining are expressed as absolute sales targets. The other and less commonly used metrics include market share (1.7%), production (0.9%), and bookings (0.7%).[7]

We next construct a panel dataset for the fims within Incentive Lab, where we collapse the grant level data to the firm-year level, resulting in a sample of 15,863 firm-years. Table 2 reports summary statistics at the firm-year level.

TABLE 2 ABOUT HERE

Panel A of Table 2 summarizes the extent of growth-promoting bonuses. This data shows that The average fraction of a firm's top 5 executives with outstanding GPB grants is 34%. These are about equally prevalent for CEOs (33%) and CFOs (32%). These potential bonuses are also sizable in economic magnitude, which means that executives have a strong incentive to meet them. The mean total value of GPB grants outstanding per year is about $1.3 million, with about $553,000 for CEOs and $150,000 for CFOs. Among firm-years with non-zero outstanding GPB grant values, these values are correspondingly higher; the amount of bonuses that explicitly depend on firm size across the named executives is $3.24 million. Finally, most of these outstanding bonuses have a relatively short remaining time until the end of the evaluation period when the target is evaluated: the average remaining vesting period is 11 months.

Each bonus grant can depend on more than one measure, and Panel B of Table 2 describes the most common measures that are evaluated. On average, executives in a firm are subject to bonuses that depend on almost 7 unique performance measures (these might be across different grants and different executives). The most common of these is earnings, which is present in 70% of firm-years on average, and EPS, which is part of bonuses for 41% of firm-years. Earnings, in

[7]Note that these percentages add up to slightly more than 100%, because some grants depend on more than one of these metrics.

particular, can also be viewed as a measure that encourages larger size (as sales and earnings are correlated), and our analysis will separately study the role of earnings incentives as well. Less commonly used measures for determining bonuses include stock price (13% of firm-years) and measures of operating performance (14%).

Panels C–E describes summary statistics for M&A outcomes. First, Panel C shows that 21% of all firm-years in the sample (i.e., not conditional on having a GPD) have at least one acquisition announcement, and 7% of firm-years have announcements of the acquisition of a public target or a public target's subsidiary.

A total of 4,989 deals meet our sample criteria, of which 1,343 deals (27%) involve targets that are either publicly listed or are subsidiaries of publicly-listed firms. We report summary statistics for the deal characteristics in Table 2 for all acquisitions (Panels C and D) as well as separately for acquisitions of public targets or their subsidiaries (Panel E).

The mean relative size (to the bidder) of acquisitions is about 6% (12% for public targets alone). The mean (median) abnormal returns for target firms, bidders, and their combined abnormal returns are 16% (5.91%), 0.33% (0.20%), and 1.39% (0.71%). The average target abnormal returns are notably lower than many M&A studies because we compute abnormal returns of the parent firms of targets that are subsidiaries (if the parent is publicly listed). The average premium paid for a publicly-listed target is 43% (median 55%). The method of payment includes a cash component in the majority of deals, with 53% of deals being all-cash and 43% having both cash and stock as payment—only 4% of deals are all-stock.

3 Results

In this section, we study the relationship between firm's use of growth-promoting bonuses and firms' merger and acquisition activity and outcomes.

3.1 Likelihood of becoming an acquirer

We posit that firms with more top executives compensated with growth-promoting incentive contracts or that award their executives larger amount of such incentives, have a higher likelihood of becoming an acquirer. To the extent that growth-promoting incentives provide an incentive to grow the size of the corporation, managers of these firms may choose to achieve their bonus thresholds by buying size by undertaking mergers and acquisitions.

In Table 3, we present the results of linear probability models (LPM) where we examine whether granting growth-promoting bonuses to executives is associated with higher likelihood to become an acquirer.[8] The analysis in Table 3 include all deals (both publicly traded and privately held target firms).

TABLE 3 ABOUT HERE

In Panel A of Table 3, the key independent variable is the % of top executives who receive growth-promoting bonuses (*GPB(% of executives)*). In Panel B of Table 3, we replace this variable with the logarithm of the dollar value of growth-promoting bonuses granted to the firm's executives each year (*GPB(log $ value)*). Models (2), (3) and (4) include firm specific control variables that could be correlated with the firm's decision to become an acquirer. Specifically, we control for governance measures such as CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size and the extent that the board is co-opted. We also control for the firm's size and age, cash holdings, capital expenditure, profitability (OIBDA/assets) and industry Tobin's Q. Moreover, in model (4), we control for whether the executives receive bonuses with earning-based measures (e.g., EPS) as the metric. All variables are defined in the Appendix. In model (4), to control for unobserved industry-specific shocks all specifications include interacted year-industry (2-digit-SIC) fixed effects(Gormley and Matsa (2014)).

In model (1) in Panels A and B, the coefficient on the measure of growth promoting

[8]The estimates of economic significance for LPM in this section are based on marginal effects computed with all other variables held fixed at their mean.

incentives is positive and statistically significant at the 1% level. We find similar statistically significant results including control variables (models (2) and (3)) and industry-by-year fixed effects (model (4)). In terms of economic significance, in model (4) of Panel A, we find that having executives receiving growth-promoting bonuses is associated with a 4.4 percentage-point increase in the likelihood of becoming an acquirer. In Panel B, a one-standard deviation increase in the amounts at stake predicts a 4.5 percentage point increase (log(3.65 million)*0.003=4.5) in the likelihood of becoming an acquirer. Overall, these estimates represent around a 25% increase relative to a base likelihood of 21%.[9] Finally, we do not find any evidence that earning-based bonuses affect the probability of becoming an acquirer.

Next, we investigate whether our findings differ by deal type. In Panel A of Table 4, we study whether the relation between growth-promoting bonuses and likelihood of becoming an acquirer changes with the relative size of the target firm to the bidder firm. To this end, we use specifications similar to those in Panel A of Table 3, but with the dependent variable in each model indicating whether the deal is in a specific relative size bracket. All specifications in 4 include similar control variables as those in model (4) of Table 3 as well as year-industry fixed effects. Notably, we find statistically significant results only for deals in which the target is smaller than 2% of the sum of the target and the bidder market capitalization. The results for these relatively smaller targets are also economically significant as having executives receiving growth-promoting bonuses is associated with a 1.8 percentage point increase in the likelihood of acquiring a firm that is between 1%–2% of the overall market cap of the bidder and the target.

These findings are consistent with smaller acquisitions being motivated by a desire to meet growth-promoting performance thresholds. By contrast, we find little evidence that explicit incentives to promote growth encourages "megadeals". Therefore these results indicate that executives may use M&A deals on the margin to meet sales targets in their bonus contracts. This may be because smaller deals are less likely to be challenged, scrutinized or renegotiated - and that at the same time, smaller targets may be sufficient to reach sales targets in the

[9]In untabulated tests, instead of the LPM in Table 3, we run logistic regressions and find similar results.

executives' growth-promoting incentive contracts.

TABLE 4 ABOUT HERE

In Panel B of Table 4, we investigate whether our findings vary with the deals method of payment. For cash and mixed deals we find similar and statistically significant results as in Table 3. However, in stock deals we do not find a relationship between growth-promoting incentives and likelihood of becoming an acquirer. This is consistent with cash deals, as they are less scrutinized by the board, providing an easier opportunity relative to stock deals for the managers to buy growth in order to meet their growth-promoting goals in their compensation contracts. This finding is also consistent with Harford et al. (2012) that shows value-destroying deals by entrenched managers are less likely to be all-equity offers.

We also find that our findings are concentrated among deals in which both bidder and target are from the same industry. Therefore as with cash deals, to the extent that within-industry deals are less likely to face scrutiny from the board, within-industry deals are also more likely to be used by managers to meet growth-promoting goals in their bonuses.[10] Finally, we find that growth-promoting bonuses are associated with higher likelihood of acquiring publicly traded targets. This finding is consistent with Harford et al. (2012) who show one way entrenched managers destroy value in acquisitions is that they disproportionately avoid private targets, which have been shown to be generally associated with value creation.

