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The Effect of Executive Compensation on Firm Performance through the Dot-Com Bubble

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SUBMITTED TO

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Abstract

This thesis examines firm performance through the dot-com bubble through the lens of executive compensation. Hypotheses based on the theoretical literature of Bolton, Scheinkman and Xiong (2006) as well as Bertrand and Mullainathan (2001) in regards to management compensation in a speculative bubble motivate three regression models with differing market-cap-growth based dependent variables and specific compensation variables. Regression analyses test the models using public compensation and security data from S&P's Execucomp and Compustat databases. Synthesizing regression results show that stock option vesting schedules and executives' status on the board of directors may significantly affect firm performance through the dot-com bubble, but more analysis, using more robust data, is necessary to verify either claim.

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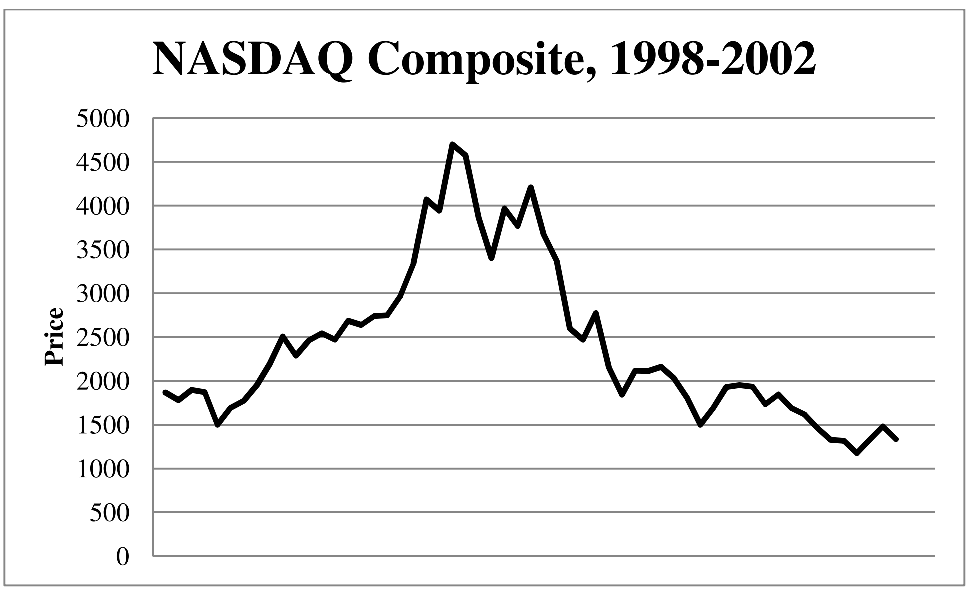
Introduction

On March 10, 2000, in the wake of the dot-com bubble, the NASDAQ index price rose to its all time high of $5,048.62, more than double its value only a year previous ($2381.53 on 3/12/1999), a level that it has never passed since. Like all bubbles this one eventually had to pop. The NASDAQ got to this point based on massive firm overvaluation fueled by now-seemingly hysterical beliefs of the value of an internet venture. Many firms reporting zero revenues were granted huge valuations and VC capital as investors abandoned fundamental analysis in favor of “the next big thing.” Once analysts and investors saw how quickly these firms were burning through their cash, with little return on investment, the firms were severely devalued and the burst was on; paper millionaires were brought back down to earth.



Source: Compustat

That incentives drive behavior is one of the fundamental assumptions of economic theory. With that in mind a heterogeneous set of incentives will most likely

result in a heterogeneous set of responses. This readily applies to the field of executive compensation; which incentive scheme will result in the behavior most desirable to a firm's shareholders? This paper will examine the set of incentive schemes of firms in the NASDAQ (as available through S&P's Execucomp) just prior to the infamous dot-com bubble and examine their relationship to firm performance through that market shock. Analysis will start at a high-level and through different data cuts zoom into the high tech industry itself. While the cause of the bubble can mostly be attributed to overzealous investors abandoning fundamentals, this paper is looking to see if the institutional decision of management compensation has any effect on whether a firm survives the bubble. This analysis aims to bring to light some survival characteristics of a compensation philosophy, and further analysis of the highest performing survivors will hopefully expose an ideal set of characteristics. Examining the relationship between management incentives and firm performance during a time of extreme turmoil will provide a unique lens through which to view the market and high tech industry as a whole.

Theoretical literature informs this papers' empirical analysis of executive compensation through the dot-com bubble. Two theoretical articles, the first by Bolton, Scheinkman and Xiong (2006) and the second by Bertrand and Mullainathan (2001), use principal agent theory as a basis to attempt an explanation of manager behavior through the bubble. The uniqueness of a bubble ultimately affects the decision making behavior of the manager and these papers attempt to reconcile this behavior with speculative bubble conditions. From these studies I am able to formulate three hypotheses regarding compensation through the bubble. The first hypothesis is based on an unadjusted (to the

unique conditions of a speculative bubble) principal agent model suggested by Holmström and Tirole (1993) and claims that the more a manager is compensated with ownership of the company, through stock and stock options, the more their decisions are aligned with the owners of the firm and thus should promote higher firm performance. This hypothesis doesn't take into any special account the speculative bubble, but could be the most correlated since this type of compensation has been traditionally the most accepted. In other words even though there may be a more sophisticated theory arguing for better incentives, managers may believe that they are being incentivized accordingly and perform well regardless. Bolton et al. (2006) adjust Holmström and Tirole (1993)'s model by dividing management and ownership behavior into two parts, long-term value creating and short-term speculative behavior. This adjustment suggests the second hypothesis that longer vesting periods and director terms should incentivize more long-term value creating behavior and thus better performance through a bubble. The third hypothesis is based on the skimming theory provided by Bertrand and Mullainathan (2001). They argue that in some firms managers are too involved in the pay setting process and can create compensation schemes that provide them with high payouts and lower thresholds to meet those payouts. Thus hypothesis three suggests a negative correlation between managers on the compensation committee and on the board of directors.

Regression analysis will be based on three models each treating firm performance slightly differently. This analysis will be evaluated through different scopes of industry by first focusing on the entire market and then looking at high tech specifically. Data cuts differentiating top executives at a firm will also be evaluated. These different dependent

variables will be based on firm performance above market performance with slight adjustments for success and survival. Looking at the years 1998 through 2002 provides a robust enough time before and after the “true” bubble and its burst to provide a comprehensive picture of the firm’s performance.

This analysis hopes to give insight to compensation committees, investors, managers, and the like, on how well a company is equipped to survive a speculation bubble through their management incentives. In an economy of boom and bust speculation bubbles have been a constant: most recently cropping up in real estate causing a finance industry meltdown which triggered a worldwide recession. With the seemingly inevitable fate of speculation bubbles, it is in the best interest of a firm and its shareholders to properly incentivize managers to survive and perform in the event of a catastrophic bubble event. While this paper chooses to focus on a specific industry and bubble, it will be a good test as to whether or not this kind of analysis is an effective tool that should be applied to different industries and events. The purpose of this analysis is not to provide an end all solution to compensation, but hopefully answer some questions and spur on even more to be answered in the future.

Related Literature

Looking specifically at executive compensation through the dot-com bubble academia has primarily focused on microeconomic theory rather than empirical research. Not surprisingly the bulk of theoretical work is focused on arguing for certain principal-agent models.

With the dot-com bubble in mind, Bolton, Scheinkman and Xiong (2006) adjust the principal-agent theory of management compensation to account for speculative bubbles. They note that in speculative bubbles investors begin to speculate against each other due to "heterogeneous beliefs" and overconfidence. This amounts to a game of chicken where the higher the stock price goes the more each investor stands to make and as soon as no one wants to one-up anymore the stock crashes. The new model is adapted from the classical view often credited in the paper to Holmström and Tirole (1993) to "[reconcile] the agency perspective on stock compensation with the recent corporate crisis." In this model Speculation is built into the model of stock prices (a short-term speculative component), and into management's task problem (how management splits time between tasks that will increase long-term value and tasks that drive short-term speculation). Management is often incentivized to value this short-term gain over long-term value creation, and the fact that institutional investors usually have share turnover of about a year means that there is little "long-term discipline on firm managers." The authors argue against other research that blamed poor corporate governance on the bubble (claiming that corporate governance strengthened over the period), and that in fact the bubble was a symptom of the speculative nature of the shareholders. They continue, the best way to achieve long-term value maximization would be to "lengthen stock-option

vesting periods, lengthen director terms, insulate the board of directors more from market swings, and more generally take steps ensuring that controlling shareholders (or the board of directors) have a longer-term outlook."

Bertrand and Mullainathan (2001) examine how executive pay reacts to luck (company success out of the executive's control, i.e. a speculative bubble) and argues that in poorly governed firms executive pay is more tied to luck. The authors develop a theory and then through three empirical, industry cases go about testing their hypotheses. While their industry choices (oil, and traded goods) aren't high-tech, their approach is useful in its contrarian viewpoint to Bolton, Scheinkman and Xiong (2006) on executive pay theory, as well as their methodology in an industry study through the lens of executive compensation. The authors propose an alternative to the classical contracting view called skimming. The basic idea of skimming is that while governance and management are supposed to be separate, managers can easily affect the "pay-setting process" through favorable board members and the complexity of the process, and these effects are amplified when the company is performing well and the pay-setting process becomes even less strict.

Empirically, Bertrand and Mullainathan (2001) try to find correlation between pay for luck, argued to be positively correlated to skimming activity, and specific firm governance characteristics. Their measures for good governance are "presence of large shareholders (on the board and overall), CEO tenure…, board size, and traction of directors that are insiders." Using their empirical data, on the oil industry specifically and then more generally, the authors found that for the poorly governed firms behaved as the

skimming model would predict: paying highly for luck. The well governed firm ended up behaving as typically described by the classic contracting model, but still unable to completely avoid paying for luck.

Both of these studies represent the two prevailing theories about executive compensation during a speculative bubble, and, importantly for my purposes, aren't mutually exclusive. The main point of contention in these theories is what the main driver of executive short-termist behavior is, without disregarding the other viewpoint entirely. The empirical focus of this paper will be able to leverage both aspects of these theories to shape its regressions and hopefully find some drivers for speculation-bubble survival. The main difference between previous research and the research of this paper is that previous research focused just on how different incentive plans affect executive behavior during the bubble, but this paper is more interested in how incentive plans affect firm performance not necessarily just how they affect executive behavior.

