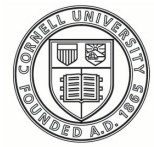

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Employees' Choice of Method of Pay

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Abstract

Who chooses what type of pay? The costs and benefits of "flexible" and "cafeteria-style" benefit plans have been discussed for some time. Additionally, many papers have considered the potential costs and benefits of certain types of pay plans (e.g. salaries versus piece rates). In this paper, we use detailed data from a specific firm that annually set the total compensation level for each of its employees but then did something extremely unusual. At the start of each pay year, the firm set an exchange rate for the dollar trade-off between cash pay and stock option pay. It then gave *every* employee nearly *complete* choice over the fraction of their pay that was contingent (stock options, bonus) versus guaranteed (salary). There are several empirical findings. There is substantial variation in the choice of contingent pay with some workers choosing almost all base pay and others choosing almost entirely stock options. Younger employees, more experienced employees, higher paid employees, and male employees are more likely to allocate a larger fraction of their total compensation to at-risk alternatives. The robustness of these results varies somewhat depending on the empirical specification and set of covariates used.

Keywords

earnings, contingent pay, guaranteed pay, compensation, employee choice

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The Center for Advanced Human Resource Studies (CAHRS) and the ILR School at Cornell University provided generous financial support. The underlying data used in this paper are confidential and cannot be revealed without written approval from the firm. A senior manager in the firm has remarkable practical insight and an amazing zeal for academic work. We are extraordinarily grateful to this person for many discussions, support, and encouragement. We are also appreciative of helpful conversations with several other employees of the company, with seminar participants at the Comparative Analysis of Enterprise (Micro) Data conference at the Federal Reserve Bank of Chicago, at the Society of Labor Economists conference in Cambridge, and with Sam Bacharach, George Boyer, Todd Elder, Maria Guadalupe, Lisa Hunter, Lisa Kahn, Felice Klein, David Levine, Claudia Olivetti, and Olga Yakusheva. The title is inspired by Brown (1990).

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Abstract

Who chooses what type of pay? The costs and benefits of "flexible" and "cafeteria-style" benefit plans have been discussed for some time. Additionally, many papers have considered the potential costs and benefits of certain types of pay plans (e.g. salaries versus piece rates). In this paper, we use detailed data from a specific firm that annually set the total compensation level for each of its employees but then did something extremely unusual. At the start of each pay year, the firm set an exchange rate for the dollar trade-off between cash pay and stock option pay. It then gave *every* employee nearly *complete* choice over the fraction of their pay that was contingent (stock options, bonus) versus guaranteed (salary). There are several empirical findings. There is substantial variation in the choice of contingent pay with some workers choosing almost all base pay and others choosing almost entirely stock options. Younger employees, more experienced employees, higher paid employees, and male employees are more likely to allocate a larger fraction of their total compensation to at-risk alternatives. The robustness of these results varies somewhat depending on the empirical specification and set of covariates used.

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Why are people paid so many different ways? … How is this allocation achieved? … Individual consumers are in the best position to make most informed choices on their own behalf. Delegating or contracting it to others is bound to lead to misallocation in most cases. Sherwin Rosen (2000)

The reason we gave employees a choice was to allow you to evaluate your personal situation and make the choice that best suits you. (From the firm's literature describing a new compensation plan allowing workers to choose their own mix of pay).

Who chooses what type of pay? Recent changes in rules by the United States Financial Accounting Standards Board (FASB) as well as new proposed stock exchange guidelines have led to considerable uncertainty over the *mix* of pay firms in the United States will offer to their employees. To be sure, setting the appropriate *level* of pay is extremely difficult. This is exacerbated when we consider the mix of pay that is optimally offered to employees.

The costs and benefits of "flexible" and "cafeteria-style" benefit plans have been discussed for some time (Tropman, 2001). Additionally, many papers have considered the potential costs and benefits of certain types of pay plans (e.g. salaries versus piece rates, Lazear, 1986). In this paper, we use detailed data from a specific firm that annually set the total compensation level for each of its employees but then did something extremely unusual. At the start of each pay year, the firm set an exchange rate for the dollar trade-off between cash pay and stock option pay. It then gave *every* employee nearly total choice over the allocation of the total pay among guaranteed salary, at-risk bonus, and stock options.

In most of Human Resource-related research it is very difficult to infer actor's true beliefs concerning certain phenomena. For example, in determining the relative willingness of employees to choose at-risk versus guaranteed levels of pay, as a proxy, researchers could ask a group of students. Obviously this method suffers from at least two problems. First, students are not employees so this method suffers from the fact that students in a classroom responding to a survey may have different views from those actually in an employment situation. Second, even if researchers have the opportunity to survey actual workers about a hypothetical situation, the workers may not put as much time and energy into the decision as they would if they had some significant actual resources on the line. In the company under study in this paper, the employees were making actual choices over their compensation. As a

result, the findings in this paper are extremely credible. The results are, however, potentially limited to the firm context in question.

This paper will use these unique data to model which employees choose particular types of pay. For example, research in psychology suggests that women are considerably less likely to take risky actions in the area of finance than are men. Are women, therefore, less likely to choose options in this firm? Also, are richer, more senior, higher paid, or more experienced workers more or less likely to choose at-risk pay because they are less risk averse than an average employee? This paper will use a novel data source from a firm that allowed workers to choose their mix of pay.

The first section considers some previous work on "flexible" and "cafeteria-style" benefits and outlines the conceptual framework. In proposing these ideas, it must be kept in mind that the tests of the ideas in this paper are from a single firm that created this unique pay plan. Therefore, it will be difficult to generalize these results to other firms. Section two describes some of the unique characteristics of the pay plan and provides an example of employee choice. The third section describes the basic data and outlines the empirical pay structure through a focus on the choice of a particular type of pay (base, bonus, or options). Section five is a brief discussion and section six offers some concluding comments.

There are several empirical findings in the paper. There is substantial variation in the choice of contingent pay with some workers choosing almost all base pay and others choosing almost entirely stock options. Younger employees, more experienced employees, higher paid employees, and male employees are more likely to allocate a larger fraction of their total compensation to at-risk forms. The robustness of these results vary somewhat depending on the empirical specification and set of covariates used.

1. Previous Work on "Flexible" and "Cafeteria-Style" Benefits and Conceptual Framework

The idea that compensation is more than one's salary is well-known. Jobs differ in their level of total compensation, level and variety of benefits and a host of other compensating differentials such as working conditions (Smith, 1776, Smith, 1979, and Rosen, 1986). The typical idea behind offering

flexible benefits is that the worker may not need a particular benefit that is provided by the firm (Tropman, 2001). Rather than offering a benefit to a worker that she does not value, the firm could replace the benefit with some other benefit or a higher wage. For example, since some workers are covered by a spouse's health insurance, they may not need health insurance from their employers and would prefer a higher wage. Some workers don't have children and, may prefer more vacation over a child care center benefit they will not use.

There is an interesting and important related literature; examples include Oyer (2008), Olson (2002), and Woodbury (1983)[1]. Oyer (2008) develops a model that attempts to consider the reasons for offering benefits instead or salary. Reasons include that firms have a comparative advantage in purchasing certain benefits due to their size, workers may differ in their preferences for certain benefits and it is expensive for workers to match with the appropriate firms, and "some benefits can reduce the marginal cost to an employee of extra working time." Using data from the National Longitudinal Survey of Youth, Oyer (2008) finds some evidence for each of these ideas. The idea that workers may have differing preferences for certain benefits (or methods of pay) is exactly the idea behind the current paper.