Next, we investigate whether the CEO's relative power over the board could affect whether growth-promoting bonuses affect the likelihood of becoming an acquirer. To test this hypothesis, in Table 5 we run regressions similar to those in Panel A of Table 3 where as an independent variable, we also include the interaction of the fraction of executives who receive growth-promoting bonuses in a given year (*GPB(% of executives)*) with a CEO-chairman duality indicator variable. In Table 5 we find the coefficient on this interaction term to be statistically significant at

[10] In untabulated tests, we verify that our findings in Tables 4, 5 and 6 remain similar if we replace the fraction of executives who receive growth-promoting bonuses (*GPB(% of executives)*) with the logarithm of the dollar value of their growth-promoting bonuses (*GPB(log $ value)*).

the 5% level in both models (1) and (2). This suggests that the positive association between growth-promoting bonuses and likelihood of engaging in M&A activities is higher among firms where the CEO is also the chairman of the board. Given that this governance proxy measures the power of the CEO over the board, this result is consistent with these deals not being desirable for the shareholders of the bidder firm. This finding relates to Masulis et al. (2007) who show that stronger external governance can mitigate empire-building acquisitions that destroy shareholder value and Harford and Li (2007) who finds that even in mergers where bidding shareholders are worse off, bidding CEOs are often better off following the mergers.

Table 5 About Here

Finally, we investigate the role of firm's cash holdings in whether growth-promoting bonuses affect likelihood of engaging in M&A activities. We posit that firms's decision to become an acquirer may be influenced by the level of cash they hold on their balance sheet. Seminal papers such as Jensen (1986) and Harford (1999) argue that cash-rich firms are more likely than other firms to attempt acquisitions and that these deals are more likely to destroy shareholder wealth. In Table 6 we run similar regressions as those in Panel A of Table 3 where as an independent variable, we also include the interaction of the fraction of executives who receive growth-promoting bonuses in a given year with firm's cash to assets ratio. Our findings indicate that firms that are both cash-rich and have a larger fraction of their managers receiving growth-promoting bonuses are more likely to attempt acquisitions. This result is statistically significant at the 5% level. Notably, when we divide the deals based on their method of payment, we find that this result is concentrated among cash deals as we do not find statistically significant coefficient on the interaction term for stock offers.

Table 6 About Here

To summarize, our results suggest that growth-promoting bonuses are incentivizing M&A

activities - a result that is more pronounced for cash-rich bidders and firms with powerful CEOs. The natural question is whether these deals are different from others in terms of the value creation and value transfer between the bidder and the target shareholders. Thus, next we turn our attention to how shareholder value of the bidder and target firms change in deals where the bidder executives receive more growth-promoting bonuses.

3.2 Shareholder value implications of growth-promoting bonuses

Are growth-promoting bonuses awarded to bidder executives associated with lower shareholder returns for the bidder shareholders? Do target firm shareholders benefit in M&A deals where the bidder executives receive growth-promoting bonuses? Is value created or destroyed beyond what is transfered between the bidder and target shareholders? We address these questions in turn in this section.

First, we test whether executives who receive growth-promoting bonuses engage in M&A deals that benefit their shareholders. If these deals are merely the consequence of managers trying to meet their growth goals in their compensation contacts, it is possible that bidder shareholders wealth could be destroyed via these acquisitions. In Table 7, we run OLS regressions where the dependent variable is the acquirer returns around the announcement of the deal. In this analysis, we focus on the sample of all deals between 2007 and 2017 where the target is publicly traded.[11] This results in 1271 observations. In addition to all the control variables included in our analysis in Table 3, we also include deal specific control variables such as the logarithm of the dollar value of the transaction, an indicator for cash deals, an indicator for mixed payment deals and an indicator for within-industry deals.

TABLE 7 ABOUT HERE

We compute the gain of the bidder by the cumulative daily dollar abnormal returns of the

[11] Our results remain unchanged if we include deals where the target is privately held (see the appendix).

bidder around the announcement. We focus on the day (-3,+1) window around the announcement date so our event window captures the possibly leaked information in the immediate days prior to the merger agreements. The key independent variable in Panel A is the fraction of executives who receive growth-promoting bonuses (*GPB(% of executives)*). In model (1), the coefficient on this variable is negative and statistically significant at the 1% level. This implies that having executives with growth-promoting bonuses is associated with around 1 percentage points lower returns for the bidder shareholders around the takeover announcement. Given that the average acquirer returns are only slightly positive (0.3%), this means that the average return for these deals is negative, and these deals destroy bidder shareholder value on average.[12] The results are similar when we control for firm and deal specific characteristics (models (2), (3) and (4)). In Panel B of Table 7, we replace the key dependent variable with the size of the growth-promoting incentives in dollars (*GPB(log $ value)*) and find similar and statistically significant results in all specifications with and without control variables and year and industry fixed effects.

If increased merger activity is motivated by the acquirer managers' explicit incentives to boost firm growth, we expect target firms to benefit from such deals in which the bidder manager overpays in order to achieve the growth goals in her incentive contracts. Therefore, we next investigate whether the offer premium is higher where managers of the bidder firm are granted growth-promoting bonuses (Panel A of Table 8). In this table we run OLS regressions where the explanatory variable of interest is the fraction of bidder firm executives receiving growth-promoting incentives (*GPB(% of executives)*). All the specifications include year and industry fixed effects. In models (1) and (2) in Panel A, the coefficient on the fraction of executives receiving growth-promoting bonuses is positive and statistically significant at the 10% level implying that on average, bidder firm managers' growth-promoting bonuses are associated with larger offer premium paid to target shareholders.[13] However, this coefficient is not statistically

[12]The average acquirer returns for firms with GPB is -0.21% compared to 0.64% for firms without GPB.

[13]The sample size in Panel A of Table 8 is smaller than that in Panel B (602 versus 1271 in model (1)) because to be able to estimate the offer premium we restrict the sample to deals in which the entire target firm is acquired in the deal.

significant in models (3) and (4) in which we also control for bidder firm governance.

TABLE 8 ABOUT HERE

In Panel B of 8, we replace the dependent variable with the cumulative daily dollar abnormal returns of the target firm around the deal announcement ((-3,+1) window). Similar to Panel A, we find statistically significant results in models (1) and (2) but results become statistically insignificant in models (3) and (4) where bidder governance control variables are included. Overall, we find some evidence of benefits to target shareholders in the form of larger offer premiums and higher target abnormal returns upon the announcement of deals in which the acquiring firms' management receives more growth-promoting bonuses.

The significantly lower acquirer abnormal returns for deals in which managers had growth-promoting incentive contracts hand in hand with the higher target announcement returns for such deals suggest value transfers from bidder shareholders to target shareholders. Next, we study whether the combined target and acquirer returns are lower for deals where the bidder executives receive growth-promoting bonuses. We compute the combined gain of the bidder and target by summing up the cumulative daily dollar abnormal returns of the target and bidder around the announcement and then dividing by the combined market capitalizations of the bidder and target 50 trading days before the announcement (following e.g. Ahern (2011)).

TABLE 9 ABOUT HERE

Table 9 reports results of OLS regressions where the dependent variable is the combined announcement returns of the bidder and target in the (-3,+1) window. All specifications include industry and year fixed effects. The explanatory variable of interest is the fraction of bidder executives receiving growth-promoting bonuses (*GPB(% of executives)*). The coefficient on this variable is positive and statistically significant at 1% level in models (1) and (2) and statistically significant at the 5% and 1% levels in models (3) and (4), respectively.In terms of economic

significance, one standard deviation increase in the fraction of executives receiving growth-promoting bonuses decreases the the combined gains by 0.6–0.8%. This finding is consistent with growth-promoting incentive compensation encouraging managers to engage in empire-building merger activity with significantly lower synergies, thus destroying wealth for the bidder firm.

In summary, these results suggest deals conducted by bidders who receive growth-promoting bonuses tend to have lower acquirer announcement returns due to higher value transfers to the target and lower value creation from synergies.

3.3 Counterfactuals and threshold goals in growth-promoting bonuses

Similar to any executive bonus contract, a bonus grant linked to firm's sales identifies threshold, target and maximum value for firm's sales (or sales growth). The payout from the grant or the vesting schedule of the grant is then tied to the firm achieving these particular goals. The range between the threshold and the maximum value is called the incentive zone. In a typical growth-promoting contract, the manager would receive no payout if sales is below the threshold and her payout increases as sales exceeds the threshold up to the maximum value sales indicated in the contract. There exists discontinuity in the pay-performance relationship at both the threshold and the maximum value.