Theory

Principal-agent theory lies at the heart of this paper. The basic theory and its updated forms for speculative bubbles, proposed by Bolton, et al. (2006) and Bertrand and Mullainathan (2001), will inform the hypotheses that this paper aims to test for the dot-com bubble. Based on this variety of theory, there are three hypotheses that arise and seem the most natural to be tested. Each hypothesis will look at the correlation of certain devices of an incentive plan and its firm's financial performance as measured by market cap growth, a quick and dirty valuation of the firm itself. As such the three hypotheses are: 1) as stock grants and stock options increase as a fraction of overall pay, market cap

growth will increase; 2) longer vesting periods for stock and stock option grants will be positively correlated with market cap growth more so than simply their existence; 3) less executive involvement in pay setting and longer board membership terms will be positively correlated with market cap growth.

Behind all of these theories is the idea that speculation and speculative bubbles drive management to behave in such a way that values short-term growth rather than long-term value creation. In the midst of the dot-com bubble and its drastic overvaluation of fundamentally flawed firms, a manager could stand to gain quite a bit by capitalizing on the bubble. This could be executed through a variety of different actions. Managers of firms outside of the high tech or internet based industries could quickly drive up share price by acquiring or investing in a high tech firm that may not provide any long-term benefit to the firm. Stock already owned by the executive would increase in value and performance targets based on stock price would be exceeded. Internet and high tech firm managers seeing this speculation bubble can stand to benefit from artificially driving up valuation by spending precious venture capital and equity capital on over-aggressive advertising (Jensen, 2005). This short term value creation pitched as ways to increase customer base (the driving force behind projected returns on many internet based ventures) often over spent the capabilities of the firm and increased the burn rate of their capital (which ended up spurring the revaluations that popped the bubble). The compensation theories directing this paper aim to explain what elements of that compensation encourage this kind of short-term behavior.

Basic principal agent theory boils down to asymmetric information. The principal, or the owner, has a unique self interest, and the agent has a self interest of its own. In the case of a large corporation the agent acts on behalf of the shareholders, but because they don't have the same interest as the shareholders may perform in a way that goes against the interests of the shareholders. This problem is solved by contracting; contracting aims to align the interests of the principal and the agent. This type of contracting can come in many shapes and sizes. Tipping in some service sectors achieves this, as does performance bonuses in other industries. By contracting around the principal-agent problem monitoring costs can be greatly reduced. When an agent is incentivized to perform for the benefit of the firm, agents don't need to spend as much time, effort, and capital on monitoring the performance of its employees. Contracting is especially important at the top of a firm. Top executives have total control of a firm's activities and therefore can be the most difficult and costly to properly monitor. Aligning their incentives is paramount to the long-term success of a firm.

Owners primarily incentivize executives using company stock and stock options. Since top executives have the most control of the firm their actions and strategic decisions should have the most direct impact on stock price performance. This idea has been studied throughout academia and has been accepted by many economists. Bolton, Scheinkman and Xiong (2006) expand on the theory of Holmström and Tirole (1993) so it is useful to explore Holmström and Tirole's take on executive compensation without the speculative adjustments. Homlström and Tirole argue in favor of stock as an efficient way to design a contract; liquid stock provides invaluable market monitoring of the firm and is a useful gauge of the performance of the firm and consequently the executive.

They argue that there are three types of investors in the market: insiders, liquidity traders, and informed speculators. Speculators have private information that flows into the market through their activities. It is easier for these speculators to disguise their information and profit from it when there are more liquidity traders (i.e. non-informed traders). This allows the stock price to have an effective monitoring effect. The effectiveness increases when the stock is more liquid in the market and speculators will have more incentive to "monitor" the firm. Since stock is an effective tool for monitoring, and presuming managers know this, by increasing stock as a portion of compensation the CEO is compelled to do what is in the best interest of value of the equity, in other words the interest of the owners.

Hypothesis 1: As equity has an effective monitoring effect, an optimal contract will emphasize equity as pay. Thus as equity increases in pay, so to should firm performance.

Bolton et al. (2006) argue that during a speculation bubble management's task problem (how they spend their time) contains a speculative behavior component which compels hypothesis two. In simplest terms the proposed basic model of a firm's long term value described by the authors is: $e = u + v + \varepsilon$. The first two terms are two different types of project a manager can choose from. u is a project with higher long-term expected return represented as a normally distributed random variable where the mean is a function of the manager's effort and his return on effort. v is has an inferior long-term expected return, but is prone to overvaluation by investors. This is the speculative or "castle in the air" project. ε accounts for random "noise." In a speculative atmosphere the

authors show that the CEO will prefer the *v* when the speculative coefficient (referred to in the paper as *K*) is high. *K* increases as differences of opinions become greater, and the difference increase with more short-term focused shareholders. The authors argue that increasing vesting periods of the stock options will remedy this problem.

Hypothesis 2: Increasing the vesting term in equity related grants should compel CEO's to choose long-term value creating projects over short-term speculative projects, thus as vesting term increases so should firm performance over the period of the bubble.

Bolton et al. are specifically addressing the skimming theory proposed by Bertrand and Mullainathan (2001). As mentioned earlier Bertrand and Mullainathan's paper shows that CEO's that skim have "captured the pay-setting process" consistently are paid more for shocks in the firm's performance outside of the CEO's control. Firms with less CEO involvement in pay setting pay CEO's less for luck.

Hypothesis 3: Removing executive involvement in the pay setting process should allow owners to properly incentivize executives, so firms with executives not on the board or compensation committee will have higher firm performance over the period of the bubble.

Data

Executive Compensation Data

Executive compensation data was pulled from S&P's Execupcomp database through Wharton Research Data Services (WRDS). The database is a collection of the publicly available executive compensation data that all public companies must report

through their annual proxy statement. The Execucomp database itself mostly covers S&P 1500 companies and former S&P 1500 companies. They also noted that some companies are reported at the request of their clients. The original sample pulled all available compensation data from Execucomp for companies publicly trading on the NASDAQ exchange for fiscal year 1998. The decision to focus on NASDAQ was based primarily on its role as a tech driven exchange and the epicenter of the dot-com bubble. Specified by S&P's proprietary GVKEY permanent firm identifier, this sample consisted of compensation data for multiple executives at 634 unique firms and 3722 unique executives. While many compensation variables offered are through the database very few had consistent data throughout the set. With this in mind I based my analysis on executives with complete data on total direct compensation (total compensation for the year including present value of long-term incentives), stock option grants, restricted stock grants, director status, and compensation committee status. This completeness requirement lowered the total of unique firms to 617 and 3018 unique executives. Even with these considerations the compensation data was still far from uniform and certain executives were more robustly covered than others. To account for this I designated a top executive for each firm. This executive would be the flag bearer in a sense for the firm in a "top executives" cut so that would counteract the skewness caused by firms with more executives or more robustly reported executives. This also provides an interesting role dichotomy to analyze. The spirit of the top executive isn't the highest paid executive, but the executive with the most power and influence (in other words the most power to affect shareholder value through decision making). Often times these top executives can embody the spirit of the company and thus they may be incentivized by something other

than direct pay. Steve Jobs for example only took home $1 in total direct compensation as CEO of Apple Inc. in 1998, with the gains on his founding equity and love of the company as pure motivation.

Total direct compensation was used as the baseline monetary compensation variable. Hypothesis 1 predicts that as the equity portion of compensation increases the market performance should increase as well because it provides efficient monitoring of the executive. In order to test this hypothesis the variable *TDC_EQUITY_PCT* was created. This variable is the combined values of any stock options granted and restricted stock grants over the total direct compensation. The value of the stock options granted was expressed as the Execucomp variable *OPTION_AWARDS_BLK_VALUE.* This is the value of the stock option awards calculated by S&P using the Black-Scholes model reported in thousands of dollars. Restricted stock grant value was determined using the Execucomp variable *RSTKGRNT*. This is the value of the stock grant in thousands of dollars. A grant of restricted stock is one that is restricted in the sense that the grantee doesn't have control of the stock until certain conditions are met usually based on performance and a vesting period. These two variables were added together and divided by variable *TDC1*. *TDC1* is the sum of salary, bonus, other annual compensation, value of restricted stock granted, value of stock options granted using Black-Scholes, long-term incentive payouts, and all other compensation in thousands of dollars. This is described by S&P as the "total compensation for the individual year."

OPTIONS_EX_PER_UNEX is an attempt to incorporate a long-term growth focused variable into the analysis. Hypothesis 2 draws from the research of Bolton et al.

(2006) in that executives in a speculative bubble have a divided task problem and that compensation schemes can properly incentivize long-term growth tasks over short-term speculative tasks. They suggest that increased vesting periods and longer director terms can create this incentive. Execucomp data was severely lacking in any vesting data and its director database had no inclusion of term length. Execucomp did have a variable called *RSTKVYRS* described as the years until the restricted stock grant begins to vest if it was less than three years. This could be useful as it provides some insight in the focus of the plan, but it doesn't provide any information after three years including the overall period of the vesting. Even with its drawbacks, this data would have been desirable, but out of the 3018 executives only one had a *RSTKVYRS* value less than three years. While the explicit vesting data wasn't available, calculating *OPTIONS_EX_PER_UNEX* could still provide insight into the long-term focus of the compensation scheme. *OPTIONS_EX_PER_UNEX* is essentially the percentage of unexercised options that are actually exercisable. This was calculated using two Execucomp variables: *OPT_UNEX_EXER_NUM* and *OPT_UNEX_UNEXER_NUM.* *OPTIONS_EX_PER_UNEX* is the percentage of total unexercised options (the sum of the two *_NUM* variables) that is attributed to exercisable options. This tries to show how weighted-towards-the-future the vesting schedule of the options is. In other words plans with longer vesting schedules should have higher levels of unexercisable options, and thus lower *OPTIONS_EX_PER_UNEX.* Obviously this statistic is not without flaws. The decision to exercise an option is very idiosyncratic. It is influenced by strike price and the market conditions, the personal finances of the executive, and confidence in future growth by the executive to name a few. By looking at number of options rather than

value of in-the-money options (a variable provided by Execucomp) I have attempted to remove some of the market influences from this statistic. The goal is to have this statistic best represent the plan without any of the other outside influence.