Of course, trying to find compensating differentials of any kind is difficult work (Brown, 1980). An example is the tradeoff between wages and benefits that Olson (2002) highlights. He tries to determine whether workers accept lower wages in return for valuable health benefits. Of course this is a difficult question since high paid jobs may also have generous benefits and it is difficult for researchers to sort out unobserved factors in these types of situations. Olson (2002) uses an instrumental variables strategy and finds that wives with their own employer health insurance accept wages that are on the order of 1/5 lower than they would have received in a job without the benefits.

[1] Also see Lazear (1986), Marino and Zabojnik (2008), Oyer (2005), and Oyer and Schaefer (2005) for interesting work on the tradeoffs among various types of pay or between compensation and benefits.

We now turn to the more specific issue at hand. Rather than considering pay versus benefits, we study the *mix* of pay types chosen by employees[2]. Are certain workers more likely to choose at-risk pay? What if this at-risk pay is individual performance-based? What if it is based on more general firm performance? In this section, we will develop ideas that may differentiate between workers that prefer different types of pay that will form the basis for the latter empirical analysis.

1.A Gender

There is a large literature in psychology and related fields about differences in risk-taking by gender. For example, Fischhoff, Slovic, and Lichtenstein (1977) suggest that people tend to overestimate the precision of what they know and that this is particularly true for tasks that are difficult, for tasks with unpredictable outcomes, and for tasks that don't have rapid feedback. Although both men and women show this overconfidence there is considerable evidence that men seem to be more overconfident than women (Lundberg, Fox, and Puncochar, 1994) and this overconfidence may lead people to take more risks. Furthermore, this seems to depend on the particular types of tasks being performed (Deaux and Farris, 1977). See Mitchell and Mickel (1999) for a perspective on "the meaning of money".

A recent paper shows very interesting evidence that is consistent with the fact that men and women have different levels of confidence in the area of finance. Barber and Odea (2001) use data on over 35,000 households from a discount brokerage firm. They find that men trade much more than women; perhaps due to the relative "overconfidence" of men. They further find that this extra trading reduces men's relative returns by 0.94 percent. The gap is even larger for single people. The fact that this works in the financial area is consistent with a paper by Beyer (1990) who notes that men are more overconfident on "masculine-gender-typed tasks" such as stock trading. Prince (1993) also shows that men are more confident than women in financial matters.

In another study related to finance, Powell and Ansic (1997) conducted an experiment with 126 college students. They found that "females are less risk-seeking than males irrespective of familiarity,

[2] See Freeman and Rogers (1999) for an interesting account of "what workers want." There is no discussion there of having workers choose their own mix of pay. White (1983) provides evidence from a survey on employee preferences in a cafeteria benefit plan.

framing, costs or ambiguity." Further Eckel and Grossman (2002) conducted five experiments with high financial stakes. They found that women were substantially more risk-averse than men. As a final example, Byrnes, Miller, and Schafer (1999) performed a meta-analysis of 150 studies and found more risk-taking among male participants on a variety of tasks. Furthermore, Dohmen, Falk, Huffman, Schupp, Sunde, and Wagner (2006), using data from about 22,000 people in Germany, find that women are less likely to take risks[3].

This research in psychology and other areas seems to suggest that women are less likely to choose "at-risk" compensation than men. This would hold both for bonus pay (which is both individual and group performance based) and stock option pay (which is entirely group performance based).

1.B Age

Many mutual fund companies offer funds that change the mix of the investment over time. For example, Fidelity has a "Freedom Fund" and Vanguard has a "2045 Fund" that automatically rebalances a portfolio over time. The distribution of high risk relative to low risk investments changes as the individual ages. As the investor approaches retirement age, her portfolio automatically readjusts towards less risky investments (with lower expected returns) such as treasury bills and away from more risky (with higher expected returns) investments such as international or small-firm stocks.

Investment firms offer this type of investment vehicle for at least two reasons. First, investors may not have the time, energy, or know-how to do these rebalances themselves. Second, it makes some economic sense to have less at-risk as one heads into retirement since the time horizon for smoothing losses from any given investment is so much shorter than at earlier times in a lifetime. This is one reason that older workers may prefer to have less of their money "at-risk," conditioning on their wealth.

At the other end of the age spectrum, very young workers may have more interest in cash compensation since they may be more likely to need to make short-term purchases, even conditioning on

[3] Sunden and Surette (1998) find that women are less likely to choose risky assets in retirement savings plans. See Croson and Gneezy (2004) for a review of gender differences in preferences.

other measurable characteristics. For these reasons, there is an expectation that considerably younger and considerably older workers are less interested in at-risk pay than other workers.

1.C Seniority

Of course age may be correlated with seniority. It could be the case that more senior workers know more about the firm and are, therefore, more (or less) confident about the firm's prospects. We expect that more senior workers are necessarily better informed about future prospects of the firm. This is especially true once we control for the types of jobs held by a given employee. Therefore, we expect more senior workers to prefer at-risk pay if the future of the firm is bright and we expect them to prefer guaranteed salary if the future of the firm is bleak. We have no direct information about workers' expectations of the future. However, we will explore the relationship between their pay mix and their seniority below.

1.D Wealth and Compensation Level

Individuals with less wealth are more likely to face budget constraints than those with more wealth. Therefore, it is natural to suppose that workers with less wealth will be less able to afford any kind of "deferred" compensation, whether these are through general deferred compensation, tax free savings contributions for retirement, bonus compensation that may not come until the end of the pay year, or stock option compensation, the proceeds from which may not be realized for some time if ever.

Since incomes are correlated from year to year and savings rates are correlated with income levels, it is reasonable to believe that current total compensation is a good proxy for current wealth. Therefore, it is natural to suppose that both wealthier and higher paid (higher total compensation) workers are more likely to choose a higher level of at-risk-pay than those with less wealth and lower total compensation. There are results from the theory of choice under uncertainty that suggest decreasing absolute risk aversion in wealth. So wealthy individuals (proxied here by higher annual total compensation) may be more willing to bear more risk. There is evidence that risk aversion declines as wealth rises (Carroll, 2000) and that absolute risk tolerance is a function of an individual's resources (Guiso and Paiella, 2001).

2. Unique Characteristics of the Pay Plan in the Company and an Example

The compensation plan in the company is very unusual. First, the average level of pay in the company during the time period studied was very high and the firm aggressively attempted to hire the very best employees it could hire through its high wage policy. The company set each employee's total compensation level on an annual basis. Consider a hypothetical employee whose "total compensation" package is $200,000 per year. Although in some "cafeteria" pay plans employees have some discretion over benefits choice, this was not the case in this firm. Instead, employees had choice over three components of pay; "base" or guaranteed salary, at-risk "bonus" (a combined individual and group performance based form of pay), and stock options (a combined group-individual-based performance plan). The plan was slightly more complicated than is first apparent so we will discuss each of the components in turn.

Of the three pay components, only one (base salary), was guaranteed over the year. The other two forms of pay, at-risk bonus and stock options, involved some form of "contingent" compensation that was not guaranteed to the employee from week to week. Employees seeking "guaranteed" pay during the year could select base salary as 100% of their pay package and take nothing in at-risk bonus or in stock options. But suppose our hypothetical employee chooses to have 80% of her pay package in salary. She is, therefore, guaranteed to be paid $160,000 in cash equally spaced over the year.