In this section, we focus on the threshold of growth-promoting bonus contracts of executives of the acquiring firms to investigate whether they would have missed their bonus threshold without conducting the merger. Instead of the target goals - where upon reaching the manager receives the expected bonus - we focus on the thresholds as the discontinuity in the payout function around the threshold could potentially create a more meaningful incentive to engage in M&A activities.[14]

[14]For the analysis in this section, in order to focus on whether acquisitions affect beating bonus thresholds, we exclude Relative Performance Evaluation (RPE) contracts where the thresholds are set relative to a peer group. Thus, for all the grants in this sample the exact thresholds are known to the managers at the start of the year as they are either sales levels or sales growth rates.

We begin our empirical analysis by comparing the threshold sales in the executive compensation contracts to the firm's reported sales for all firms - not only for those that engage in M&A.[15] The data are at the grant level. We construct the difference between the realized sales and the threshold sales to identify the clustering of sales at the bonus threshold. This measure is the relative difference in percentages between actual sales as reported in Compustat and the threshold goal as identified in the pay contract.

In Figure 1 we report the histogram of this difference and find that the distribution of the difference between realized and threshold sales has a discontinuity at zero. A disproportionately large number of firms exceed the sales threshold by a small amount as compared to the number of firms that fail to meet the sales threshold by a small amount. Due to the jump in pay at the threshold sales for a typical grant in our sample, the clustering of sales around the threshold is less of a surprise. This result is also consistent with Bennett et al. (2017) that reports a similar discontinuity in bonus contracts.

FIGURE 1 ABOUT HERE

Next, we focus on the sample of firms that completed an M&A. We include all deals - both publicly traded and privately held target firms and aggregate the grant data at the deal level, including any outstanding grants that vest after the completion of the deal. In Panel A of Figure 2, we report the histogram of the difference between the realized sales and the threshold sales for the merged firms. To calculate the difference, we use the first realized sales after the completion of the deal reported by Compustat. In Panel B of Figure 2, we report the counterfactual results where we compare what the sales would have been in the absence of the merger with the threshold sales in the contract. In order to estimate the coutnerfactual sales of the acquirer, we subtract the weighted target firm's sales (weighted by the fraction of the year remaining in the fiscal year from the date the deal is completed) from the first realized sales

[15] We calculate threshold sales using lagged realized sales and the threshold sales growth if the metric identified in the growth-promoting bonus is sales growth instead of sales level. This allows inclusion of all growth-promoting contracts - where the metric is either sales level or sales growth - in all our analysis in this section.

after deal completion. Because the sample for this figure includes deals where the target is a private firm, we estimate target firm's sales by using the median Enterprise Value (EV) to sales multiple for the target firms' 2-digit-SIC industry multiplied by the EV of the target firm.

FIGURE 2 ABOUT HERE

Comparing the two histograms in Panel A and Panel B suggests executives of some firms that would have missed the threshold sales in their contracts meet their threshold goals because of conducing the deal. This is visually evident from the shift of the mass of firms from just below 0 in Panel A to just above zero in Panel B. There are 140 firms that without the acquisition appear to be barely missing their threshold sales in their executives bonuses (i.e., within 5% of the threshold). Among these firms, 42 firms (30%) exceed their threshold goal because of the acquisition. 23% (18%) of those barely missing their threshold sales achieve them when they complete the acquisition if we widen the sample of firms that barely miss their threshold sales to those missing them by 10% (20%) in the absence of the deal. This result indicates that a large fraction of executives with growth-promoting bonuses who would have not been paid in the absence of the M&A, receive their bonus payments because of the deal. This further suggests that these deals are likely conducted because of growth-promoting bonuses of the bidder executives as these acquisitions have a meaningful effect on the payout to these executives.

Finally, in Figure 3 we redo Figure 2 for the sample of firms where the target firm is publicly traded. This reduces the sample size significantly; however, it allows a more accurate estimate of the counterfactual sales in the absence of the deal. This is because, unlike for private target firms, we can use the actual pre-merger target sales reported in Compustat before the deal completion to estimate the counterfactual sales. The results are similar to those in Figure 2 as 47% of firms which would have barely missed their threshold sales without the acquisition (i.e., withing 5% of the threshold sales) meet their threshold sales in the presence of the acquisition. This further suggests that among the firms that grant growth-promoting bonuses, many would

have missed their bonus goals without conducting the merger.

FIGURE 3 ABOUT HERE

3.4 Discussion

In summary, our results indicate that firms with managers who have growth-promoting bonuses (GPBs) tend to engage in more M&A activity and that these mergers tend to be value-destroying for the manager's firm (i.e., the bidder).

One possible interpretation of these results is that managers with GPBs increase M&A activity to boost sales with an eye to increasing their payouts under their GPBs. This is consistent with GPBs promoting empire building behavior. Another possibility is reverse causality. For example, companies that optimally plan to engage in M&A activities may award their managers more GPBs to encourage merger activity. However, this reverse causality story is inconsistent with firms with more GPBs engaging in mergers that destroy value for bidder shareholders. Moreover, having executive incentive contracts tied to shareholder value seems more prudent for motivating optimal investment decisions including mergers relative to GPBs (see e.g. Datta et al. 2001). Indeed Baker and Hall (2004) point out that the appropriate incentive for activities whose dollar impact does not scale with the size of a firm that include's acquisitions, is the dollar change in CEO wealth per dollar change in firm value from Jensen and Murphy (1990).

Another interpretation for our main results is that an omitted variable causes both higher GPBs and more merger activity. Although we control for firm characteristics including governance variables as well as firm and industry-year fixed effects, it is possible that salient unobservable variables may explain our results. For example, to the extent that our governance proxies are imperfect, and because poorly governed firms may have both more GPBs and conduct more value-destroying mergers, our results could be explained by a governance story.

Although we cannot completely rule out this possibility, our evidence in Figures 2 and

3 is consistent with GPBs promoting empire building motives. This is because we find that a significant fraction of firms with GPBs whose executives would have just missed the GPB growth threshold, meet the threshold due to a merger. This is suggestive of managers using mergers to meet growth thresholds. That said, although less likely, alternative explanations such as the governance story discussed above may still play a role; for example, the poorly governed firms may be precisely the ones in which mergers are used to beat growth thresholds if these thresholds would have been missed without the merger. In this scenario, actively gaming the growth-promoting contracts by engaging in suboptimal merger activity is facilitated by both the poor governance and the existence of the GPBs. This possibility is however rendered unlikely given existing evidence such as Morse et al. (2011) and Bennett et al. (2017) that indicates that executives manipulate payout metrics and thresholds ex ante to make them weaker and more easily attainable — such manipulation is likely to be a preferable option for executives relative to making acquisitions to attain payout thresholds ex post.

4 Conclusion

Linking executive pay to firm performance is seen as being desirable in principal-agent theory but can result in unintended consequences. We show that a consequence of tying bonus pay to size-based metrics, sales in particular, is that executives undertake more acquisitions in order to trigger the payouts of such bonuses, and that such acquisitions are value-destroying. An important implication of our study is as follows. Empire-building behavior by executives at the expense of shareholders has long been linked to executives' inherent preferences for the perquisites and non-pecuniary benefits associated with running larger firms. However, our findings imply that the design of compensation contracts is also an important factor that contributes to empire building.