Hypothesis 3, motivated by the skimming theory, aims to test whether executive involvement in the pay-setting process influences firm performance through the dot-com bubble. This involvement can be measured by an executive sitting on the board of directors or the compensation committee. Execucomp had data on both of these variables through the *EXECDIR* and *INTERLOCK* variables. *EXECDIR* (renamed *DIR* for this analysis) is a binary variable where 1 indicates that the executive served on the board of directors during the fiscal year, and 0 meaning they did not. *INTERLOCK* (renamed *COMP_COMIT* for this analysis) indicates that the executive was listed in the compensation committee interlocks section of the proxy with a 1, and 0 if they did not. The interlocks section mentions any "executive who serves on the compensation committee of his firm, serves on the board (and possibly the compensation committee) of a firm that has an executive serving on the compensation committee of the executive, and serves on the compensation committee of another firm that has an executive serving on the board of the executive's firm (and possibly the compensation committee) (Wharton Research Data Services)."

Control variables such as location and industry were also calculated using Execucomp data. Considering the focus of the dot-com bubble, binary industry variables *HIGH_TECH* and the more specific *INTERNET* were created. Execucomp provided NAICS codes and proprietary GICS industry group descriptions. *HIGH_TECH* assigned

a value of 1 to any firm that had a NAICS code that was listed in TechAmerica's NAICS based definition of the high tech industry, or was in a GICS industry group described with the word "internet", and was assigned a 0 to firms that didn't. *INTERNET* simply assigned values of 1 to firms with "internet" in their GICS industry group description and 0 to those that didn't. This designation allowed for industry controls in a total NASDAQ sample regression and a *HIGH_TECH* sample regression in which *INTERNET* would be the new industry control (Langsner, 2009).

A binary control for location, specifically for Silicon Valley, was created to account for any effect on market performance based on a Silicon Valley zip code. The binary variable *SILICON_VALLEY* was created using Execucomp's *ZIP* variable. Zip codes that fell into a list of zip codes in the counties regarded as Silicon Valley, determined by the Silicon Valley Economic Development Alliance, were assigned a value of 1 (Silicon Valley Economic Development Alliance).

Market Financial Data

Financial performance was measured by market cap growth above NASDAQ composite growth over the five year period beginning January 1, 1998 and ending December 31, 2002. This five year period comfortably covers the full boom and bust of the NASDAQ's dot-com bubble activity. Market cap data was calculated based on security data provided by S&P's Compustat database. Using the unique GVKEY's from the Execucomp data, monthly security data was drawn for the period. Specifically stock price, shares outstanding, and information regarding delisting. The 634 original GVKEY firms broke into three groups of data: those who had complete data for the period, those

that had different period start and end dates (mostly firms that IPO'd during fiscal year 1998 and those that later went bust during the bubble), and those that were delisted by the SEC due to merger and acquisition activity and other uncommon circumstances. For all firms market cap, *MKTCAP,* was calculated on a per-month-basis by multiplying monthly closing price (*PRCCM*) and outstanding shares (*CSHOM*) (Wharton Research Data Services, 2012).

NASDAQ composite growth observed the price growth of the NASDAQ composite index over the time period. Composite growth data was pulled from Compustat's Index Price database. Monthly prices, *PRCCM*, were pulled for the entire five year period (Standard & Poor's, 2012).

Complete-data firms made up 461 of the 634 firms. These firms did not require any special consideration in regards to market cap extrapolation or special NASDAQ composite growth periods. Market cap growth, *GRWTH_MKTCAP*, was calculated as the change in market cap over the complete period over the beginning market cap. *GRWTH_NAS*, was calculated as the NASDAQ composite price growth over the entire period. Growth above NASDAQ composite, *GRWTH_ABV_NAS*, was calculated as the difference between *GRWTH_MKTCAP* and *GRWTH_NAS*. The use of "above" is used to emphasize that positive values indicate growth over NASDAQ growth and negative numbers indicate growth below NASDAQ growth.

The remaining firms were in some way incomplete and adjustments were made to the NASDAQ period they were compared to or had market cap extrapolated to cover the period. Of the incomplete firms, 63 had alternate periods. This was simply accounted for

by calculating the alternate period market growth and comparing it to NASDAQ growth over this new period. The remaining 110 firms were delisted throughout this period. Using Compustat's *DLRSN* variable which codes reasons why the company became inactive on the database. Two codes, 01, acquisition or merger, and 10, other (no longer files with SEC among other reasons)[1], accounted for all 110 reasons for deletion. Of these firms only three firms coded as type 10. For these type 10 firms I treated their growth data the same as the alternate period firms. The 107 M&A firms represented a theoretical challenge. Dropping them from the data set would misrepresent their activity through the period, but adopting the growth of their new company would also misrepresent their financial performance. With this dilemma in mind I decided to extrapolate the market cap of the firm to the end of the period, and then calculated market cap growth over this new period. This was then compared to NASDAQ composite growth over this new period to calculate *GRWTH_ABV_NAS*. Since this was a significant assumption to add to approximately a quarter of the data, a dummy variable was applied to each M&A firm to indicate that it is an extrapolated data point and this dummy is to be used as a control. This variable also allows for data cuts that excluded these firms.

Econometric Methodology

In analyzing my data I employ three separate econometric models. All three models are OLS regressions that have different dependent variables. The first model uses *GRWTH_ABV_NAS* as its dependent variable:

[1] This excludes 10's from bankruptcy, liquidation, reverse acquisition, LBO's, and privatization as all of those activities have their own unique codes.

(1) $GWRTH\_ABV\_NAS = \beta_1 tdc + \beta_2 tdc\_equity\_pct + \beta_3 salary + \beta_4 options\_ex\_per\_unex + \beta_5 dir + \beta_6 comp\_comit + \beta_7 ma + \beta_8 high\_tech + \beta_9 silicon\_valley + \varepsilon$

This model is applied to all executives and then to a cut of just the top executive at each firm. Another cut is then applied to both all and top executives where executives' firm's with *GRWTH_ABV_NAS* values above 10 are excluded from the regression in an attempt to limit the effect of the outliers on the regression. This model is then modified as I focus on the high tech industry.

(2) $GWRTH\_ABV\_NAS = \beta_1 tdc + \beta_2 tdc\_equity\_pct + \beta_3 salary + \beta_4 options\_ex\_per\_unex + \beta_5 dir + \beta_6 comp\_comit + \beta_7 ma + \beta_8 internet + \beta_9 silicon\_valley + \varepsilon$

This model now includes the sub-industry dummy variable *INTERNET*. All and top executive cuts are again applied as well was the outlier exclusion cuts.

The next model approaches how compensation affects survival. In this model a dummy variable is employed called *SURVIVE*. A firm is said to survive when its market cap growth is greater than or equal to a designated value. In my analysis I regress on a range of values designated as survival. This range is based on the distribution of *GRWTH_ABV_NAS* for each unique firm, excluding firms that went through M&A activity during the period. M&A firms were excluded from the distribution since they were estimated using an extrapolation technique. The range used for *SURVIVE* is seen in *Table 2.1* as the first through the 50th percentiles (*Table 2.2* incorporates M&A firms).

Taking this into consideration the model is as follows for the entire data set and the high tech cut:

(3) $SURVIVE = \beta_1 tdc + \beta_2 tdc\_equity\_pct + \beta_3 salary + \beta_4 options\_ex\_per\_unex + \beta_5 dir + \beta_6 comp\_comit + \beta_7 ma + \beta_8 high\_tech + \beta_9 silicon\_valley + \varepsilon$

(4) $SURVIVE = \beta_1 tdc + \beta_2 tdc\_equity\_pct + \beta_3 salary + \beta_4 options\_ex\_per\_unex + \beta_5 dir + \beta_6 comp\_comit + \beta_7 ma + \beta_8 internet + \beta_9 silicon\_valley + \varepsilon$

Much like the other model I employ all executive and top executive cuts. I also employ an outlier exclusion cut of each. The outlier exclusion cuts base their *SURVIVE* range on the distribution of *GRWTH_ABV_NAS* values under 10 for each unique firm that fits this requirement as seen in *Table 2.3*.

The third model uses the binary dependent variable *SUCCESS*. *SUCCESS* is defined differently than *SURVIVE* as outperforming the majority of companies through the period. Much like *SURVIVE, SUCCESS* is defined over a range of *GRWTH_ABV_NAS* values from non M&A firms specifically the 75th through the 99th percentile on *Table 2.1*. Thus the model follows for all firms and the high tech cut:

(5) $SUCCESS = \beta_1 tdc + \beta_2 tdc\_equity\_pct + \beta_3 salary + \beta_4 options\_ex\_per\_unex + \beta_5 dir + \beta_6 comp\_comit + \beta_7 ma + \beta_8 high\_tech + \beta_9 silicon\_valley + \varepsilon$

(6) $SUCCESS = \beta_1 tdc + \beta_2 tdc\_equity\_pct + \beta_3 salary + \beta_4 options\_ex\_per\_unex + \beta_5 dir + \beta_6 comp\_comit + \beta_7 ma + \beta_8 internet + \beta_9 silicon\_valley + \varepsilon$

The same cuts applied to *SURVIVE* are applied to *SUCCESS* as well as considerations regarding outlier exclusion. Considering the three models three are eighteen groups of

regressions that each have a unique take on the effect of compensation schemes on firm performance through the dot-com bubble.