The second component of pay was bonus. Employees in the firm were given the opportunity to put some of their total compensation "at risk" in a bonus pool[4]. The level of total pay that could be allocated to be at-risk in the bonus was capped at $40,000. Whether and how much of this bonus was paid out depended on a combination of an individual's performance evaluation given to the employee by her supervisor and a group performance metric. There were multiple levels of individual and group performance (three levels for the group and five levels for the individual) and the employee could lose the bonus or earn up to 250 percent of her at-risk bonus pay depending upon how she and her group

[4] Unfortunately, we don't currently have information on how likely the bonus was paid off and at what level.

performed. The employee had to score in one of the top two individual performance categories (of five) and the individual's group had to score in one of the top two group performance categories (of three) for the employee to earn back more than the at-risk amount.

Returning to our example, the employee who was assigned a level of total compensation of $200,000 and chose 80% ($160,000) as salary is left with $40,000 to allocate between options and bonus. Suppose she chose to place $20,000 of her total compensation (10% of total compensation) to be "at-risk" in the bonus pool. Depending on the combination of her own performance and that of her work group, she could earn between $0 and $50,000 as a bonus.

The final component of the pay program was stock options. A stock option is the right to buy a share of stock at a specific price at some time in the future but only after a vesting period passes. For example, consider a firm that has a stock price of $17 on January 2, 2005. Suppose that on January 2, 2005 an employee is granted 1,000 options to buy shares in that firms' stock at $17 dollars per share but that the employee cannot exercise these options for at least two years (until January 2, 2007). Further suppose the stock price is $20 on January 3, 2007. On January 3, 2007, the employee could exercise her option to buy all 1,000 shares at $17 per share and then could immediately sell the shares of stock for the current market price of $20. So she would earn $3 per share X 1,000 shares or $3,000. Alternatively she could do a "cashless exercise" and simply exchange her options for $3,000 in cash.

However, the stock options in the firm in question were slightly different than conventional employee stock options because the firm was not publicly traded so there is no "market price" for the firms' stock. However, there were shares in the firm and the share price was set quarterly by an outside organization that valued the firm, and therefore the shares in the firm. Each year the firm took the information from this accounting organization and set the transaction rate between options and base salary. For example, employees would be told they can trade $1,000 of annual salary for a certain (specific) number of stock options in a given year. Of course, this price would vary from year to year, depending on the valuation of the firm. One quarter of options vested each year for four years. Options had a term of ten years and the strike price was set equal to the current stock price at the time of the

option grant. This paper is not aimed at directly attempting to determine the value of options to employees (Hall and Murphy, 2000, 2002, Hallock and Olson, 2007, and Lambert, Larcker, and Verecchia, 1991) or the cost to firms. Rather, it is an attempt to study the mix of pay employees choose in this extremely unique setting[5].

Employees could modify their mix of pay once per year and the mix choices remained binding for the year. In the event that an employee's pay increased during the year, the additional pay could only be allocated to salary or to options, but not to bonuses.

3. The Data and Total Pay Structure in the Company

Confidential data were provided to us from the HR department of the firm and cannot be released without written permission from the firm. The firm has at times had more than 1,000 workers. Several months of data were given to us for research purposes but we are using a single monthly cross-section in this paper. At the time the cross section was taken (some time between 1996 and 2004), there were 529 employees for which we were given complete data including total compensation, age, gender, seniority, race, citizenship, the group for which the individual worked in the firm, whether the individual held a graduate degree, and detailed information on the *mix* of pay *chosen* by the employee.

The basic summary statistics are in Table 1. It is clear that these employees are unusually well-paid: the *average* annual total pay in the firm was $169,445 for the year in which the data were collected. This average counts the sum of salary, the part of total compensation put at-risk as bonus (not the realized amount which you will recall can be between 0 and 250% of the at-risk amount) and the value of the stock options at the time of the grant as determined by the transaction rate given to the employees at the time they chose their pay mix.

There are several other issues worthy of note in the first column of Table 1. The workers are very young as the average age is only 34.7 years. Just under 18% of the employees are women, which is not

[5] However, this tradeoff does implicitly give an estimate of the value employees place on options. We expect to explore this in future work.

entirely surprising given the industry in which the firm operates. The level of seniority is also very low: the mean is only 858 days (about 2.4 years) and this reflects the firm's young age. More than one-fifth of the employees have graduate degrees, which again is not surprising given the industry in which the firm operates. Several of these characteristics differ considerably by gender. The last column in Table 1 reports the p-value for the difference in means across the male and female samples. When not controlling for any other characteristics, women are paid considerably less than men on average, women are more likely to be white, are more likely to be U.S. citizens, and are substantially less likely to have graduate degrees than men.

The bottom half of Table 1 documents the mean values for the mix of pay chosen by the workers in the firm. On average, the mix of pay is heavily skewed toward guaranteed pay. The average fraction of base pay is 83%, the average fraction of stock option pay is about 15%, and the average fraction of bonus pay is only about 2%. Additionally, 32% of employees chose all base pay, while 16% chose some bonus pay and 64% chose some option pay. Again not controlling for other characteristics, women were much more likely than men to choose guaranteed (base) pay and much less likely to choose option pay. The differences for bonus pay by gender were not statistically significant from one another. Figure 1 displays the level of total compensation and the fraction of total compensation that is base pay, bonus pay, or option pay, by gender.

Table 2 and Figure 2 document some sample statistics for the firm by age categories. In Table 2, the employees are divided into three categories: "younger," "medium," and "older". There are 178, 175, and 176 individuals in these categories, respectively. The age categories are not divided exactly equally since it would have required having employees with exactly the same age (down to a tenth of a year) to be in different categories. The average "younger" worker is 29 years old. The average "medium" age worker is 33 and the average "older" worker is just over 42. Clearly, there is not a lot of variation in the ages of the workers. Table 2 demonstrates that some of the variables are statistically different from one another when comparing the "younger" to "older" employees. For example, older workers have higher levels of total compensation ($201,515 versus $136,639) than younger workers, have more seniority (921

days versus 694 days), are less likely to not be from the U.S. (12.5% versus 23.03%), and more likely to have a graduate degree (26.70% versus 12.92%).

Figure 2 visually documents some differences in total compensation levels and the chosen mix of pay by age categories. The age categories are 20s, 30s, 40s, and 50s and older. In the top left panel of Figure 2 we can see that total compensation increases with age up to the 40s and then is slightly lower for those in their 50s and above. The fraction of total pay that is chosen as base pay increases by age category. Although bonus pay is generally a small component of total pay for all age categories, those in their 20s and 50 or older have higher fractions of bonus pay than the others. Finally, the bottom right panel of Figure 2 shows that option pay as a fraction of total pay declines monotonically through the age categories from on the order of 17% for those in their 20s and to around 10% for those in their 50s and above. The bottom part of Table 2 compares the compensation mix variables by the "older" versus "younger" age categories. There is no statistically significant difference by these age categories for whether employees choose all base pay or some options. However, that older workers are less likely to choose any bonus than younger workers (13.71% versus 23.60%). Turning finally to the fraction of pay in particular forms we see that older workers, on average, choose a higher fraction of base pay (86.37% versus 81.00%) and lower levels of bonus (1.43% versus 2.70%) and stock options (12.20% versus 16.30%).

Table 3 and Figure 3 make the same kinds of simple comparisons by seniority level of the workers. In the case of Table 3, we have divided the workers into 3 seniority categories: "low seniority," (mean of 314.4 days), "medium seniority," (mean of 703.8 days), and "high seniority," (mean of 1,577.2 days). The three seniority categories are not divided exactly equally since that would have required having employees with identical days of seniority to be in different categories. Not surprisingly, the "high seniority" workers have higher total compensation than the "low seniority" employees ($217,537 versus $144,395). They are also substantially more likely to have a graduate degree (35.84% versus 8.43%).