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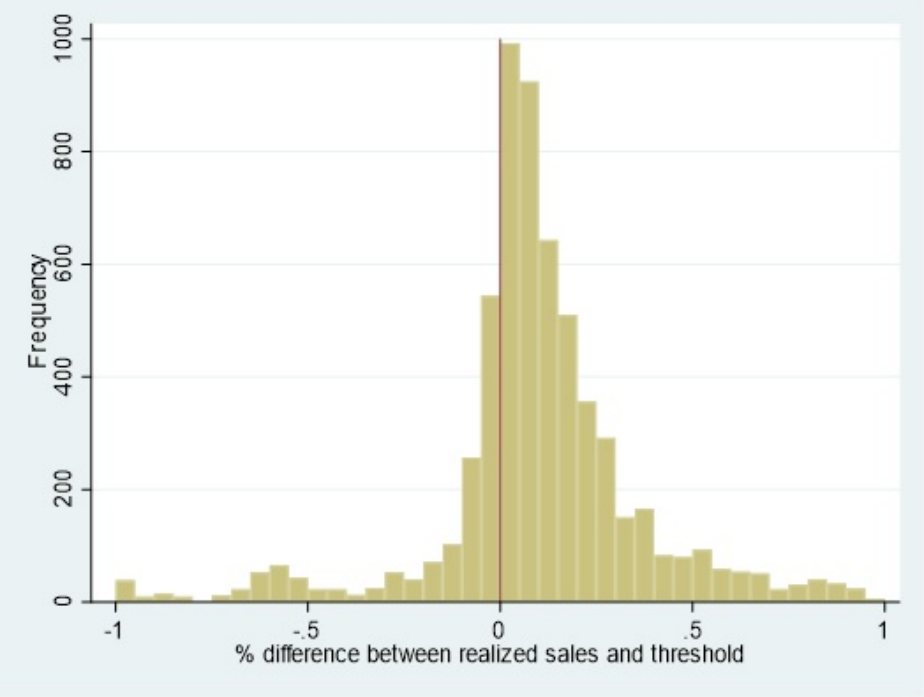
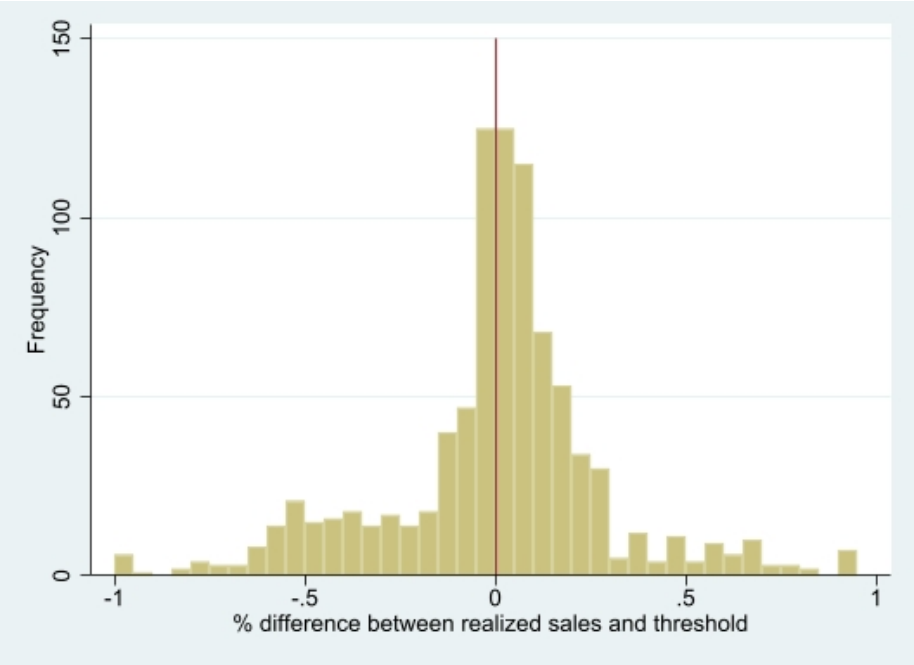
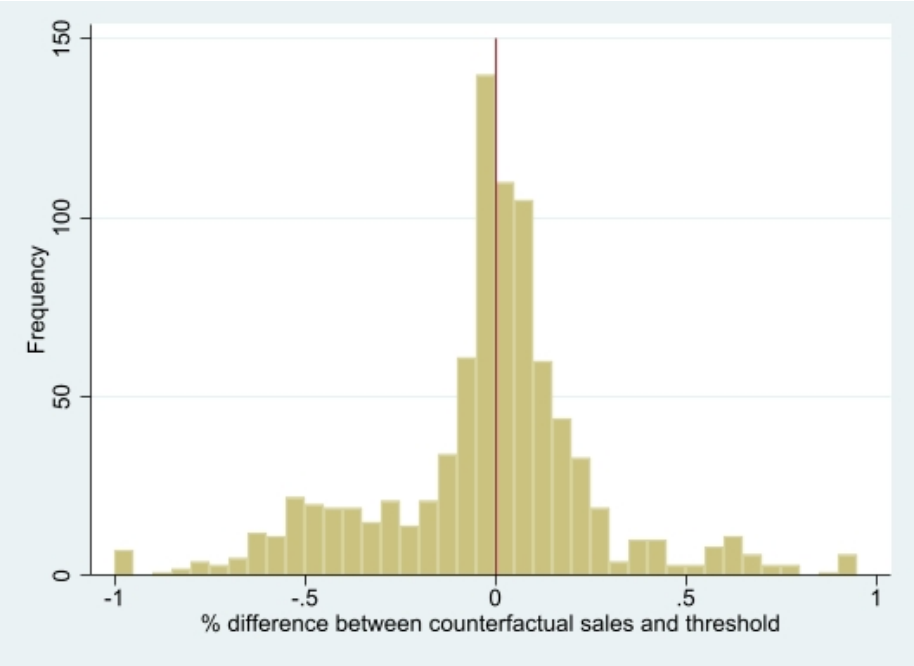


Figure 1: Distribution of the difference between realized sales and bonus thresholds for all firms with GPB

This figure shows the distribution of the relative difference in percentages between actual sales as reported in Compustat and the threshold goals as identified in the pay contracts for all firms - not only those that engage in M&A.



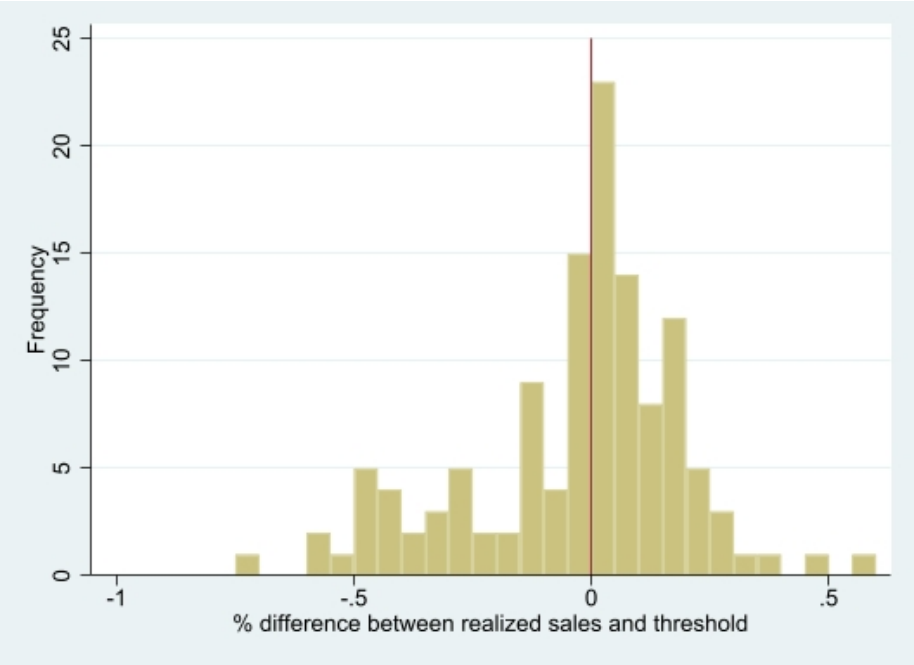
Panel A: Actual sales



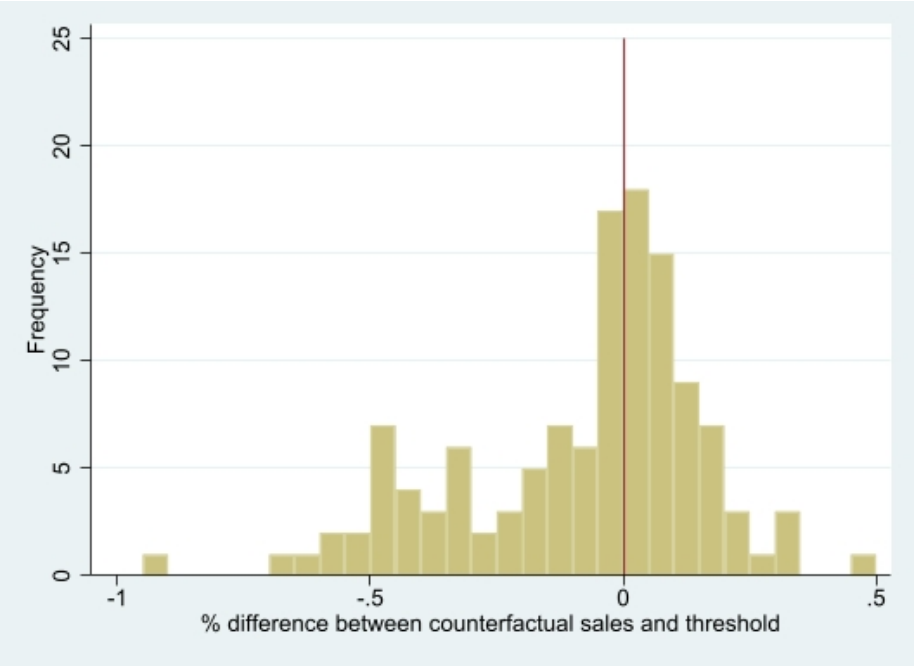
Panel B: Counterfactual sales

Figure 2: Actual vs. counterfactual distributions of the difference between realized sales and bonus thresholds for acquirers with GPB