Data Analysis

Summary Statistics

As previously stated the compensation data obtained for this analysis was of varying completeness and robustness, but with the applied corrections to the data set the final data is reasonably robust for the specific variables evaluated in the econometric models. Looking at the summary statistics provides a nice preface and context with which to view the regression analysis. *GRWTH_ABV_NAS* is the underlying dependent variable in each regression performed. *Tables 2.1 – 2.3* provide detailed summary statistics for this variable at varying cuts of sample of 617 unique firms. Looking at the entire sample (*Table 2.2)* there is mean growth over NASDAQ growth of 0.89. However this is highly weighted towards the few firms that had astronomical growth in the range of 2000% growth above NASDAQ. The median value is at more down to earth level of 0.22 over NASDAQ. While this is quite a bit lower than the mean it is still seemingly high. One would have guessed that the median value would be closer to zero. However the sample of firms in the dataset is substantially lower than the total that trade on the NASDAQ exchange since S&P only focuses on S&P 1500 companies. Currently the NASDAQ composite is made up of 2774 different companies (NASDAQ). The data shows a positive skewness of 5.52 meaning that it has a longer right tail. This is plain to see when you compare the maximum value, 28.04, and the minimum value, -0.89, to the median. Removing values greater than 10 from the non-M&A firms removed seven observations while halving the skewness (see *Table 2.3)*. Other firm specific values give us some

insight into our sample. M&A activity occurred in 16.86% of firms during the sample period. High tech accounted for 45.55% of the firms and of those firms 8.90% were internet ventures. 19.29% of the firms in the sample were headquartered in Silicon Valley.

From an executive compensation standpoint there are five variables that were analyzed for this study with 3018 unique executive data points (see *Tables 1.1-2)*. The average *TDC* was $1.832MM, with a staggering range of values from $1 to $655.45MM. Of the *TDC*, equity awards accounted for 38.38% of it on average. In top executives that value increased to 42.30%. Exercisable options accounted for an average of 43.64% of unexercised options, 47.86% in top executives. 35.79% of all executives in the sample were directors, which increased 91.25% in top executives. Compensation committee interlocks also increased in top executives from 2.52% to 8.10%.

Regression Analysis

In general the regression analysis doesn't provide very much concrete, undeniable insight into the performance of firms through the dot-com bubble other than maybe compensation didn't have much to do with it. Across all variations of the three models, regressions in general had very low R^2 values, the highest value is 0.129 (see *Table 3.2)*. This implies that the variables selected didn't account for much of the variation in the data. While this may be the ultimate take away of this study there is still some significant insight to be taken away from my analysis.

Hypothesis 1

The first hypothesis tested by the models is that of basic principal-agent theory. Hypothesis one posits that increasing equity should further align ownership and executive incentives which is supposed to be long-term value creation. The models test this using the variable *TDC_EQUITY_PCT*. Hypothesis one predicts a regression result with positive correlation to firm performance, measured as some variant of *GRWTH_ABV_NAS* (by itself or as binary variable *SURVIVE* and *SUCCESS*). The first model is expressed in *Tables 3.1-2*. Looking at all data points there is a positive coefficient, 0.164. This is however the only variation of the model that shows positive correlation. In top executives, outlier adjusted, and all high-tech data a negative correlation is observed. With that in mind, *TDC_EQUITY_PCT* showed no statistical significance across any iteration of the first model.

The second model, observed in *Tables 4.1-8*, shows statistical significance in certain iterations, and displays primarily negative coefficients. *Tables 4.1-2* display regression results for *SURVIVE* at the first through 50^{th} percentiles. *TDC_EQUITY_PCT* has statistically significant negative correlations to survival at the first, fifth, and tenth percentiles. This result holds when adjusted for outliers. In other words, when survival is defined as outperforming the bottom 1, 5, and 10%, increasing equity as a percent of total pay actually decreases the probability of survival. The significance of these results is essentially lost in the *HIGH_TECH* cuts displayed in *Tables 4.5-6*. This result is fairly interesting. Essentially the effect of equity as a percent of total pay on firm survival was null when examining the *HIGH_TECH* firms that were at the epicenter of the bubble. In top executives, *Tables 4.2-3*, we see statistically significant correlation in the 5^{th} and 10^{th}

percentiles. This result holds when adjusted for outliers. Like the all executives cut, when focused on high tech *TDC_EQUITY_PCT* loses its statistical significance (*Tables 4.7-8).*

The third model shows less consistency in its results. In the all executive, outlier adjusted cut (*Table 5.2)* statistical significance is weakly shown at the 95^{th} percentile with a positive coefficient and solidly at the 99^{th} percentile with a negative coefficient. These results seemingly contradict each other (unless *TDC_EQUITY_PCT* is distributed like a negative quadratic between the 95^{th} and 99^{th} percentile) and along with very weak R^2 values essentially conclude that *TDC_EQUITY_PCT* doesn't affect success in the dataset. The high tech cut for all executives (*Table 5.5)* shows statistically significant correlation at the 95^{th} percentile.

Theses overall results are unsurprising for hypothesis one since it doesn't incorporate the unique circumstance of a speculative bubble. This simplicity probably accounts for the predominantly negative correlations across the different regressions. Equity by itself without provisions that account for the task problem the manager faces encourages short-term speculative decisions that hurt long term growth. The weakness of the regressions strongly imply that *TDC_EQUITY_PCT* doesn't have a significant effect on long term growth, again not surprising given the simplicity of the theory in regards to a speculative bubble.

Hypothesis 2

The second hypothesis, incorporating the theory of Bolton et al. (2006), focuses on the regression results of *OPTIONS_EX_PER_UNEX* (called *OPTIONS* from now on). The hypothesis predicts negative correlation between *OPTIONS* and the various growth

metrics of the models. Lower values of *OPTIONS* imply that option grants have longer vesting periods. The first model finds consistent negative correlation between *OPTIONS* and *GRWTH_ABV_NAS*. In the all firm cut *OPTIONS* is statistically significant to 1% for all executives with a -0.449 coefficient. This is a strong statement for this specific cut since we are looking a growth rate. A 1% increase in *OPTIONS* will account for a 0.45% decrease in growth (since both variables are percents already). This holds for high tech firms as well with even more negative coefficients and statistical significance across all cuts. The coefficients become more negative as the data moves from all executives to top executives. This result supports long-term focused option plans for top executives.

The results are much less supportive in the *SURVIVE* model. *OPTIONS* finds its only statistical significance in the *SURVIVE* model at the 50th percentile in the high tech top executive cut. This goes with the results so far, but it is only significant at 10% so it should be interpreted with some hesitation. The rest of the *SURVIVE* results don't show any consistent coefficient pattern positive or negative.

SUCCESS shows statistically significant negative coefficients on the lower end of the percentile range across most of the regression cuts. *OPTIONS* variables show at least 10% significance and negative correlation to *SUCCESS* in 14 out of the 32 regressions that employ the *SUCCESS* model. For the most part these results are distributed between the 75th and 90th percentile. Significance is surprisingly absent from the all firms top executives cut (*Table 5.3)*, its outlier adjusted form, and the outlier adjusted cut of the high tech top executives. This seems somewhat surprising since the top executives theoretically have the most influence of any executive in the stock price performance of a

firm. The outlier adjusted models may sell the *SUCCESS* model short since they disregard the real homerun firms which may explain why *OPTIONS* loses significance when it moves from high tech top executives to the outlier adjusted cut. The magnitude of the coefficients increase when moving from all firms to high tech firms. For example at the 75th percentile for all executives, the coefficient goes from -0.0724 to -0.147 and a jump from statistical significance at the 5% level to the 1% level (*Tables 5.1* and *5.5)*.

The regression results for *OPTIONS* suggest some validity to hypothesis 2, but low R^2 values would require further testing and a more comprehensive data set to comfortably prove hypothesis 2. The lack of results in the *SURVIVE* model don't surprise me. Of all of the performance variables *SURVIVE* is the least worried about high performance, unlike SUCCESS or the more fluid *GRWTH_ABV_NAS*. Instead SURVIVE is much more interested in minimum-level passing performance. The results are really encouraging for the high tech cuts. With the increase in negativity going from all firms to high tech firms, the idea that long-term focus is rewarded in a speculative bubble is further enforced as high tech was the epicenter of the speculation.

Hypothesis 3

The third hypothesis concerns Bertrand and Mullainathan's skimming theory (2001) which was tested using the *DIR* and *COMP_COMIT* variables. The first model delivers some very interesting results for *DIR* and doesn't conclude much of anything for *COMP_COMIT*. Specifically, *DIR* has a statistically significant positive coefficient for all executives and a statistically significant negative coefficient for top executives. This holds especially true when moving from all firms to high tech firms with greater degrees

of each and increased statistical significance to the 1% level. What this implies is that giving lesser executives board seats stimulates growth, but top executives negate it. *COMP_COMIT* has no statistically significant coefficients, but this may be unsurprising since it had such a low incidence in the data set.

The *SURVIVE* model slightly supports the findings of the first model, as *DIR* is statistically significantly positive in the all executive cuts, while it shows no significance in the top executive cuts. In the all executive all firm cut, *DIR* is significant to the 5% level in the 5th through the 50th percentiles (*Table 4.1)* with positive correlation*,* and in the resulting top executive cut it has no significance (*Table 4.3)*. However, *DIR* shows no other significance throughout the remaining *SURVIVE* tests. *COMP_COMIT* shows no statistical significance through the *SURVIVE* model testing.

The *SUCCESS* model further supports the findings of the first two models. Supporting the findings of model 1 even more so than model two did, *DIR* is statistically significantly positive in the all executive cuts for all firms and high tech firms (*Tables 5.1 and 5.5*), while being statistically significantly negative for (*Tables 5.3* and *5.7*). The coefficients also increase in degree as the data moves from all firms to high tech firms as evidenced by the 99th percentile jump from 0.00940 to 0.0192 for all executives, and -0.0985 and-0.133 in top executives. *COMP_COMIT* was never significant.

The data suggests that there is a benefit to having executives on the board but in a somewhat surprising turn this neither confirms nor denies the hypothesis since it suggest some but not all executive involvement on the board, but even better it suggests a new hypothesis. These results suggest a “my leader’s keeper” policy in regards to executive

involvement on the board: where low ranking executives have board seats and no the CEO. With no further data I would venture to guess that this has something to do with the how fast CEO turnover is and that their board involvemen could complicate decision making if things go sour between the owners and the CEO. There is also probably an ego difference between the top executive and the executive team, and thus director involvement would favor the level-headed team members over the egotistical CEO. As with all the other results in the analysis R^2 levels are far too low to make any sweeping claims and thus further testing with more comprehensive data is required to say anything more.