Figure 3 displays information about the level of total compensation and the mix of compensation by level of seniority broken into five categories: up to one year, from 1-2 years, from 2-3 years, from 3-4 years, and greater than 4 years. It is clear from Figure 3 that total compensation increases monotonically by these seniority categories. Base pay as a fraction of total pay is highest for the least senior employees and declines as seniority increases. Bonus pay as a fraction of total compensation is substantially higher for the lowest seniority category (less than one year) at about 5% than it is for any other seniority category. Options pay as a fraction of total compensation increases with seniority, except for the very most senior workers. The bottom part of Table 3 compares the compensation mix variables by "high seniority" versus "low seniority" categories. Although choosing all base pay does not vary by the high and low seniority categories, choosing some bonus and some option pay does vary by seniority. The "high seniority" employees are substantially less likely to choose some bonus (6.32% versus 35.59%) than the "low seniority" workers. At the same time the "high seniority" employees are much more likely to choose some option pay (72.41% versus 55.93%). When comparing the mean differences by seniority category for the fraction of compensation in a particular type, all three categories vary by the high-low seniority categories. The "high seniority" workers choose a lower fraction of base pay (76.93% versus 86.43%), a substantially lower fraction of bonus pay (0.85% versus 3.76%), and a substantially higher fraction of stock options pay (22.24% versus 9.81%).

Now that we have examined some of the basic pay data without conditioning on a set of covariates, we turn to considering the level of total compensation for the employees in the firm. This is a variable over which the employees have no choice. As in most firms, employees have their total compensation level set at the start of each pay year. However, the employees in the firm we study are then given the opportunity to select the fraction of pay they want in salary, at-risk bonus (capped at $40,000), and options.

Table 4 provides simple statistical evidence of the relationships between total compensation and measurable characteristics of the employees and their jobs. The dependent variable for each of the regressions in Table 4 is the log of total compensation for the employee. In column (1) we see that, not

conditioning on any other variables, women earn substantially less than men ($e^{-0.57}$-1)*100 = -43.45% in this firm. In column (2) we add a set of additional controls including an indicator for race (white versus non-white), an indicator for U.S. citizenship, and variables in age and age^2. Non-U.S. citizens earn less and pay increases at a decreasing rate with age. The gender pay gap actually rises with the addition of these controls. Column (3) adds controls for seniority and seniority^2. Here again, more senior workers earn more but at a declining rate. The estimated coefficients on seniority (0.192) and seniority^2 (-0.012) imply that pay peaks in this firm at 8 years of seniority, which is a very high level of seniority for this firm. Column (4) adds the indicator for whether the individual holds a graduate degree. This changes almost nothing throughout the paper. Finally, in column (5) a large set of (roughly 40) job indicator variables are added to the regression[6]. These variables change few of the other coefficients, except to substantially increase the R^2 and reduce the coefficient on female. Surprisingly the coefficient on female is still large and negative suggesting that conditional on the measured characteristics in column (5) women earn ($e^{-0.324}$-1)*100 = -27.68% less than men. This is not meant to suggest that there is discrimination in this firm. Rather, conditional on the limited set of measurable employee characteristics that we have, women earn about 27.68% less than men[7]. Columns (6) and (7) of Table 4 replicate column (5) for men and women, respectively. The negative non-U.S. effect and the age effect continue to be statistically significant for men but not for women. The statistically significant seniority effect holds for both groups.

Now that we have documented the basic ideas in the paper, described how the unique pay plan works and have demonstrated some simple relationships in the data, we will turn to examining employees' choice of method of pay. In this next section we will consider whether employees differ in their choices of mix of pay based on their measurable characteristics, controlling for other characteristics.

[6] These job indicator variables are not entirely like "occupation" indicators. That is, they do not necessarily help map a hierarchy in the firm. Rather, they can be thought of as something like product line categories.
[7] Again, we should be careful in interpreting this remaining gender wage gap since the "job" indicators do not reflect actual job position.

4. Employees' Choice of Method of Pay

This section is focused on the main empirical part of the paper. Although the pay level in the firm in question was set for employees by management, *each individual* employee had control over the fraction of total compensation she could allocate to base pay versus contingent pay. The rest of this section examines employee choice of pay mix while considering employee characterstics.

4.A. Employees' Choice of Base Pay

It was clear in Table 1 that the highest fraction of total compensation allocated to any category was that of base pay – by a large margin. In fact, on average, employees allocate 82.91 percent of their total compensation to base pay. Furthermore 31.57 percent of all employees allocate *all* of their total compensation to base pay. Tables 5 sheds some light onto the characteristics of individual employees who make these allocation decisions to the mix of their compensation.

Table 5 is devoted to considering the correlates of choosing *entirely* base pay. The dependent variable in all columns is equal to 1 if the employee chose all of her pay as salary and is equal to 0 otherwise[8]. Marginal effects are reported in the table. Although it appears that women are substantially more likely than men to choose all of their compensation in base salary, this effect becomes insignificant in columns (6) and (7) when we control for the level of total compensation. Since women are paid less than men in this firm (even conditional on a host of measurable characteristics), controlling for the level of total compensation makes the effect of female disappear in columns (6) and (7). In fact, the only variable that remains strongly important is the level of total compensation. Higher paid employees are substantially less likely than lower paid employees to choose all of their compensation in base pay, even controlling for a host of characteristics.

[8] Note that the first four columns of the table have 529 observations and the next 4 columns have 513 observations. This is due to the fact that the dependent variable ("entirely base pay") is perfectly predicted by some of the "job" indicators and, therefore, had to be dropped. Columns (4) and (4*) compare specifications with exactly the same set of covariates but on the two different samples, which differ by only 16 observations. This problem occurs again when we run the specifications separately by gender in columns (8) and (9). This happens (with different sets of missing variables) in some subsequent tables.

Columns (8) and (9) reveal that when the specification in column (7) is run separately by gender the only covariate that matters is total compensation. For both men and women, higher levels of pay are associated with a lower probability of choosing all base pay.

4.B. Employees' Choice of Bonus Pay

A similar set of analyses is performed for the choice of bonus as a fraction of total compensation. Recall that employees can set aside up to $40,000 of their total compensation as an at-risk performance-based bonus. Depending on the combination of the employee's own performance and that of her work group, she can earn between 0 and 250% of the at-risk bonus. So those individuals with extraordinary confidence in their own abilities and those of their team (and trust in the system) may select a higher fraction of their total compensation as bonus.

Table 6 reports a set of probit specifications where the dependent variable is equal to 1 if the employee chooses some bonus and is equal to zero otherwise. Recall form Table 1 that only 16.07% of employees have any at-risk bonus. Marginal effects are reported in the table. There are two clear findings in this table. First, higher paid employees are more likely to choose at least some bonus as part of their compensation plan. Second, older and workers with more seniority are less likely to choose some bonus.

4.C. Employees' Choice of Stock Options

Table 7 reports the probit estimates for employee choice of stock options. The dependent variable is equal to one if the employee chooses some stock options and is equal to zero otherwise. Although women appear to be substantially less likely to choose stock options than men, this result declines substantially once we control for the other covariates. In fact, if we control for the *level* of compensation in column (6), there is still a gender gap – women are 14% less likely than men to choose some option pay. On the other hand, if we control for the *log* of total compensation as in column (7), there is no statistically significant gap between men and women in terms of the probability of choosing some options in their pay plan. Older workers are less likely to choose any options and more senior

workers are more likely to choose options (with quadratic terms again significant in both cases). Higher paid employees are more likely to choose some option pay[9].