Panel A, for the sample of firms that completed an M&A, shows the distribution of the relative difference in percentages between actual sales as reported in Compustat and the threshold goals as identified in the pay contracts. To calculate the difference for very firm, we use the first realized sales after the completion of the deal reported by Compustat. Panel B, for the sample of firms that completed an M&A, shows the distribution of the relative difference in percentages between counterfactual sales (i.e., what would have been in the absence of the merger) and the threshold sales in the contracts. To estimate the coutnerfactual sales of the acquirer, we subtract the weighted target's sales (weighted by the fraction of the year remaining in the fiscal from the date the deal is completed) from the first realized sales after deal completion. We estimate target's sales by using the median Enterprise Value (EV) to sales multiple for the target firms' 2-digit-SIC industry multiplied by the EV of the target firm.



Panel A: Actual sales



Panel B: Counterfactual sales

Figure 3: Actual vs. counterfactual distributions of the difference between realized sales and bonus thresholds for acquirers with GPB - only public targets

Panel A, for the sample of firms that completed an M&A with a publicly traded target, shows the distribution of the relative difference in percentages between actual sales as reported in Compustat and the threshold goals as identified in the pay contracts. To calculate the difference for very firm, we use the first realized sales after the completion of the deal reported by Compustat. Panel B, for the sample of firms that completed an M&A with a publicly traded target, shows the distribution of the relative difference in percentages between counterfactual sales (i.e., what would have been in the absence of the merger) and the threshold sales in the contracts. To estimate the coutnerfactual sales of the acquirer, we subtract the weighted target's sales (weighted by the fraction of the year remaining in the fiscal from the date the deal is completed) from the first realized sales after deal completion. We estimate target's sales by the actual pre-merger target sales reported in Compustat before the deal completion.

Table 1
Growth-promoting Bonuses

This table reports summary statistics for growth-promoting bonus grants (GPB). The sample consists of Incentive Lab firms for the period between 2007 and 2017 for which data are available in Compustat and CRSP. GPB grants are defined as grants whose payment is made contingent upon meeting a threshold in one of the following metrics: sales, market share, bookings, production, book value, net asset value or acquisitions. Panel A reports the prevalence of GPB in the sample of grants in Incentive Lab. Panel B reports the incidence of metrics we classify as growth-promoting.

Panel A: Prevalence of Growth-promoting bonuses (GPB)			
	N	% of all grants	% of of all firms
Total number of grants	159,178		
Number of grants with GPB	33,837	21 %	
Total number of unique firms	1,403		
Number of unique firms with GPB	909		65%
Panel B: GPB metrics			
	Number of grants	% of all GPB grants	Number of unique firms
Sales	32,753	96.8%	862
Market share	574	1.7%	51
Production	309	0.9%	19
Bookings	236	0.7%	27
(Adjusted) Book value	140	0.4%	11
Acquisitions	126	0.4%	17
Net asset value	72	0.2%	7

Table 2
Summary Statistics - Growth-promoting Bonuses and M&A

This table reports descriptive statistics for growth-promoting bonuses (GPB) and M&A deals. In Panel A, the sample consists of Incentive Lab firms for the 2007-2017 period with data available in Compustat and CRSP. The grant data is aggregated at the annual level and the unit of observation is a firm-year. *GPB (% of executives)* is the fraction of executives who receive growth-promoting bonuses in that year. *GPB (CEO)* and *GPB (CFO)* are indicator variables equal to one if the CEO and the CFO receive GPB, respectively. *GPB ($ value, all execs)* is the dollar value of the growth promoting bonuses granted to the executives in that year. *GPB ($ value, CEO)* and *GPB ($ value, CFO)* are the dollar value of the GPB granted to the CEO and the CFO, respectively. We also separately report statistics for 6m371 firm-year observations where at least one of the firm's executives receiving GPB. Panel B reports descriptive statistics on the prevalence of "other" (i.e., not explicitly growth-dependent) measures in the bonus contracts. Panel C reports descriptive statistics for the firm-year observations on the incidence of acquisition announcements by the sample firms. Data on acquisitions is obtained from SDC and includes any deal with a disclosed value that is either completed or withdrawn. Panel D reports descriptive statistics on characteristics of acquisitions/deals announced by firms in our sample. Panel E reports descriptive statistics only for acquisitions of targets that are either publicly-listed or are subsidiaries of publicly-listed firms, by firms in our sample. All variables are defined in the Appendix.

Panel A: Growth-promoting bonuses (GPB)

	Mean	SD	p1	p25	Median	p75	p99	N
GPB (% of executives)	0.34	0.45	0	0	0	1	1	15,863
GPB (CEO)	0.33	0.47	0	0	0	1	1	15,863
GPB (CFO)	0.32	0.46	0	0	0	1	1	15,863
GPB ($ value '000, all execs)	1,299	3,654	0	0	0	821	21,300	15,863
GPB ($ value '000, CEO)	553	1,682	0	0	0	263	9,555	15,863
GPB ($ value '000, CFO)	150	426	0	0	0	86	2,465	15,863
GPB ($ value '000, all execs) $\| GPB > 0$	3,236	5,194	11	492	1,231	3,357	27,000	6,371
Months until evaluation $\| GPB > 0$	11	6	0	6	11	14	28	6,371

Panel B: Other metrics used in bonus contracts

	Mean	SD	p1	p25	Median	p75	p99	N
Number of unique metrics in grant	6.64	5.16	0	3.08	5.25	8.17	26.92	15,863
Stock price metric (% of execs)	0.13	0.32	0	0	0	0	1	15,863
Earnings metric (% of execs)	0.7	0.43	0	0.08	1	1	1	15,863
EPS metric (% of execs)	0.41	0.47	0	0	0	1	1	15,863
Operating metric (% of execs)	0.14	0.32	0	0	0	0	1	15,863

Table 2 continued...

Panel C: Likelihood of deals								
	Mean	SD	p1	p25	Median	p75	p99	N
Any deal	0.21	0.41	0	0	0	0	1	15,863
# Deals (firm-year)	0.3	0.65	0	0	0	0	3	15,863
Any public target deal	0.07	0.26	0	0	0	0	1	15,863
Panel D: Deal characteristics								
	Mean	SD	p1	p25	Median	p75	p99	N
Relative target size	0.06	0.11	0	0	0.02	0.07	0.56	4,989
Acquirer CAR[-3,+1] (%)	0.33	4.09	-9.82	-1.82	0.2	2.36	10.94	4,989
Target CAR[-3,+1] (%)	16.12	22.87	-8.49	0.17	5.91	26.75	91.59	1,343
Combined gains(%)	1.39	4.53	-7.73	-1.06	0.71	3	15.19	1,343
Offer premium (%)	43	31	-6	24	38	55	141	620
Cash deal	0.53	0.5	0	0	1	1	1	4,989
Stock deal	0.04	0.2	0	0	0	0	1	4,989
Mixed deal	0.43	0.49	0	0	0	1	1	4,989
Merger	0.38	0.49	0	0	0	1	1	4,989
Acquisition of assets	0.62	0.49	0	0	1	1	1	4,989
Public target	0.27	0.44	0	0	0	1	1	4,989
Panel E: Deal characteristics - only public targets								
	Mean	SD	p1	p25	Median	p75	p99	N
Relative target size	0.12	0.16	0	0.01	0.04	0.16	0.6	1,343
Acquirer CAR[-3,+1] (%)	0.28	4.64	-9.82	-2.19	0.07	2.59	10.94	1,343
Target CAR[-3,+1] (%)	16.12	22.87	-8.49	0.17	5.91	26.75	91.59	1,343
Combined gains (%)	1.39	4.53	-7.73	-1.06	0.71	3	15.19	1,343
Offer premium (%)	42.87	30.87	-6.11	24	38.04	54.58	141.21	620
Cash deal	0.56	0.5	0	0	1	1	1	1,343
Stock deal	0.06	0.24	0	0	0	0	1	1,343
Mixed deal	0.37	0.48	0	0	0	1	1	1,343