Conclusion

The goal of this paper study was to examine the effects of executive compensation on the performance of firm through the dot-com bubble and test the hypotheses set forth. In this regard the paper has been successful. The conclusiveness of the results however is up for discussion. While there were indeed significant pieces of evidence supporting the hypothesis that longer vesting periods supported higher growth through the dot-com bubble, the regressions' R^2 values indicate that there is much more work to be done statistically to show it conclusively. The most exciting part of this research is the new questions that it has proposed. Can these findings be replicated across other speculative bubbles? Such as the most recent, and the stock market crash that instigated the Great Depression. What about the "my leader's keeper" theory of understanding the director results? Executive tenure could affect this theory. The only way to know is to continue this research further.

Bibliography

Bertrand, M., & Mullainathan, S. (2001). Are CEOs Rewarded for Luck? The Ones without Principals Are. *The Quarterly Journal of Economics* , 901-932.

Bolton, P., Scheinkman, J., & Xiong, W. (2006). Executive Compensation and Short-Termist Behaviour in Speculative Markets. *Review of Economic Studies* , 577-610.

Holmström, B., & Tirole, J. (1993). Market Liquidity and Performance Monitoring. *Journal of Political Economy* , 678-709.

Jensen, M. C. (2005). Agency Costs of Overvalued Equity. *Financial Management* , 5-19.

Langsner, J. (2009, June 22). *TechAmerica's NAICS-based Definition of High Tech*. Retrieved April 23, 2012, from TechAmerica.org: http://www.techamerica.org/naics-definition

Silicon Valley Economic Development Alliance. (n.d.). *Silicon Valley Cities & Counties*. Retrieved April 23, 2012, from Silicon Valley Economic Development Alliance: http://www.siliconvalleyonline.org/cities

Standard & Poor's. (2012). Compustat Database. Wharton Research Data Services.

Standard & Poor's. (2012). Execucomp Database. Wharton Research Data Services.

Wharton Research Data Services. (2012, March 29). *Compustat Monthly Updates - Security Monthly*. Retrieved April 23, 2012, from Wharton Research Data Services: https://wrds-web.wharton.upenn.edu/wrds/ds/compm/secm/index_doc.cfm

Wharton Research Data Services. (n.d.). *ExecuComp Data Definitions in Alphabetical Order*. Retrieved April 23, 2012, from Wharton Research Data Services: https://wrds-web.wharton.upenn.edu/wrds/support/Data/_001Manuals%20and%20Overviews/_001Compustat/_007Execucomp/_005ExecuComp%20Data%20Definitions.cfm

Appendix of Tables and Figures

Table 1.1 – Summary statistics of the regressed variables, all executives

VARIABLE	Obs	Mean	Std. Dev.	Min	Max
grwth_abv_nas	**3018**	**0.8006465**	**2.450846**	**-1.512043**	**28.04014**
tdc	**3018**	**1832.938**	**14125.06**	**0.001**	**655448**
tdc_equity_pct	**3018**	**0.3838176**	**0.3095416**	**0**	**1**
salary	**3018**	**259.6355**	**151.0023**	**0**	**1610.367**
options_ex_per_unex	**2649**	**0.4364145**	**0.2925168**	**0**	**1**
dir	**3018**	**0.3578529**	**0.479448**	**0**	**1**
comp_comit	**3018**	**0.0251822**	**0.1567043**	**0**	**1**
ma	**3018**	**0.1799205**	**0.3841849**	**0**	**1**
high_tech	**3018**	**0.4406892**	**0.496552**	**0**	**1**
internet	**3018**	**0.0377734**	**0.1906793**	**0**	**1**
*internet**	**1330**	**0.0857143**	**0.280047**	**0**	**1**
silicon_valley	**3018**	**0.1855533**	**0.3888102**	**0**	**1**

**summary statistics when high_tech cut is applied*

Table 1.2 – Summary statistics of the regressed variables, top executives

VARIABLE	Obs	Mean	Std. Dev.	Min	Max
grwth_abv_nas	**617**	**0.8896955**	**2.611759**	**-1.512043**	**28.04014**
tdc	**617**	**3870.951**	**27549.27**	**0.001**	**655448**
tdc_equity_pct	**617**	**0.423011**	**0.3299442**	**0**	**0.9946555**
salary	**617**	**386.8604**	**205.7131**	**0.001**	**1610.367**
options_ex_per_unex	**544**	**0.4786189**	**0.289184**	**0**	**1**
dir	**617**	**0.9124797**	**0.2828252**	**0**	**1**
comp_comit	**617**	**0.0810373**	**0.2731138**	**0**	**1**
ma	**617**	**0.1685575**	**0.3746644**	**0**	**1**
high_tech	**617**	**0.4554295**	**0.4984136**	**0**	**1**
internet	**617**	**0.0405186**	**0.1973322**	**0**	**1**
*internet**	**281**	**0.088968**	**0.2852054**	**0**	**1**
silicon_valley	**617**	**0.1928687**	**0.394871**	**0**	**1**

**summary statistics when high_tech cut is applied*

Table 2.1: Market Cap growth above NASDAQ Composite growth, no M&A firms

	Percentiles	Smallest		
1%	**-0.7122293**	**-0.8862209**		
5%	**-0.651648**	**-0.7147648**		
10%	**-0.5408731**	**-0.714734**	Obs	**513**
25%	**-0.2812632**	**-0.7132097**	Sum of Wgt.	**513**
50%	**0.3149487**		Mean	**0.9192003**
		Largest	Std. Dev.	**2.407799**
75%	**1.089184**	**12.94464**		
90%	**2.907125**	**15.27972**	Variance	**5.797498**
95%	**4.358445**	**18.77463**	Skewness	**5.242266**
99%	**10.90404**	**28.04014**	Kurtosis	**44.54698**

Table 2.2 – Market Cap growth above NASDAQ Composite growth, all firms

	Percentiles	Smallest		
1%	**-0.7132097**	**-1.512043**		
5%	**-0.6526207**	**-0.8862209**		
10%	**-0.5376322**	**-0.7147648**	Obs	**617**
25%	**-0.2812632**	**-0.714734**	Sum of Wgt.	**617**
50%	**0.2160695**		Mean	**0.8896955**
		Largest	Std. Dev.	**2.611759**
75%	**1.007116**	**18.77463**		
90%	**2.810526**	**22.76616**	Variance	**6.821286**
95%	**4.358445**	**23.55993**	Skewness	**5.526877**
99%	**10.94141**	**28.04014**	Kurtosis	**44.39061**

Table 2.3 – Market cap growth above NASDAQ, values greater than 10 removed from sample, no M&A firms

	Percentiles	Smallest		
1%	**-0.7122293**	**-0.8862209**		
5%	**-0.651648**	**-0.7147648**		
10%	**-0.5453479**	**-0.714734**	Obs	**506**
25%	**-0.287317**	**-0.7132097**	Sum of Wgt.	**506**
50%	**0.2993261**		Mean	**0.7202983**
		Largest	Std. Dev.	**1.57765**
75%	**1.04208**	**7.721298**		
90%	**2.538953**	**9.185977**	Variance	**2.488981**
95%	**3.919**	**9.502603**	Skewness	**2.545489**
99%	**6.750967**	**9.970954**	Kurtosis	**11.29882**

Table 3.1 – Regressions of compensation and control variables on market cap growth over NASDAQ for all firms

VARIABLES	(1) All Execs	(2) Top Execs	(3) All Execs outliers removed	(4) Top Execs outliers removed
tdc	-5.73e-07	2.90e-07	-6.64e-07	-1.53e-08
	(3.35e-06)	(4.01e-06)	(1.92e-06)	(2.25e-06)
tdc_equity_pct	0.164	-0.112	-0.0540	-0.164
	(0.177)	(0.384)	(0.102)	(0.216)
salary	-0.000697*	-0.000930	-0.000960***	-0.00121***
	(0.000368)	(0.000595)	(0.000213)	(0.000337)
options_ex_per_unex	-0.449**	-0.329	-0.132	-0.0582
	(0.175)	(0.407)	(0.101)	(0.230)
dir	0.255**	-1.843***	0.136**	0.258
	(0.115)	(0.542)	(0.0664)	(0.320)
comp_comit	-0.180	-0.194	0.104	-0.0310
	(0.329)	(0.440)	(0.188)	(0.247)
ma	-0.439***	-0.191	-0.566***	-0.497***
	(0.125)	(0.298)	(0.0717)	(0.169)
high_tech	-0.0394	-0.141	-0.0600	-0.155
	(0.107)	(0.256)	(0.0615)	(0.144)
silicon_valley	0.150	0.0731	0.275***	0.269
	(0.135)	(0.309)	(0.0774)	(0.174)
Constant	1.107***	3.316***	0.966***	1.084***
	(0.156)	(0.604)	(0.0900)	(0.352)
Observations	2649	544	2617	536
R-squared	0.010	0.037	0.034	0.044

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3.2 – Regressions of compensation and control variables on market cap growth over NASDAQ for high tech firms

VARIABLES	(1) All Execs	(2) Top Execs	(3) All Execs outliers removed	(4) Top Execs outliers removed
tdc	1.28e-06	1.30e-06	-1.40e-07	5.64e-07
	(3.41e-06)	(4.19e-06)	(2.01e-06)	(2.41e-06)
tdc_equity_pct	-0.236	-0.121	-0.0748	-0.159
	(0.249)	(0.554)	(0.147)	(0.320)
salary	-0.00237***	-0.00156	-0.00113***	-0.00125**
	(0.000609)	(0.00106)	(0.000361)	(0.000612)
options_ex_per_unex	-0.552**	-1.182*	-0.419**	-0.798**
	(0.279)	(0.650)	(0.165)	(0.376)
dir	0.468***	-2.553***	0.160	0.232
	(0.171)	(0.653)	(0.102)	(0.402)
comp_comit	0.0366	0.320	0.404	0.316
	(0.556)	(0.720)	(0.327)	(0.414)
ma	-0.0355	0.637	-0.472***	-0.251
	(0.194)	(0.473)	(0.115)	(0.277)
internet	1.036***	0.433	0.188	-0.207
	(0.298)	(0.769)	(0.180)	(0.455)
silicon_valley	0.148	0.00389	0.197**	0.236
	(0.156)	(0.366)	(0.0926)	(0.213)
Constant	1.495***	4.260***	1.058***	1.270***
	(0.234)	(0.753)	(0.139)	(0.456)
Observations	1171	244	1156	240
R-squared	0.033	0.129	0.031	0.048