4.D More on Base, Bonus, and Options

In sections 4.A – 4.C we investigated the relationship between choosing entirely base pay, some bonus, and some stock options on various employee characteristics using probit analysis. An analogous specification using OLS might be to investigate the relationship between the same set of right hand side variables and the ratio of base, bonus, and option compensation to total compensation (e.g. the fraction of total pay from base, the fraction of total pay from at-risk bonus, and the fraction of total pay from options). Results from this specification are difficult to interpret since total pay is in the denominator of the dependent variable *and* appears as a right hand side variable. Instead, in this section, we investigate the relationship between the level of base pay (Table 8), the level of at-risk bonus pay (Table 9), the level of stock options pay (Table 10) and a host of characteristics including, and most importantly, the level of total compensation for the employee. In this specification the coefficient on total compensation is an estimate of the marginal effect of a dollar in total compensation on base pay (table 8), at-risk pay (table 9) and stock options (table 10).

An investigation of Table 8 makes is clear that, conditional on a set of covariates, employees in this firm allocate a substantially larger fraction of their marginal total compensation dollar to base pay than they do to other components of pay. In columns (1) – (7) of Table 8 the estimated coefficients on total compensation suggest that between 60% and 70% of each additional dollar of total compensation is allocated to base pay. The estimated coefficients on total compensation in Table 9 suggest that, at best, a few percent of total compensation goes to at-risk bonus. Finally, the estimated coefficients on total compensation in Table 10 imply that up to 30% of total pay is allocated to stock options, even conditional on a wide set of covariates.

[9] We have re-run the specifications in Tables 5-7 by quintiles of the level of total compensation. The results are extremely stables across quintiles of total pay.

Tables 8 – 10 also report interesting differences in allocation decisions by gender. Columns 9 (male) and 10 (female) run the base (Table 8), at-risk bonus (Table 9), and stock options (Table 10) specifications separately by gender. Collectively, these specifications clearly reveal the same patterns suggested by the probit analyses of Table 5-7. That is, men allocate a higher fraction of their total pay to "at risk" compensation in the form of stock options and at-risk bonus than women. Women, on the other hand, are much more likely to choose a higher fraction of their pay as guaranteed salary.

5. Discussion

Of course the results from this study are very difficult to generalize since this is one firm at one point in time. In fact, perhaps due to this unusual and innovative compensation plan a particular type of worker (e.g. ones interested in "at-risk" pay) was more likely to select into the firm. That is, although all workers in the firm were given total choice over their method of pay, perhaps the set of incumbent workers is not a random selection of workers. Discussions with several workers at the firm suggest something that is consistent with this. There is an overwhelming sense that the firm wants to (and succeeds at) hiring *highly intelligent* workers. This is certainly consistent with the extremely high levels of total compensation. Whether these results would hold up in other firms is an open and interesting question that may, unfortunately, be difficult to test since few firms have such a unique compensation plan.

Besides the high level of total compensation, the results in the early tables suggest that the employees in this firm are extremely young. Therefore, although there are several significant age effects in the data, even after controlling for many additional variables, there is not a lot of variation in the age of the workers.

One other issue of potential importance is that of whether the employees may have been *expected* to hold a certain level of contingent pay. It is unlikely that this was the case for at-risk bonus pay since the mean level of such holdings is so incredibly small. However, there could have been some pressure for

employees (or some sub-set of employees) to choose stock options, so as to show that they are "loyal" to the mission of the overall organization. Literature given to the employees prior to making their pay mix choices is very clear on this, however. In a "FAQ" section, the firm lists the following question "Will I be judged by how much I put at risk or how I decide to split my at risk amount?" The answer in the literature is "No, the reason we gave employees a choice was to allow you to evaluate your personal situation and make the choice that best suits you."

6. Concluding Comments

Subject to several qualificationns, including those pointed out in Section 5 above, the firm studied in this paper embarked on an extremely unusual compensation plan. The firm set the total compensation of each employee and offered three types of compensation: base salary, at-risk bonus, and stock options. It then gave *each* employee choice over the mix of pay.

Younger employees, more experienced employees, higher paid employees, and male employees are more likely to allocate a higher fraction of their total compensation to at-risk forms of pay. The robustness of these results varies somewhat depending on the empirical specification and set of covariates used.

An interesting issue is that of the costs and benefits of organizing a plan such as the one described in this paper in the first place. When discussing the mix of pay, Rosen (2000) stated "Individual consumers are in the best position to make the most informed choices on their own behalf. Delegating or contracting it to others is bound to lead to misallocation in most cases". But is it optimal for firms to give employees *complete* choice over their mix of pay? Perhaps stock options are better suited to more senior managers and spot bonuses are better suited to more lower-level workers. If it is the case that choice is good for workers, at what point should the choice end (e.g. benefits, mix of pay, flex time, etc.)? Clearly more flexible total compensation plans can be more costly to administer. However, this does not mean that they are not more productive in the longer run.

This paper is part of a larger research program investing the value employees place on contingent pay and the costs of and benefits of such compensation to firms. Our hope is that investigating the actual compensation mix decisions of all of the employees in a single firm is a useful step in understanding how to design pay packages for employees in firms.

References:

Barber, Brad M. and Terrance Odean, 2001, "Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment," *Quarterly Journal of Economics*, February, 261-292.

Brown, Charles, 1980, "Equalizing Differences in the Labor Market," *Quarterly Journal of Economics*, 95, 113-134.

Brown, Charles, 1990, "Firms' Choice of Method of Pay," *Industrial and Labor Relations Review*, February, s165-s182.

Byrnes, James P., David C. Miller, and William D. Schafer, 1999, "Gender Differences in Risk-Taking: A Meta-Analysis," *Psychological Bulletin*, 125(3), 367-383.

Carroll, Christopher, 2000, "Risky Habits and the Marginal Propensity to Consume Out of Permanent Income," *International Economic Journal*, 14(4), 1-41.

Croson, Rachel and Uri Gneezy, 2004, "Gender Differences in Preferences," working paper, University of Pennsylvania.

Deaux, Kay, and Elizabeth Farris, 1977, "Attributing Causes for One's Own Performance: The Effects of Sex, Norms, and Outcome," *Journal of Research in Personality*, 11, 59-72.

Dohmen, Thomas J., Armin Falk, David Huffman, Jurgen Schupp, Uwe Sunde, and Gert G. Wagner, 2006, "Individual Risk Attitudes: New Evidence from a Large, Representative, Experimentally-Validated Survey," CEPR Discussion Paper No. 5517.

Eckel, Catherine C., and Philip J. Grossman, 2002, "Sex Differences and Statistical Stereotyping in Attitudes Toward Financial Risk," *Evolution and Human Behavior*, 23, 281-295.

Fischhoff Baruch, Paul Slovic, and Sarah Lichtenstein, 1977, "Knowing with Certainty: The Appropriateness of Extreme Confidence," *Journal of Experimental Psychology*, 30, 552-564.

Freeman, Richard B. and Joel Rogers, 1999, *What Workers Want*, Russell Sage Foundation.

Guiso, Luigi, and Monica Paiella, 2001, "Risk Aversion, Wealth, and Background Risk," CEPR Discussion Paper No. 2728, March.