Table 3
Incentives to Grow and Merger Probability

The sample consists of 15797 firm-year observations from 2007 to 2017. The sample reduces to 13597 and 11678 firm-year observations, when adding governance and firm specific control variables, respectively. All specifications are linear probability models and include interacted 2-digit-SIC industry and year fixed effects. The dependent variable in all specifications is *Any Deal* which indicates whether the firm is an acquirer in that year. Model (2) includes governance control variables. Models (3) and (4) include additional firm specific control variables. In Panel A, the main independent variable is growth-promoting bonuses (*GPB (% of executives)*) measured as the fraction of executives who receive growth-promoting bonuses in that year. In Panel B, the main independent variable is the logarithm of the dollar value of the growth promoting bonuses granted to the executives in that year (*GPB (log $ value)*). *Earnings incentives (% of executives)* is the fraction of executives who receive bonuses with earnings-based metrics. *Earnings incentives (log $ value)* is the logarithm of the dollar value of the executives bonuses with earnings-based metrics. All variables are defined in the Appendix. The t-statistics are based on robust standard errors clustered at the firm level and are reported in brackets. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A				
	(1)	(2)	(3)	(4)
GPB (% of executives)	0.051***	0.044***	0.043***	0.044***
	[4.78]	[4.00]	[3.66]	[3.77]
Earnings incentives (% of executives)				-0.009
				[-0.76]
CEO delta		0.027***	0.017***	0.017***
		(7.11)	(4.35)	(4.31)
CEO-chairman duality		0.002	-0.004	-0.004
		(0.22)	(-0.41)	(-0.40)
Co-opted board		-0.007	-0.002	-0.001
		(-0.33)	(-0.09)	(-0.04)
CEO tenure		-0.024***	-0.016	-0.017*
		(-2.69)	(-1.63)	(-1.67)
Board size		0.089***	0.003	0.004
		(3.87)	(0.12)	(0.14)
Industry Q			-0.096	-0.096
			(-1.54)	(-1.54)
Cash/assets			-0.019	-0.021
			(-0.47)	(-0.52)
OIBDA/assets			0.189***	0.190***
			(3.18)	(3.19)
Capex/assets			-0.409***	-0.413***
			(-2.78)	(-2.80)
Firm size			0.035***	0.036***
			(6.69)	(6.74)
Firm age			-0.021**	-0.021**
			(-2.34)	(-2.37)
Industry × Year FE	Yes	Yes	Yes	Yes
N	15797	13597	11678	11678
Adjusted-R^2	18.8%	19.2%	21.0%	21.0%

Table 3 continued...

Panel B				
	(1)	(2)	(3)	(4)
GPB (log $ value)	0.004***	0.003***	0.003***	0.003***
	[5.33]	[4.22]	[3.54]	[3.56]
Earnings incentives (log $ value)				-0.000
				[-0.01]
CEO delta		0.027***	0.017***	0.017***
		(7.11)	(4.34)	(4.35)
CEO-chairman duality		0.002	-0.004	-0.004
		(0.23)	(-0.38)	(-0.38)
Co-opted board		-0.006	-0.002	-0.002
		(-0.32)	(-0.08)	(-0.08)
CEO tenure		-0.024***	-0.017*	-0.017
		(-2.69)	(-1.65)	(-1.65)
Board size		0.087***	0.002	0.002
		(3.77)	(0.08)	(0.08)
Industry Q			-0.095	-0.095
			(-1.54)	(-1.54)
Cash/assets			-0.020	-0.020
			(-0.50)	(-0.50)
OIBDA/assets			0.192***	0.192***
			(3.23)	(3.22)
Capex/assets			-0.408***	-0.408***
			(-2.77)	(-2.77)
Firm size			0.035***	0.035***
			(6.63)	(6.62)
Firm age			-0.021**	-0.021**
			(-2.35)	(-2.35)
Industry × Year FE	Yes	Yes	Yes	Yes
N	15797	13597	11678	11678
Adjusted-R^2	18.9%	19.2%	21.0%	21.0%

Table 4
Incentives to Grow and Deal Types

The sample consists of 11678 firm-year observations from 2007 to 2017. All specifications are linear probability models and include interacted 2-digit-SIC industry and year fixed effects. The dependent variable in all specifications is *Any Deal* which indicates whether the firm is an acquirer in that year. All specifications include the following governance and firm specific control variables: CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size, the extent that the board is co-opted, firm size and age, cash/assets, capex/assets, OIBDA/assets and industry Tobin's Q. The main independent variable is growth-promoting bonuses (*GPB (% of executives)*) measured as the fraction of executives who receive growth-promoting bonuses in that year. In Panel A, the dependent variable is an indicators variable that specifies whether a firm is an acquirer of a target firm that is in the specific relative size bracket (e.g., *Deal (1-2 pct)* equals one if the firm acquires a target firm that its market capitalization is within 1 to 2 % of the sum of the market capitalizations of the bidder and the target). In Panel B, *Cash deal* (*Stock deal*, *Mixed deal*) is an indicator variable that equals one if the deal is paid with cash (stock, combination of cash and stocks). *Within-ind* (*Across-ind*) is an indicator variable that equals one if the target and the acquirer are (not) from the same 2-digit-SIC industry. *public-target* is an indicator variable that equals one if the target firm is publicly traded. All variables are defined in the Appendix. Corresponding t-statistics are reported in brackets. The t-statistics are based on robust standard errors clustered at the firm level. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Relative size ((target/(target+acquirer))

Dependent variable	Deal (< 1 pct)	Deal (1–2 pct)	Deal (2–5 pct)	Deal (5–10 pct)	Deal (10–25 pct)
	(1)	(2)	(3)	(4)	(5)
GPB (% of executives)	0.018**	0.018**	0.005	0.005	0.005
	[2.25]	[2.86]	[0.97]	[1.10]	[1.14]
Governance controls	Yes	Yes	Yes	Yes	Yes
Company controls	Yes	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes	Yes
N	11678	11678	11678	11678	11678
Adjusted-R^2	15.5%	9.7%	9.0%	7.2%	8.4%

Panel B: Deal characteristics

Dependent variable	Cash deal	Mixed deal	Stock deal	Within-ind	Across-ind	Public-target
	(1)	(2)	(3)	(4)	(5)	(6)
GPB (% of executives)	0.028***	0.019**	-0.001	0.028***	0.015	0.019***
	[2.72]	[2.29]	[-0.45]	[2.83]	[1.62]	[2.69]
Governance controls	Yes	Yes	Yes	Yes	Yes	Yes
Company controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	11678	11678	11678	11678	11678	11678
Adjusted-R^2	15.7%	13.5%	0.07%	15.2%	15.2%	11.7%

Table 5
Incentives to Grow, Mergers and Governance

The sample consists of 13597 firm-year observations from 2007 to 2017. The sample reduces to 11678 firm-year observations, when adding firm specific control variables. All specifications are linear probability models and include interacted 2-digit-SIC industry and year fixed effects. The dependent variable in all specifications is *Any Deal* which indicates whether the firm is an acquirer in that year. All specifications include the following governance control variables: CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size and the extent that the board is co-opted. Model (2) also includes the following additional firm specific control variables: firm size and age, cash/assets, capex/assets, OIBDA/assets and industry Tobin's Q. Growth-promoting bonuses (*GPB (% of executives)*) is measured as the fraction of executives of the firm who receive growth-promoting bonuses in that year. *CEO-chair duality* is an indicator variable that equals one if the CEO is also the chairman of the board. All variables are defined in the Appendix. Corresponding t-statistics are reported in brackets. The t-statistics are based on robust standard errors clustered at the firm level. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