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.1 – Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDAQ for all executives

VARIABLES	(1) 1st	(2) 5th	(3) 10th	(4) 25th	(5) 50th
tdc	5.26e-08	2.60e-07	5.18e-07	-8.49e-07	-9.55e-07*
	(1.93e-07)	(3.20e-07)	(4.14e-07)	(5.87e-07)	(5.63e-07)
tdc_equity_pct	-0.0271***	-0.0309*	-0.0746***	-0.0116	-0.0325
	(0.0102)	(0.0170)	(0.0220)	(0.0311)	(0.0299)
salary	-5.92e-05***	-0.000205***	-0.000235***	-0.000254***	-0.000208***
	(2.12e-05)	(3.52e-05)	(4.55e-05)	(6.45e-05)	(6.19e-05)
options_ex_per_unex	-0.00319	-0.00170	0.00148	0.00653	-0.00549
	(0.0101)	(0.0168)	(0.0217)	(0.0308)	(0.0295)
dir	0.00529	0.0252**	0.0291**	0.0547***	0.0489**
	(0.00664)	(0.0110)	(0.0142)	(0.0202)	(0.0194)
comp_comit	0.0255	0.0205	-0.0144	-0.0329	0.000144
	(0.0190)	(0.0315)	(0.0407)	(0.0577)	(0.0553)
ma	-0.0186***	-0.0222*	0.0120	-0.0931***	-0.0282
	(0.00719)	(0.0119)	(0.0154)	(0.0218)	(0.0210)
high_tech	0.0219***	0.0403***	0.0401***	-0.0599***	-0.0542***
	(0.00617)	(0.0102)	(0.0132)	(0.0187)	(0.0180)
silicon_valley	0.00954	0.0446***	0.0426**	0.171***	0.143***
	(0.00778)	(0.0129)	(0.0167)	(0.0236)	(0.0227)
Constant	0.997***	0.974***	0.946***	0.794***	0.823***
	(0.00902)	(0.0149)	(0.0193)	(0.0274)	(0.0263)
Observations	2649	2649	2649	2649	2649
R-squared	0.016	0.032	0.024	0.032	0.022

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.2 - Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDAQ for all executives, outliers (grwth_abv_nas > 10) removed

VARIABLES	(1) 1st	(2) 5th	(3) 10th	(4) 25th	(5) 50th
tdc	5.39e-08	2.63e-07	3.87e-07	-8.50e-07	-2.66e-07
	(1.95e-07)	(3.22e-07)	(4.01e-07)	(5.76e-07)	(6.47e-07)
tdc_equity_pct	-0.0280***	-0.0330*	-0.0630***	-0.0309	-0.00203
	(0.0104)	(0.0172)	(0.0214)	(0.0307)	(0.0345)
salary	-6.13e-05***	-0.000211***	-0.000197***	-0.000246***	-0.000237***
	(2.16e-05)	(3.58e-05)	(4.46e-05)	(6.40e-05)	(7.20e-05)
options_ex_per_unex	-0.00251	5.54e-06	0.00273	-0.00754	-0.0249
	(0.0103)	(0.0170)	(0.0211)	(0.0303)	(0.0341)
dir	0.00537	0.0255**	0.0207	0.0469**	0.0359
	(0.00675)	(0.0112)	(0.0139)	(0.0200)	(0.0224)
comp_comit	0.0259	0.0216	-0.00486	0.00396	0.00398
	(0.0191)	(0.0317)	(0.0394)	(0.0566)	(0.0636)
ma	-0.0186**	-0.0217*	0.00258	-0.0144	-0.274***
	(0.00728)	(0.0121)	(0.0150)	(0.0215)	(0.0242)
high_tech	0.0223***	0.0413***	0.0518***	-0.0630***	-0.0308
	(0.00624)	(0.0103)	(0.0129)	(0.0185)	(0.0208)
silicon_valley	0.00984	0.0455***	0.0258	0.151***	0.191***
	(0.00787)	(0.0130)	(0.0162)	(0.0233)	(0.0262)
Constant	0.997***	0.974***	0.941***	0.818***	0.549***
	(0.00914)	(0.0151)	(0.0188)	(0.0270)	(0.0304)
Observations	2617	2617	2617	2617	2617
R-squared	0.016	0.033	0.021	0.024	0.066

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.3 – Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives

VARIABLES	(1) 1st	(2) 5th	(3) 10th	(4) 25th	(5) 50th
tdc	6.20e-08	2.97e-07	4.77e-07	-6.26e-07	-6.55e-07
	(2.15e-07)	(3.50e-07)	(4.58e-07)	(6.60e-07)	(6.30e-07)
tdc_equity_pct	-0.0335	-0.0792**	-0.102**	-0.0192	-0.0667
	(0.0206)	(0.0335)	(0.0438)	(0.0631)	(0.0603)
salary	-3.40e-05	-0.000163***	-0.000237***	-0.000219**	-0.000176*
	(3.20e-05)	(5.20e-05)	(6.79e-05)	(9.79e-05)	(9.35e-05)
options_ex_per_unex	5.50e-06	0.000221	0.00518	-0.00158	-0.0626
	(0.0219)	(0.0355)	(0.0464)	(0.0670)	(0.0639)
dir	-0.0131	0.0185	-0.0203	0.0638	0.0939
	(0.0291)	(0.0473)	(0.0619)	(0.0892)	(0.0852)
comp_comit	0.0218	-0.0246	-0.118**	-0.112	-0.0959
	(0.0236)	(0.0384)	(0.0502)	(0.0724)	(0.0691)
ma	-0.0121	-0.00798	0.0229	-0.0652	0.00106
	(0.0160)	(0.0260)	(0.0339)	(0.0490)	(0.0467)
high_tech	0.0195	0.0344	0.0250	-0.0735*	-0.0608
	(0.0137)	(0.0223)	(0.0292)	(0.0420)	(0.0401)
silicon_valley	0.00855	0.0319	0.0110	0.136***	0.109**
	(0.0166)	(0.0270)	(0.0353)	(0.0508)	(0.0485)
Constant	1.012***	1.009***	1.046***	0.812***	0.838***
	(0.0324)	(0.0527)	(0.0689)	(0.0994)	(0.0949)
Observations	544	544	544	544	544
R-squared	0.017	0.043	0.048	0.034	0.030

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.4 - Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives, outliers (grwth_abv_nas > 10) removed

	(1)	(2)	(3)	(4)	(5)
VARIABLES	1st	5th	10th	25th	50th
tdc	6.18e-08	2.97e-07	4.13e-07	-5.88e-07	-9.14e-08
	(2.17e-07)	(3.53e-07)	(4.47e-07)	(6.46e-07)	(7.43e-07)
tdc_equity_pct	-0.0337	-0.0800**	-0.111**	-0.0578	-0.00379
	(0.0208)	(0.0338)	(0.0428)	(0.0619)	(0.0712)
salary	-3.46e-05	-0.000166***	-0.000205***	-0.000214**	-0.000329***
	(3.25e-05)	(5.28e-05)	(6.70e-05)	(9.67e-05)	(0.000111)
options_ex_per_unex	0.000374	0.000757	0.0101	-0.0429	-0.0490
	(0.0222)	(0.0360)	(0.0457)	(0.0660)	(0.0760)
dir	-0.0129	0.0227	-0.0193	0.112	0.136
	(0.0309)	(0.0502)	(0.0636)	(0.0919)	(0.106)
comp_comit	0.0221	-0.0239	-0.0972**	-0.0789	-0.0667
	(0.0238)	(0.0387)	(0.0491)	(0.0709)	(0.0815)
ma	-0.0118	-0.00784	0.0173	0.0119	-0.273***
	(0.0163)	(0.0264)	(0.0335)	(0.0484)	(0.0557)
high_tech	0.0199	0.0348	0.0354	-0.0759*	-0.0570
	(0.0139)	(0.0226)	(0.0286)	(0.0414)	(0.0476)
silicon_valley	0.00876	0.0328	0.00368	0.120**	0.157***
	(0.0168)	(0.0273)	(0.0346)	(0.0500)	(0.0576)
Constant	1.011***	1.005***	1.037***	0.807***	0.546***
	(0.0340)	(0.0552)	(0.0700)	(0.101)	(0.116)
Observations	536	536	536	536	536
R-squared	0.017	0.043	0.043	0.032	0.071

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.5 – Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDQ for all executives, HIGH_TECH cut

VARIABLES	(1) 1st	(2) 5th	(3) 10th	(4) 25th	(5) 50th
tdc	5.93e-09	2.45e-07	5.93e-07	-8.26e-07	-1.06e-06*
	(1.27e-07)	(2.39e-07)	(3.74e-07)	(6.03e-07)	(5.81e-07)
tdc_equity_pct	-0.0175*	0.0273	-0.0176	0.0233	0.0221
	(0.00926)	(0.0174)	(0.0273)	(0.0439)	(0.0424)
salary	-1.45e-05	-0.000246***	-0.000300***	-0.000279***	-0.000180*
	(2.27e-05)	(4.26e-05)	(6.68e-05)	(0.000108)	(0.000104)
options_ex_per_unex	0.0135	0.0152	0.0228	-0.0886*	-0.0542
	(0.0104)	(0.0195)	(0.0305)	(0.0492)	(0.0474)
dir	0.00434	0.0175	0.00712	0.0407	0.0385
	(0.00638)	(0.0120)	(0.0188)	(0.0303)	(0.0292)
comp_comit	0.000108	0.0218	0.0458	0.0153	0.0277
	(0.0207)	(0.0388)	(0.0609)	(0.0981)	(0.0946)
ma	-0.0190***	-0.0355***	0.0167	-0.0271	0.0300
	(0.00724)	(0.0136)	(0.0213)	(0.0343)	(0.0331)
internet	0.0181	-0.0470**	-0.0200	0.0240	0.0676
	(0.0111)	(0.0208)	(0.0326)	(0.0526)	(0.0507)
silicon_valley	-0.00199	0.0209*	0.0640***	0.205***	0.178***
	(0.00583)	(0.0109)	(0.0171)	(0.0276)	(0.0267)
Constant	1.000***	1.005***	0.964***	0.740***	0.731***
	(0.00872)	(0.0164)	(0.0257)	(0.0413)	(0.0399)
Observations	1171	1171	1171	1171	1171
R-squared	0.016	0.041	0.031	0.059	0.053