Hall, Brian J. and Kevin J. Murphy, 2000, "Optimal Exercise Prices for Executive Options," *Papers and Proceedings of the One Hundred and Twelfth Meeting of the American Economic Association*, May, 209-214.

Hall, Brian J., and Kevin J. Murphy, 2002, "Stock Options for Undiversified Executives," *Journal of Accounting and Economics*, 33, 3-42.

Hallock, Kevin F., and Craig A. Olson, 2007, "The Value of Stock Options to Non-Executive Employees," Working paper, Cornell University and University of Illinois.

Lambert, Richard A., David F. Larcker, and Robert E. Verecchia, 1991, "Portfolio Considerations in Valuing Executive Compensation," *Journal of Accounting Research*, 29, 129-149.

Lazear, Edward P., 1986, "Salaries or Piece Rates," *Journal of Business*, 59(3), 405-431.

Lundberg, Mary A, Paul W. Fox, and Judith Punccohar, 1994, "Highly Confident buy Wrong: Gender Differences and Similarities in Confidence Judgments," *Journal of Educational Psychology*, 86, 114-121.

Marino, Anthony and Jan Zabojnik, 2008, "Work-Related Perks, Agency Problems, and Optimal Incentive Contracts,"*Rand Journal of Economics*, 39(2), 565 – 585..

Mitchell, Terrence R. and Amy E. Mickel, 1999, "The Meaning of Money: An Individual Differences Perspective," *Academy of Management Review*, 24(2), 568-78.

Olson, Craig, 2002, "Do Workers Accept Lower Wages in Exchange for Health Benefits?" *Journal of Labor Economics*, 20, s91-s114.

Oyer, Paul, 2005, "Can Employee Benefits Ease the Effects of Nominal Wage Rigidity?: Evidence from Labor Negotiations," working paper, Graduate School of Business, Stanford University.

Oyer, Paul, 2008, "Salary or Benefits?" forthcoming, *Research in Labor Economics*.

Oyer, Paul and Scott Schaefer, 2005, "Why to Some Firms Give Stock Options to All Employees? An Empirical Examination of Alternative Theories," *Journal of Financial Economics*, 99, April, 99-133.

Powell, Melanie, and David Ansic, 1997, "Gender differences in Risk Behavior in Financial decision-Making: an Experimental Analysis," *Journal of Economic Psychology*, 18, 605-628.

Prince, Melvin, 1993, "Women, Men, and Money Styles," *Journal of Economic Psychology*, 14, 175-182.

Rosen, Sherwin, 1986, "The Theory of Equalizing Differences," in Orley Ashenfelter and Richard Layward (eds)., *The Handbook of Labor Economics*, New York: Elsevier.

Rosen, Sherwin, 2000, "Does the Composition of Pay Matter?" in William T. Alpert and Stephen A. Woodbury (eds), *Employee Benefits and Labor Markets in Canada and the United States*, W.E. UpJohn Institute for Employment Research, 13-30.

Sunden, Annika E. and Brian J. Surette, 1998, "Gender Differences in the Allocation of Assets in Retirement Savings Plans," *American Economic Review*, May, 207-211.

Tropman, John E., 2001, *The Compensation Solution: How to Develop an Employee-Driven Rewards System*," New York: John Wiley.

Smith, Adam, 1776, *An Inquiry into the Nature and Causes of the Wealth of Nations*, W. Strahan and T. Caldwell, London.

Smith, Robert S., 1979, "Compensating Wage Differentials and Public Policy: A Review," *Industrial and Labor Relations Review*, April, 339-353.

White, Richard A., 1983, "Employee Preferences for Nontaxable Compensation Offered in a Cafeteria Compensation Plan: An Empirical Study," *Accounting Review*, 57(3), 539-561.

Woodbury, Stephen A., 1983, "Substitution Between Wage and Nonwage Benefits, *American Economic Review* 73, 166-182.