	(1)	(2)
GPB (% of executives)	0.022	0.018
	[1.56]	[1.24]
GPB (% of executives) × CEO-chairman duality	0.048**	0.052**
	[2.43]	[2.53]
Governance controls	Yes	Yes
Company controls	No	Yes
Industry × Year FE	Yes	Yes
N	13597	11678
Adjusted-R^2	19.3%	21.1%

Table 6
Incentives to Grow, Mergers and The Role of Cash

The sample consists of 11678 firm-year observations from 2007 to 2017. All specifications are linear probability models and include interacted 2-digit-SIC industry and year fixed effects. The dependent variable model (1) is *Any Deal* which indicates whether the firm is an acquirer in that year. The dependent variable in model (2) (3) is *Stock deal* (*Cash deal*) which is an indicator variable that equals one if the deal is paid with stock (cash). All specifications include the following governance and firm specific control variables: CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size, the extent that the board is co-opted, firm size and age, cash/assets, capex/assets, OIBDA/assets and industry Tobin's Q. Growth-promoting bonuses (*GPB (% of executives)*) is measured as the fraction of executives of the firm who receive growth-promoting bonuses in that year. *Cash/assets* is the lagged cash to assets ratio. All variables are defined in the Appendix. Corresponding t-statistics are reported in brackets. The t-statistics are based on robust standard errors clustered at the firm level. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Dependent variable	Any deal	Stock deal	Cash deal
	(1)	(2)	(3)
GPB (% of executives)	0.019	-0.001	0.003
	[1.21]	[-0.25]	[0.20]
GPB (% of executives) × Cash/assets	0.161**	-0.002	0.169***
	[2.27]	[-0.16]	[2.78]
Governance controls	Yes	Yes	Yes
Company controls	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes
N	11678	11678	11678
Adjusted-R^2	21.1%	7.0%	15.8%

Table 7
Incentives to Grow and Acquirer Returns

This table reports estimates from OLS regressions that examine the acquirer returns in takeovers. The sample consists of takeovers announced between 2007 to 2017 involving acquirer and targets that were both publicly listed U.S. firms. The sample consists of 1271 observations. The sample reduces to 1188 and 957 observations, when adding governance and firm specific control variables, respectively. The dependent variable is the market reaction around the takeover announcement for the acquirer which is computed as the acquirer's 5-day cumulative dollar abnormal returns around the takeover announcement (CAR[-3,+1]). Model (2) includes the following deal characteristics as control variables: cash deal indicator, mixed deal indicator, the logarithm of the dollar value of the transaction and the within-industry indicator. Model (3) includes the additional following governance control variables: CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size, the extent that the board is co-opted. Model (4) includes the additional following firm specific control variables: firm size and age, cash/assets, capex/assets, OIBDA/assets and industry Tobin's Q. In Panel A, the main independent variable is growth-promoting bonuses (*GPB (% of executives)*) measured as the fraction of executives who receive growth-promoting bonuses in that year. In Panel B, the main independent variable is the logarithm of the dollar value of the growth promoting bonuses granted to the executives in that year (*GPB (log $ value)*). All specifications include 2-digit-SIC industry and year fixed effects. All variables are defined in the Appendix. Corresponding t-statistics are reported in brackets. The t-statistics are based on robust standard errors clustered at the bidder firm level. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A:				
Dependent variable: Acquirer CAR[-3,+1]				
	(1)	(2)	(3)	(4)
GPB (% of executives)	-1.186***	-1.160***	-1.097***	-0.965***
	[-3.94]	[-3.83]	[-3.38]	[-2.76]
Deal controls	No	Yes	Yes	Yes
Governance controls	No	No	Yes	Yes
Company controls	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	1271	1271	1188	957
Adjusted-R^2	8.2%	9.6%	11.5%	14.6%
Panel B:				
Dependent variable: Acquirer CAR[-3,+1]				
	(1)	(2)	(3)	(4)
GPB (log $ value)	-0.077***	-0.074***	-0.069***	-0.057**
	[-3.94]	[-3.75]	[-3.35]	[-2.53]
Deal controls	No	Yes	Yes	Yes
Governance controls	No	No	Yes	Yes
Company controls	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	1271	1271	1188	957
Adjusted-R^2	8.1%	9.5%	11.4%	14.4%

Table 8
Incentives to Grow, Offer Premium and Target Returns

This table reports estimates from OLS regressions that examine the offer premium and target returns in takeovers. The sample consists of takeovers announced between 2007 to 2017 involving acquirer and targets that were both publicly listed U.S. firms. In Panel A, to be able to estimate the takeover premium we restrict the sample to deals in which the entire target firm is acquired in the deal. In Panel A the sample consists of 602 observations. The sample reduces to 556 and 447 observations, when adding governance and firm specific control variables, respectively. In Panel B the sample consists of 1271 observations. The sample reduces to 1188 and 957 observations, when adding governance and firm specific control variables, respectively. In Panel A, the dependent variable is the *Offer premium*, estimated as the initial offer price per share divided by the target's stock price 50 trading days before the takeover announcement. In Panel B, the dependent variable is the the market reaction around the takeover announcement for the target which is computed as the target's 5-day cumulative dollar abnormal returns around the takeover announcement (CAR[-3,+1]). Model (2) includes the following deal characteristics as control variables: cash deal indicator, mixed deal indicator, the logarithm of the dollar value of the transaction and the within-industry indicator. Model (3) includes the additional following governance control variables: CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size, the extent that the board is co-opted. Model (4) includes the additional following firm specific control variables: firm size and age, cash/assets, capex/assets, OIBDA/assets and industry Tobin's Q. The main independent variable is growth-promoting bonuses (*GPB (% of executives)*) measured as the fraction of executives who receive growth-promoting bonuses in that year. All specifications include 2-digit-SIC industry and year fixed effects. All variables are defined in the Appendix. Corresponding t-statistics are reported in brackets. The t-statistics are based on robust standard errors clustered at the target firm level. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A:				
Dependent variable: Offer premium				
	(1)	(2)	(3)	(4)
GPB (% of executives)	5.226*	4.901*	3.297	3.682
	[1.81]	[1.70]	[1.09]	[1.05]
Deal controls	No	Yes	Yes	Yes
Governance controls	No	No	Yes	Yes
Company controls	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	602	602	556	447
Adjusted-R^2	23.9%	28.0%	29.8%	30.4%
Panel B:				
Dependent variable: Target CAR[-3,+1]				
	(1)	(2)	(3)	(4)
GPB (% of executives)	3.184**	2.869*	2.290	1.794
	[2.01]	[1.87]	[1.40]	[0.97]
Deal controls	No	Yes	Yes	Yes
Governance controls	No	No	Yes	Yes
Company controls	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	1271	1271	1188	957
Adjusted-R^2	10.9%	14.2%	14.3%	15.3%

Table 9
Incentives to Grow and Wealth Gains from Takeovers

This table reports estimates from OLS regressions that examine wealth gains in takeovers. The sample consists of takeovers announced between 2007 to 2017 involving acquirer and targets that were both publicly listed U.S. firms. The sample consists of 1271 observations. The sample reduces to 1188 and 957 observations, when adding governance and firm specific control variables, respectively. The dependent variable is the combined gain of the acquirer and target around the takeover announcement which is computed as the sum of the bidder and target's 5-day cumulative dollar abnormal returns around the takeover announcement (CAR[-3,+1]) divided by the sum of the acquirer 's and target's market capitalizations 50 trading days before the takeover announcement. Model (2) includes the following deal characteristics as control variables: cash deal indicator, mixed deal indicator, the logarithm of the dollar value of the transaction and the within-industry indicator. Model (3) includes the additional following governance control variables: CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size, the extent that the board is co-opted. Model (4) includes the additional following firm specific control variables: firm size and age, cash/assets, capex/assets, OIBDA/assets and industry Tobin's Q. The main independent variable is growth-promoting bonuses (*GPB (% of executives)*) measured as the fraction of executives who receive growth-promoting bonuses in that year. All specifications include 2-digit-SIC industry and year fixed effects. All variables are defined in the Appendix. Corresponding t-statistics are reported in brackets. The t-statistics are based on robust standard errors clustered at the bidder firm level. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A:				
Dependent variable: Combined Gains				
	(1)	(2)	(3)	(4)
GPB (% of executives)	-0.780***	-0.806***	-0.748**	-0.579*
	[-2.67]	[-2.82]	[-2.47]	[-1.76]
Deal controls	No	Yes	Yes	Yes
Governance controls	No	No	Yes	Yes
Company controls	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	1271	1271	1188	957
Adjusted-R^2	9.4%	11.8%	12.8%	16.8%

Table A1
Summary Statistics for Control Variables

This table reports descriptive statistics for the control variables used in our study of growth-promoting bonuses. The sample consists of Compustat firms for the period between 2007 to 2017. All variables are lagged. All variables are defined in the Appendix.