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.6 - Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDAQ for all executives, outliers (grwth_abv_nas > 10) removed, HIGH_TECH cut

	(1)	(2)	(3)	(4)	(5)
VARIABLES	1st	5th	10th	25th	50th
tdc	5.81e-09	2.44e-07	3.89e-07	-9.20e-07	-4.28e-07
	(1.28e-07)	(2.40e-07)	(3.50e-07)	(5.95e-07)	(6.77e-07)
tdc_equity_pct	-0.0178*	0.0279	0.0176	0.0191	0.0730
	(0.00939)	(0.0176)	(0.0257)	(0.0437)	(0.0497)
salary	-1.43e-05	-0.000246***	-0.000216***	-0.000226**	-0.000151
	(2.30e-05)	(4.31e-05)	(6.29e-05)	(0.000107)	(0.000122)
options_ex_per_unex	0.0140	0.0161	0.0358	-0.0644	-0.0613
	(0.0105)	(0.0197)	(0.0288)	(0.0489)	(0.0557)
dir	0.00444	0.0173	-0.0111	0.0285	0.0100
	(0.00649)	(0.0122)	(0.0177)	(0.0302)	(0.0343)
comp_comit	-2.35e-05	0.0222	0.0366	0.0588	0.153
	(0.0208)	(0.0391)	(0.0570)	(0.0969)	(0.110)
ma	-0.0195***	-0.0367***	0.00446	0.0442	-0.209***
	(0.00736)	(0.0138)	(0.0201)	(0.0342)	(0.0390)
internet	0.0181	-0.0513**	-0.0275	0.0662	0.0917
	(0.0114)	(0.0215)	(0.0313)	(0.0532)	(0.0606)
silicon_valley	-0.00198	0.0210*	0.0400**	0.185***	0.166***
	(0.00590)	(0.0111)	(0.0161)	(0.0274)	(0.0312)
Constant	1.000***	1.004***	0.950***	0.727***	0.472***
	(0.00883)	(0.0166)	(0.0242)	(0.0411)	(0.0468)
Observations	1156	1156	1156	1156	1156
R-squared	0.016	0.041	0.020	0.057	0.052

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.7 – Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives, HIGH_TECH cut

	(1)	(2)	(3)	(4)	(5)
VARIABLES	1st	5th	10th	25th	50th
tdc	2.75e-08	2.35e-07	5.23e-07	-6.11e-07	-7.33e-07
	(1.45e-07)	(2.64e-07)	(4.24e-07)	(6.91e-07)	(6.65e-07)
tdc_equity_pct	-0.00171	0.0233	0.00415	0.0588	0.0297
	(0.0192)	(0.0349)	(0.0561)	(0.0915)	(0.0880)
salary	-1.81e-05	-0.000193***	-0.000297***	-0.000239	-0.000114
	(3.67e-05)	(6.67e-05)	(0.000107)	(0.000175)	(0.000168)
options_ex_per_unex	0.0214	-0.0139	-0.0160	-0.113	-0.182*
	(0.0225)	(0.0409)	(0.0658)	(0.107)	(0.103)
dir	-0.00957	-0.00490	-0.0428	0.0651	0.0876
	(0.0226)	(0.0412)	(0.0662)	(0.108)	(0.104)
comp_comit	0.00308	0.0325	0.0254	-0.0182	0.0264
	(0.0249)	(0.0453)	(0.0729)	(0.119)	(0.114)
ma	-0.0189	-0.0186	0.0375	0.0229	0.0726
	(0.0164)	(0.0298)	(0.0479)	(0.0780)	(0.0750)
internet	0.0151	-0.0674	-0.0585	-0.0848	-0.0440
	(0.0266)	(0.0484)	(0.0778)	(0.127)	(0.122)
silicon_valley	-0.00436	0.0106	0.0272	0.165***	0.143**
	(0.0127)	(0.0231)	(0.0371)	(0.0605)	(0.0582)
Constant	1.001***	1.035***	1.049***	0.727***	0.736***
	(0.0261)	(0.0474)	(0.0762)	(0.124)	(0.119)
Observations	244	244	244	244	244
R-squared	0.014	0.049	0.046	0.059	0.060

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.8 - Regressions of compensation and control variables on the binary SURVIVE variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives, outliers (grwth_abv_nas > 10) removed, HIGH_TECH cut

VARIABLES	(1) 1st	(2) 5th	(3) 10th	(4) 25th	(5) 50th
tdc	2.65e-08	2.37e-07	3.68e-07	-6.48e-07	-2.94e-08
	(1.46e-07)	(2.66e-07)	(4.10e-07)	(6.85e-07)	(7.91e-07)
tdc_equity_pct	-0.00156	0.0238	0.0234	0.0362	0.0244
	(0.0194)	(0.0353)	(0.0544)	(0.0909)	(0.105)
salary	-1.78e-05	-0.000195***	-0.000222**	-0.000184	-0.000304
	(3.71e-05)	(6.75e-05)	(0.000104)	(0.000174)	(0.000201)
options_ex_per_unex	0.0219	-0.0151	0.0220	-0.132	-0.135
	(0.0228)	(0.0415)	(0.0640)	(0.107)	(0.123)
dir	-0.00811	-0.00266	-0.0544	0.103	0.118
	(0.0244)	(0.0444)	(0.0684)	(0.114)	(0.132)
comp_comit	0.00298	0.0327	0.0112	0.0453	0.0797
	(0.0252)	(0.0457)	(0.0704)	(0.118)	(0.136)
ma	-0.0195	-0.0201	0.0317	0.0884	-0.169*
	(0.0168)	(0.0306)	(0.0471)	(0.0787)	(0.0910)
internet	0.0158	-0.0729	-0.0538	-0.0581	-0.0179
	(0.0276)	(0.0502)	(0.0773)	(0.129)	(0.149)
silicon_valley	-0.00450	0.0111	0.0117	0.153**	0.149**
	(0.0129)	(0.0235)	(0.0361)	(0.0604)	(0.0698)
Constant	0.999***	1.034***	1.023***	0.691***	0.499***
	(0.0277)	(0.0503)	(0.0775)	(0.130)	(0.150)
Observations	240	240	240	240	240
R-squared	0.014	0.050	0.029	0.060	0.047

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.1 – Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for all executives

VARIABLES	(1) 75th	(2) 90th	(3) 95th	(4) 99th
tdc	-6.54e-08	-3.66e-08	2.31e-08	2.79e-08
	(5.55e-07)	(3.76e-07)	(2.72e-07)	(1.42e-07)
tdc_equity_pct	-0.0137	0.0280	-0.00565	0.00657
	(0.0294)	(0.0199)	(0.0144)	(0.00752)
salary	-0.000231***	-0.000131***	-6.38e-05**	-1.53e-05
	(6.10e-05)	(4.12e-05)	(2.98e-05)	(1.56e-05)
options_ex_per_unex	-0.0724**	-0.0336*	-0.0264*	-0.0159**
	(0.0291)	(0.0197)	(0.0142)	(0.00743)
dir	0.0473**	0.0297**	0.0130	0.00940*
	(0.0191)	(0.0129)	(0.00934)	(0.00487)
comp_comit	0.0464	0.0183	-0.0141	-0.0150
	(0.0546)	(0.0369)	(0.0267)	(0.0139)
ma	-0.155***	-0.0647***	-0.0207**	0.00245
	(0.0207)	(0.0140)	(0.0101)	(0.00527)
high_tech	-0.0374**	-0.0266**	0.00284	0.00278
	(0.0177)	(0.0120)	(0.00867)	(0.00452)
silicon_valley	0.139***	0.0124	-0.0161	-0.00668
	(0.0224)	(0.0151)	(0.0109)	(0.00571)
Constant	0.333***	0.135***	0.0753***	0.0159**
	(0.0259)	(0.0175)	(0.0127)	(0.00662)
Observations	2649	2649	2649	2649
R-squared	0.039	0.014	0.006	0.005

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.2 - Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for all executives, outliers (grwth_abv_nas > 10) removed

VARIABLES	(1) 75th	(2) 90th	(3) 95th	(4) 99th
tdc	3.12e-08	-1.30e-08	-2.21e-08	3.65e-08
	(5.58e-07)	(3.90e-07)	(2.74e-07)	(1.30e-07)
tdc_equity_pct	-0.0188	0.0160	0.0269*	-0.0153**
	(0.0297)	(0.0208)	(0.0146)	(0.00695)
salary	-0.000207***	-0.000163***	-9.45e-05***	-3.09e-05**
	(6.21e-05)	(4.34e-05)	(3.05e-05)	(1.45e-05)
options_ex_per_unex	-0.0585**	-0.0110	0.000138	-0.00596
	(0.0294)	(0.0206)	(0.0144)	(0.00687)
dir	0.0315	0.0201	0.00709	0.00346
	(0.0193)	(0.0135)	(0.00949)	(0.00452)
comp_comit	0.0506	0.0335	0.00183	-0.00903
	(0.0548)	(0.0383)	(0.0269)	(0.0128)
ma	-0.161***	-0.0661***	-0.0393***	-0.00781
	(0.0209)	(0.0146)	(0.0102)	(0.00488)
high_tech	-0.0335*	-0.0250**	-0.00150	-0.00129
	(0.0179)	(0.0125)	(0.00879)	(0.00418)
silicon_valley	0.151***	0.0170	-0.0293***	0.00616
	(0.0226)	(0.0158)	(0.0111)	(0.00527)
Constant	0.328***	0.148***	0.0688***	0.0268***
	(0.0262)	(0.0183)	(0.0129)	(0.00613)
Observations	2617	2617	2617	2617
R-squared	0.041	0.014	0.012	0.005

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.3 – Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives

VARIABLES	(1) 75th	(2) 90th	(3) 95th	(4) 99th
tdc	8.53e-08	4.08e-08	7.52e-08	2.96e-08
	(6.40e-07)	(4.48e-07)	(3.26e-07)	(1.70e-07)
tdc_equity_pct	-0.0427	0.0199	-0.0153	0.00135
	(0.0612)	(0.0429)	(0.0311)	(0.0163)
salary	-0.000325***	-0.000167**	-8.09e-05*	-6.29e-06
	(9.50e-05)	(6.65e-05)	(4.83e-05)	(2.52e-05)
options_ex_per_unex	-0.00870	0.00271	-0.0426	-0.0178
	(0.0649)	(0.0455)	(0.0330)	(0.0172)
dir	0.0845	-0.0708	-0.0836*	-0.0985***
	(0.0865)	(0.0606)	(0.0440)	(0.0230)
comp_comit	0.0444	0.0316	-0.0252	-0.00978
	(0.0702)	(0.0492)	(0.0357)	(0.0186)
ma	-0.141***	-0.0590*	-0.00764	0.0110
	(0.0475)	(0.0332)	(0.0241)	(0.0126)
high_tech	-0.0635	-0.0449	-0.00563	0.00284
	(0.0408)	(0.0286)	(0.0207)	(0.0108)
silicon_valley	0.132***	0.00578	-0.0199	-0.0132
	(0.0493)	(0.0345)	(0.0251)	(0.0131)
Constant	0.336***	0.246***	0.197***	0.117***
	(0.0964)	(0.0675)	(0.0490)	(0.0256)
Observations	544	544	544	544
R-squared	0.050	0.025	0.023	0.045

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.4 - Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives, outliers (grwth_abv_nas > 10) removed

VARIABLES	(1) 75th	(2) 90th	(3) 95th	(4) 99th
tdc	8.17e-08	6.98e-08	1.25e-08	5.29e-08
	(6.38e-07)	(4.54e-07)	(3.23e-07)	(1.61e-07)
tdc_equity_pct	-0.0432	-0.00643	0.0140	-0.0198
	(0.0611)	(0.0435)	(0.0310)	(0.0155)
salary	-0.000304***	-0.000208***	-0.000113**	-3.77e-05
	(9.55e-05)	(6.81e-05)	(4.84e-05)	(2.42e-05)
options_ex_per_unex	0.00919	0.0308	0.00244	-0.0131
	(0.0652)	(0.0465)	(0.0330)	(0.0165)
dir	0.195**	0.0436	0.0258	-0.0221
	(0.0907)	(0.0647)	(0.0460)	(0.0229)
comp_comit	0.0432	0.0489	-0.00433	-0.0118
	(0.0700)	(0.0499)	(0.0354)	(0.0177)
ma	-0.153***	-0.0635*	-0.0341	-0.000639
	(0.0478)	(0.0341)	(0.0242)	(0.0121)
high_tech	-0.0548	-0.0474	-0.00790	-0.00351
	(0.0408)	(0.0291)	(0.0207)	(0.0103)
silicon_valley	0.151***	0.0242	-0.0261	0.00954
	(0.0494)	(0.0352)	(0.0250)	(0.0125)
Constant	0.208**	0.153**	0.0745	0.0637**
	(0.0999)	(0.0712)	(0.0506)	(0.0253)
Observations	536	536	536	536
R-squared	0.056	0.028	0.016	0.014

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.5 – Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for all executives, HIGH_TECH cut

VARIABLES	(1) 75th	(2) 90th	(3) 95th	(4) 99th
tdc	3.25e-08	2.69e-07	1.79e-07	9.89e-08
	(5.76e-07)	(3.70e-07)	(2.80e-07)	(1.54e-07)
tdc_equity_pct	-0.0227	-0.0385	-0.0482**	-0.0136
	(0.0420)	(0.0270)	(0.0204)	(0.0112)
salary	-0.000311***	-0.000278***	-0.000149***	-8.05e-05***
	(0.000103)	(6.60e-05)	(5.00e-05)	(2.76e-05)
options_ex_per_unex	-0.147***	-0.0760**	-0.0430*	-0.00958
	(0.0470)	(0.0302)	(0.0229)	(0.0126)
dir	0.0738**	0.0570***	0.0300**	0.0192**
	(0.0289)	(0.0186)	(0.0141)	(0.00775)
comp_comit	0.0240	0.0416	0.0328	-0.0234
	(0.0938)	(0.0602)	(0.0456)	(0.0251)
ma	-0.153***	-0.0167	-0.00435	0.0140
	(0.0328)	(0.0211)	(0.0160)	(0.00879)
internet	0.179***	-0.0323	0.0116	0.0417***
	(0.0503)	(0.0323)	(0.0245)	(0.0135)
silicon_valley	0.120***	0.00674	-0.0336***	-0.00299
	(0.0264)	(0.0170)	(0.0128)	(0.00707)
Constant	0.335***	0.180***	0.122***	0.0326***
	(0.0395)	(0.0254)	(0.0192)	(0.0106)
Observations	1171	1171	1171	1171
R-squared	0.052	0.025	0.027	0.028

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.6 - Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for all executives, outliers (grwth_abv_nas > 10) removed, HIGH_TECH cut

VARIABLES	(1) 75th	(2) 90th	(3) 95th	(4) 99th
tdc	2.85e-08	8.29e-08	9.45e-08	8.24e-08
	(5.82e-07)	(3.89e-07)	(2.76e-07)	(1.35e-07)
tdc_equity_pct	0.0127	-0.0105	-0.00774	-0.0150
	(0.0427)	(0.0285)	(0.0203)	(0.00988)
salary	-0.000225**	-0.000197***	-0.000135***	-5.90e-05**
	(0.000105)	(6.98e-05)	(4.96e-05)	(2.42e-05)
options_ex_per_unex	-0.133***	-0.0688**	-0.0377*	-0.0122
	(0.0478)	(0.0320)	(0.0227)	(0.0111)
dir	0.0545*	0.0296	0.0219	0.00557
	(0.0295)	(0.0197)	(0.0140)	(0.00682)
comp_comit	0.0253	0.0382	0.0326	-0.0113
	(0.0947)	(0.0633)	(0.0449)	(0.0219)
ma	-0.169***	-0.0823***	-0.0321**	0.00107
	(0.0334)	(0.0224)	(0.0159)	(0.00774)
internet	0.207***	0.0659*	-0.0399	-0.0142
	(0.0520)	(0.0348)	(0.0247)	(0.0120)
silicon_valley	0.130***	0.0123	-0.0502***	-0.00415
	(0.0268)	(0.0179)	(0.0127)	(0.00620)
Constant	0.302***	0.166***	0.113***	0.0369***
	(0.0401)	(0.0268)	(0.0190)	(0.00928)
Observations	1156	1156	1156	1156
R-squared	0.055	0.023	0.033	0.010

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.7 – Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives, HIGH_TECH cut

VARIABLES	(1) 75th	(2) 90th	(3) 95th	(4) 99th
tdc	1.87e-07	2.51e-07	1.31e-07	5.55e-08
	(6.68e-07)	(4.41e-07)	(3.37e-07)	(1.92e-07)
tdc_equity_pct	-0.0235	-0.0178	-0.0292	0.00428
	(0.0884)	(0.0584)	(0.0446)	(0.0255)
salary	-0.000351**	-0.000243**	-9.86e-05	-3.49e-05
	(0.000169)	(0.000112)	(8.52e-05)	(4.87e-05)
options_ex_per_unex	-0.209**	-0.138**	-0.0867*	-0.0344
	(0.104)	(0.0684)	(0.0522)	(0.0298)
dir	0.107	-0.0717	-0.143***	-0.133***
	(0.104)	(0.0688)	(0.0525)	(0.0300)
comp_comit	0.0571	0.0670	0.0276	-0.00331
	(0.115)	(0.0758)	(0.0578)	(0.0331)
ma	-0.114	0.0138	0.0348	0.0351
	(0.0753)	(0.0498)	(0.0380)	(0.0217)
internet	0.115	-0.0759	-0.0277	0.0184
	(0.123)	(0.0809)	(0.0618)	(0.0353)
silicon_valley	0.121**	-0.000925	-0.0412	-0.0157
	(0.0584)	(0.0386)	(0.0294)	(0.0168)
Constant	0.334***	0.305***	0.278***	0.162***
	(0.120)	(0.0792)	(0.0605)	(0.0346)
Observations	244	244	244	244
R-squared	0.063	0.059	0.077	0.126

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.8 - Regressions of compensation and control variables on the binary SUCCESS variable evaluated at varying percentiles of market cap growth over NASDAQ for top executives, outliers (grwth_abv_nas > 10) removed, HIGH_TECH cut

	(1)	(2)	(3)	(4)
VARIABLES	75th	90th	95th	99th
tdc	1.50e-07	1.67e-07	9.84e-08	7.98e-08
	(6.69e-07)	(4.50e-07)	(3.32e-07)	(1.77e-07)
tdc_equity_pct	-0.00791	-0.0237	-0.00811	-0.0166
	(0.0888)	(0.0597)	(0.0441)	(0.0235)
salary	-0.000307*	-0.000222*	-0.000129	-5.68e-05
	(0.000170)	(0.000114)	(8.44e-05)	(4.49e-05)
options_ex_per_unex	-0.166	-0.116	-0.0792	-0.0330
	(0.104)	(0.0702)	(0.0519)	(0.0276)
dir	0.254**	0.0896	0.0109	-0.0407
	(0.112)	(0.0750)	(0.0554)	(0.0295)
comp_comit	0.0406	0.0484	0.0102	-0.00767
	(0.115)	(0.0773)	(0.0571)	(0.0304)
ma	-0.152**	-0.0576	-0.0165	0.0207
	(0.0769)	(0.0517)	(0.0382)	(0.0203)
internet	0.161	-0.0231	-0.0595	-0.0342
	(0.126)	(0.0848)	(0.0627)	(0.0334)
silicon_valley	0.141**	0.0258	-0.0472	-0.00216
	(0.0590)	(0.0396)	(0.0293)	(0.0156)
Constant	0.156	0.145*	0.143**	0.0935***
	(0.127)	(0.0850)	(0.0629)	(0.0335)
Observations	240	240	240	240
R-squared	0.072	0.038	0.040	0.035

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1