FIGURE 1. Total Compensation and Employee's Choice of Method of Pay by Gender

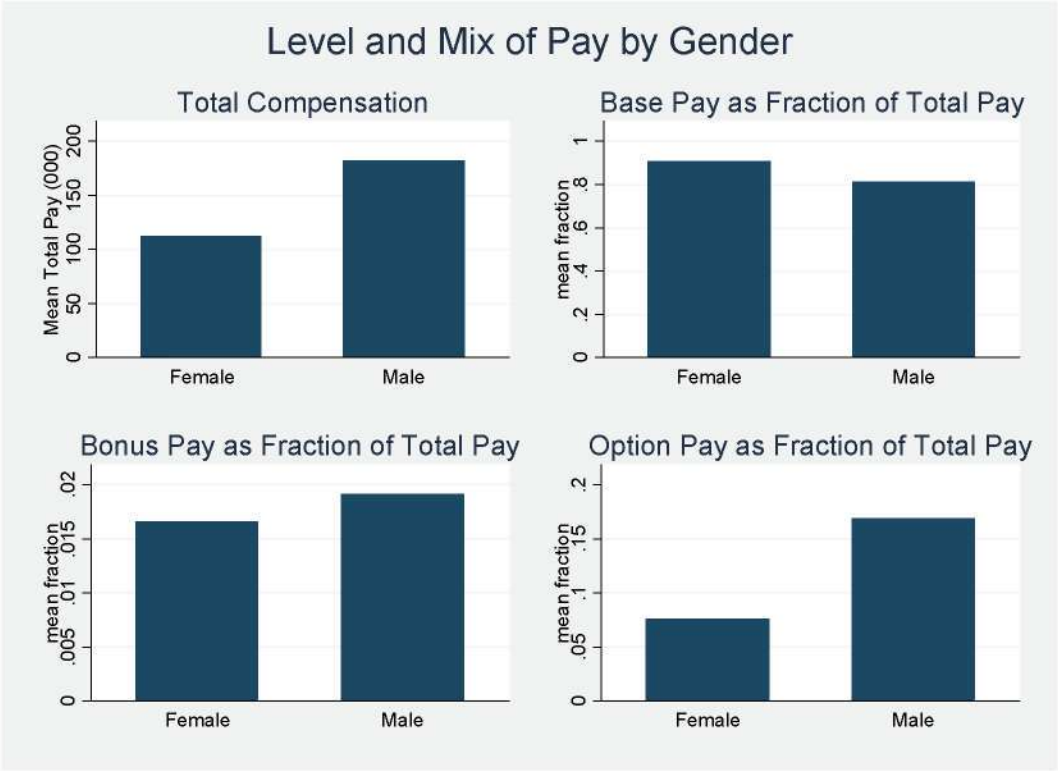
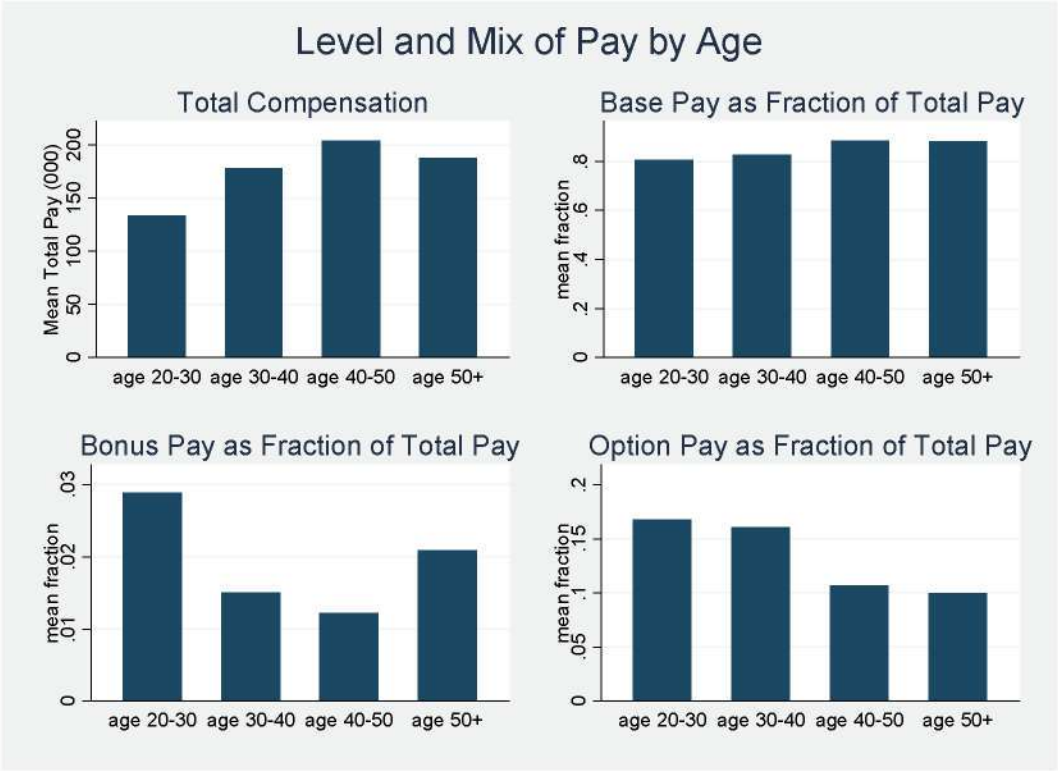
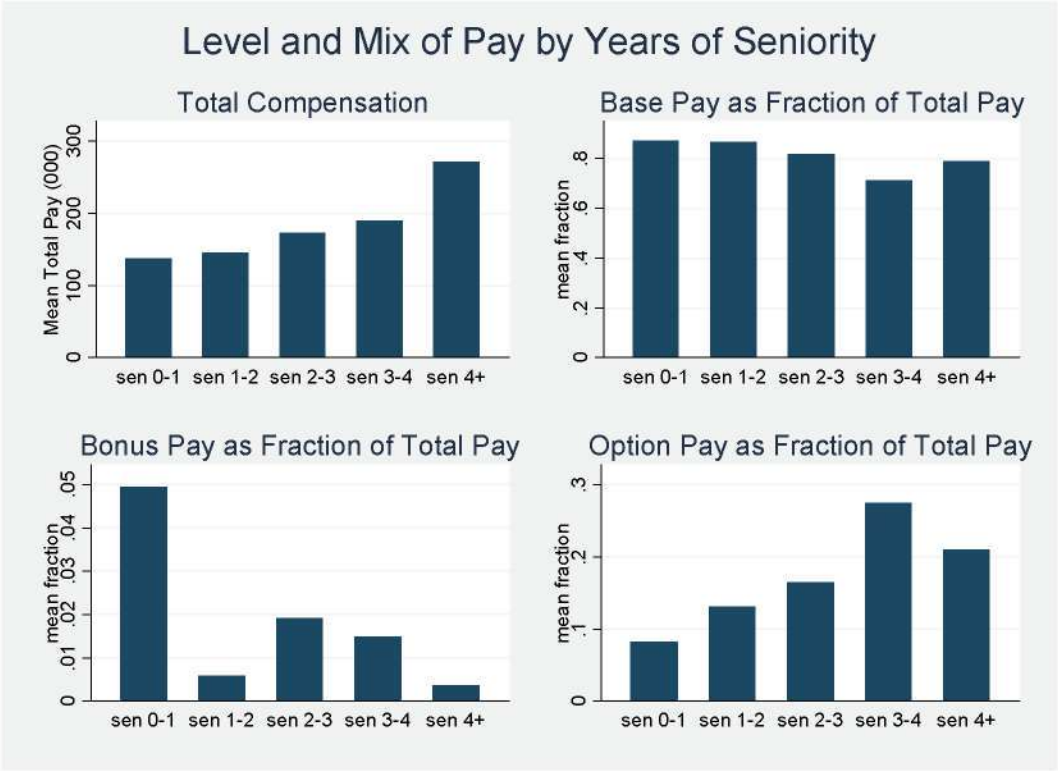


FIGURE 2. Total Compensation and Employee's Choice of Method of Pay by Age



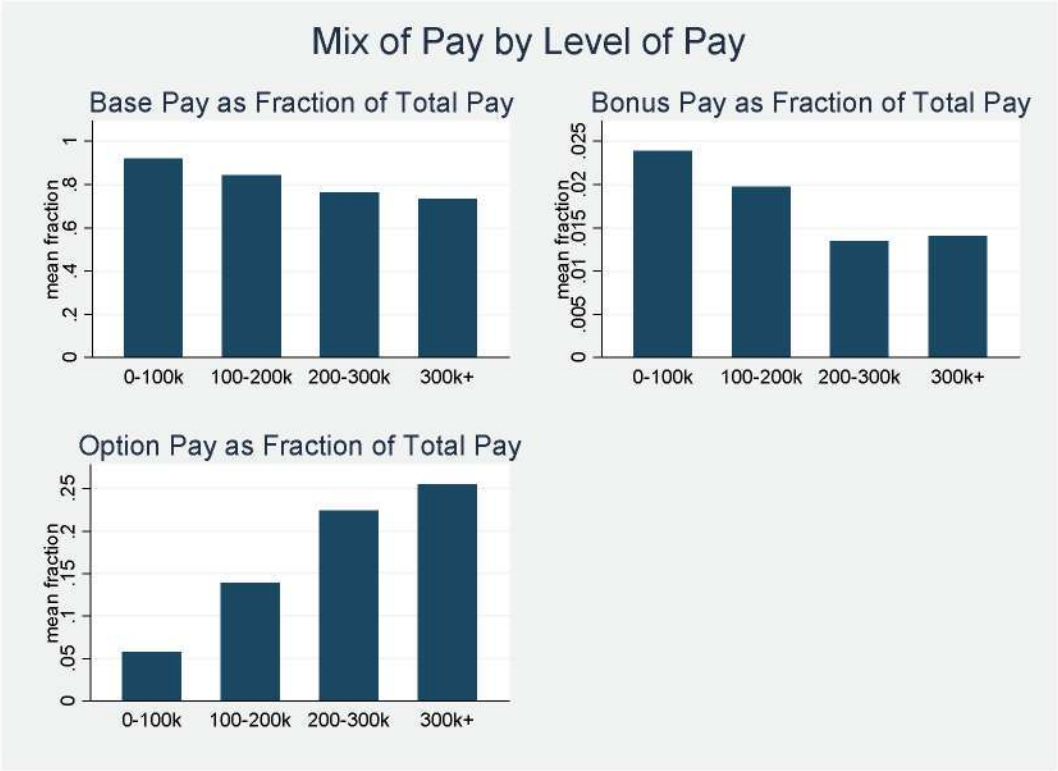
Note: "age 20-30" corresponds to (20 <= age < 30)
"age 30-40" corresponds to (30<= age < 40)
"age 40-50" corresponds to (40<= age < 50)

FIGURE 3. Total Compensation and Employees' Choice of Method of Pay by Seniority



Note: "sen 0-1" corresponds to (0 <= years of seniority < 1)
"sen 1-2" corresponds to (1 <= years of seniority < 2)
"sen 2-3" corresponds to (2 <= years of seniority < 3)
"sen 3-4" corresponds to (3 <= years of seniority < 4)