	Mean	SD	p1	p25	Median	p75	p99	N
CEO delta	857	1,749	4	113	304	774	10,250	15,080
CEO-chair duality	0.47	0.5	0	0	0	1	1	14,860
Co-opted board (%)	0.45	0.32	0	0.18	0.4	0.7	1	14,300
CEO tenure	7.64	6.75	0.5	2.81	5.67	10.22	32.02	14,860
Board size	9.88	2.15	5	8	10	11	15	14,669
Industry Q	2	0.71	1.03	1.42	1.87	2.42	4.05	14,413
Cash/assets	0.13	0.14	0	0.03	0.08	0.19	0.64	14,414
OIBDA/assets	0.13	0.09	-0.09	0.07	0.12	0.17	0.39	13,641
Capex/assets	0.04	0.04	0	0.01	0.03	0.05	0.22	14,390
Firm size	25,408	64,975	232	2,467	6,424	18,629	496,943	14,414
Firm age	30	17	2	16	26	46	60	15,863

Table A2
Incentives to Grow and Acquirer Returns - Including Deal with Private Targets

This table reports estimates from OLS regressions that examine the acquirer returns in takeovers. The sample consists of takeovers announced between 2007 to 2017 involving acquirer and targets that were the the acquirer is publicly listed U.S. firms but the target can be either publicly traded U.S firm or privately held US firm. The sample consists of 4386 observations. The sample reduces to 4105 and 3323 observations, when adding governance and firm specific control variables, respectively. The dependent variable is the market reaction around the takeover announcement for the acquirer which is computed as the acquirer's 5-day cumulative dollar abnormal returns around the takeover announcement (CAR[-3,+1]). Model (2) includes the following deal characteristics as control variables: cash deal indicator, mixed deal indicator, the logarithm of the dollar value of the transaction and the within-industry indicator. Model (3) includes the additional following governance control variables: CEO compensation delta, CEO-chairman duality indicator, CEO tenure, board size, the extent that the board is co-opted. Model (4) includes the additional following firm specific control variables: firm size and age, cash/assets, capex/assets, OIBDA/assets and industry Tobin's Q. In Panel A, the main independent variable is growth-promoting bonuses (*GPB (% of executives)*) measured as the fraction of executives who receive growth-promoting bonuses in that year. In Panel B, the main independent variable is the logarithm of the dollar value of the growth promoting bonuses granted to the executives in that year (*GPB (log $ value)*). All specifications include 2-digit-SIC industry and year fixed effects. All variables are defined in the Appendix. Corresponding t-statistics are reported in brackets. The t-statistics are based on robust standard errors clustered at the bidder firm level. The notation ***, ** and * denote statistical significance at the 1%, 5% and 10% level, respectively.

Panel A:				
Dependent variable: Acquirer CAR[-3,+1]				
	(1)	(2)	(3)	(4)
GPB (% of executives)	-0.493***	-0.497***	-0.516***	-0.358**
	[-3.23]	[-3.28]	[-3.30]	[-2.08]
Deal controls	No	Yes	Yes	Yes
Governance controls	No	No	Yes	Yes
Company controls	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	4386	4386	4105	3323
Adjusted-R^2	3.4%	3.6%	4.4%	6.5%
Panel B:				
Dependent variable: Acquirer CAR[-3,+1]				
	(1)	(2)	(3)	(4)
GPB (log $ value)	-0.035***	-0.035***	-0.037***	-0.022**
	[-3.56]	[-3.59]	[-3.64]	[-1.98]
Deal controls	No	Yes	Yes	Yes
Governance controls	No	No	Yes	Yes
Company controls	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
N	4386	4386	4105	3323
Adjusted-R^2	3.5%	3.6%	4.5%	6.4%

Variable Definitions

Table A3
Variable Definitions
This table contains the definitions and descriptions of the variables used in the paper.

Variable	Definition
GPB (% of executives)	Fraction of named executives in Execucomp in the firm who have bonuses explicitly tied to firm size/growth. Measured as of end of fiscal year in firm-year summary statistics; measured as of calendar month for merger outcomes analysis. (Source: ISS IncentiveLab)
GPB (log $ value)	Dollar value of bonuses explicitly tied to firm size/growth. Constructed separate for all named executives, CEO only, and CFO only, respectively. Measured as of end of fiscal year in firm-year summary statistics; measured as of calendar month for merger outcomes analysis. (Source: ISS IncentiveLab)
Relative target size	The ratio of the target firm's market capitalization (if public, or deal value if private) to the sum of the market capitalizations of the bidder and the target (or deal value), where market capitalizations are measured 50 trading days before the announcement (Source: CRSP and SDC).
Any deal	Equals 1 if the firm is an acquirer in an M&A deal and 0 otherwise (Source: SDC).
Cash deal	Equals 1 if the firm is an acquirer and the method of payment offered by bidder was consisted only of cash and 0 otherwise (Source: SDC).
Stock deal	Equals 1 if the firm is an acquirer and the method of payment offered by bidder was consisted only of the bidder's stock and 0 otherwise (Source: SDC).
Mixed deal	Equals 1 if the firm is an acquirer and the method of payment offered by the bidder consisted of both the bidder's stock and cash and 0 otherwise (Source: SDC).
Offer premium	Initial offer price per share divided by the target's stock price 50 trading days before the takeover announcement (Source: CRSP and SDC).

Combined gain	The sum of the target and bidder's cumulative dollar abnormal returns in the (-5,+1) day-window around the announcement of the takeover divided by the sum of the target and bidder's market capitalizations 50 trading days before the takeover announcement date (Source: CRSP).
Acquirer CAR (-i,+j)	The cumulative abnormal return of the acquirer from day i to j relative to the announcement of the deal, computed using a 4-factor return model (Fama and French (1993), Carhart (1997)) with a 250-dayestimation window ending 30 days before the announcement with at least 60 observations (Source: CRSP)
Target CAR (-i,+j)	The cumulative abnormal return of the target from day i to j relative to the announcement of the deal, computed using a 4-factor return model (Fama and French (1993), Carhart (1997)) with a 250-dayestimation window ending 30 days before the announcement with at least 60 observations (Source: CRSP)
Cash/assets	Cash and Short-term Investments divided by total assets (Source: Compustat).
OIBDA/assets	Operating income before depreciation and amortization divided by total assets (Source:Compustat).
CEO-chairman duality	Equals 1 if the CEO is also the Chair of the board of directors and 0 otherwise (Source: Execucomp and BoardEx).
Co-opted board	The fraction of the directors on the board appointed after the current CEO took office (Source: Lalitha Naveen).
Sales	Net sales divided by total assets (Source: Compustat).
Tobin's Q (industry-level)	The average ratio of the market value of assets to book value of assets computed following Baker and Wurgler (2002) for the 2-digit SIC industry. (Source: Compustat).
Firm size	The logarithm of firm's total assets (Source: Compustat).
Firm age	The number of years since the firm first appeared in Compustat (Source: Compustat).

CEO compensation delta	The logarithm of the change (in thousands of dollars) in the dollar value of the executive's wealth derived from ownership of stock and stock options in the firm when the firm's stock price changes by 1%. We calculate the delta of the executive's compensation as the sum of the deltas of the options holdings and the delta of the stock holdings. The delta of options holdings are calculated based on the methodology in Guay (1999) and Core and Guay (1999) (Source: Execucomp, calculated using code provided by Lalitha Naveen).
Capex/assets	Property, plant and equipment divided by total assets (Source: Compustat).
Board size	The logarithm of the number of directors firm's board (Source: BoardEx).
CEO tenure	Number of years since the CEO has become the CEO (Source: Execucomp).

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