FIGURE 4. Employee's Choice of Method of Pay by Total Compensation



Note: "0-100k" corresponds to (0 <= total compensation < $100,000)
"100-200k" corresponds to ($100,000 <= total compensation < $200,000)
"200-300k" corresponds to ($200,000 <= total compensation < $300,000)

TABLE 1. Summary Statistics by Gender

	All	Men	Women	p-value[a]
Total Pay	169,445	181,996	112,243	0.000
	(4,060)	(4,471)	(7,236)	
Log(Total Pay)	11.90	12.00	11.43	0.000
	(0.02)	(0.02)	(0.07)	
Age	34.70	34.56	35.34	0.289
	(0.28)	(0.30)	(0.77)	
Female (%)	17.96	0.00	1.00	--
	(1.67)	(0)	(0)	
Seniority (days)	858.4	876.3	776.7	0.181
	(28.6)	(31.9)	(63.5)	
White (%)	77.32	75.81	84.21	0.077
	(1.82)	(2.06)	(3.76)	
Non-U.S. (%)	20.98	23.04	11.58	0.013
	(1.77)	(2.02)	(3.30)	
Graduate Degree (%)	22.31	25.35	8.42	0.000
	(1.81)	(2.09)	(2.86)	
All Base Pay (0,1)	31.57	27.42	50.53	0.000
	(2.02)	(2.14)	(5.16)	
Some Bonus Pay (0,1)	16.07	17.05	11.58	0.1891
	(1.60)	(1.81)	(3.30)	
Some Option Pay (0,1)	64.08	68.43	44.21	0.000
	(2.09)	(2.23)	(5.12)	
(%) Base Pay	82.91	81.19	90.75	0.000
	(0.80)	(0.90)	(1.46)	
(%) Bonus Pay	1.87	1.91	1.66	0.642
	(0.21)	(0.09)	(0.49)	
(%) Stock Option Pay	15.23	16.90	7.59	0.000
	(0.78)	(0.81)	(1.35)	
N	529	434	95	

Notes: (a) p-value for testing whether the mean of the variables are significantly different by gender. Standard errors are in parentheses.

TABLE 2. Summary Statistics by Age Categories

	All	Younger	Medium	Older	p-value[a]
Total Pay	169,445	136,639	170,559	201,515	0.000
	(4,060)	(4,282)	(7,049)	(8,336)	
Log(Total Pay)	11.90	11.74	11.90	12.06	0.000
	(0.02)	(0.03)	(0.04)	(0.04)	
Age	34.70	28.87	33.02	42.26	0.000
	(0.28)	(0.07)	(0.12)	(0.41)	
Female (%)	17.96	19.66	14.29	19.89	0.958
	(1.67)	(2.99)	(2.65)	(3.02)	
Seniority (days)	858.4	693.81	962.62	921.23	0.001
	(28.6)	(25.86)	(51.21)	(62.27)	
White (%)	77.32	74.16	75.43	82.39	0.061
	(1.82)	(3.29)	(3.26)	(2.88)	
Non-U.S. (%)	20.98	23.03	27.43	12.50	0.010
	(1.77)	(3.16)	(3.38)	(2.50)	
Graduate Degree (%)	22.31	12.92	27.43	26.70	0.001
	(1.81)	(2.52)	(3.38)	(3.34)	
All Base Pay (0,1)	31.57	29.78	29.55	35.43	0.258
	(2.02)	(3.44)	(3.45)	(3.63)	
Some Bonus Pay (0,1)	16.07	23.60	10.80	13.71	0.017
	(1.60)	(3.19)	(2.34)	(2.61)	
Some Option Pay (0,1)	64.08	65.73	66.48	60.00	0.266
	(2.09)	(3.57)	(3.57)	(3.71)	
(%) Base Pay	82.91	81.00	81.37	86.37	0.003
	(0.80)	(1.42)	(1.52)	(1.14)	
(%) Bonus Pay	1.87	2.70	1.46	1.43	0.012
	(0.21)	(0.40)	(0.37)	(0.31)	
(%) Stock Option Pay	15.23	16.30	17.18	12.20	0.021
	(0.78)	(1.39)	(1.51)	(1.07)	
N	529	178	175	176	

Notes: (a) p-values are for testing whether the means of the variables are significantly different by age ("younger" versus "older").

The three age categories are not divided exactly equally since it would have required having employees with identical ages (down to a tenth of a year) to be in different categories. Standard errors are in parentheses.

TABLE 3. Summary Statistics by Seniority Categories

	All	Low Seniority	Med. Seniority	High Seniority	p-value[a]
Total Pay	169,445	144,395	147,754	217,537	0.000
	(4,060)	(6,189)	(5,357)	(7,985)	
Log(Total Pay)	11.90	11.73	11.81	12.17	0.000
	(0.02)	(0.04)	(0.03)	(0.04)	
Age	34.70	35.24	33.64	35.23	0.990
	(0.28)	(0.52)	(0.47)	(0.46)	
Female (%)	17.96	21.91	12.36	19.65	0.604
	(1.67)	(3.11)	(2.47)	(3.03)	
Seniority (days)	858.4	314.4	703.8	1,577.2	0.000
	(28.6)	(9.1)	(10.3)	(50.3)	
White (%)	77.32	75.28	77.53	79.19	0.384
	(1.82)	(3.24)	(3.14)	(3.10)	
Non-U.S. (%)	20.98	22.47	24.16	16.18	0.137
	(1.77)	(3.14)	(3.22)	(2.81)	
Graduate Degree (%)	22.31	8.43	23.03	35.84	0.000
	(1.81)	(2.09)	(3.16)	(3.66)	
All Base Pay (0,1)	31.57	33.33	34.83	26.44	0.159
	(2.02)	(3.55)	(3.58)	(3.35)	
Some Bonus Pay (0,1)	16.07	35.59	6.18	6.32	0.000
	(1.60)	(3.61)	(1.81)	(1.85)	
Some Option Pay (0,1)	64.08	55.93	64.04	72.41	0.001
	(2.09)	(3.74)	(3.61)	(3.40)	
(%) Base Pay	82.91	86.43	85.19	76.93	0.000
	(0.80)	(1.06)	(1.28)	(1.65)	
(%) Bonus Pay	1.87	3.76	0.97	0.85	0.000
	(0.21)	(0.45)	(0.30)	(0.28)	
(%) Stock Option Pay	15.23	9.81	13.85	22.24	0.000
	(0.78)	(0.94)	(1.23)	(1.62)	
N	529	178	178	173	

Notes: (a) p-values are for testing whether the means of the variables are significantly different by seniority ("low seniority" versus "high seniority").
The three seniority categories are not divided exactly equally since it would have requires having employees with identical days of seniority to be in different categories. Standard errors are in parentheses.

TABLE 4. Determinants of Total Compensation
OLS, Dependent Variable: Log(Total Compensation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
						male	female
Female	-0.570***	-0.583***	-0.550***	-0.549***	-0.324***		
	(0.056)	(0.054)	(0.050)	(0.051)	(0.053)		
White		-0.041	-0.049	-0.047	0.046	0.032	0.296
		(0.055)	(0.051)	(0.051)	(0.047)	(0.044)	(0.189)
Non-U.S.		-0.143**	-0.120**	-0.121***	-0.112**	-0.136***	0.194
		(0.057)	(0.053)	(0.053)	(0.048)	(0.044)	(0.225)
Age		0.121***	0.090***	0.089***	0.094***	0.078***	0.123
		(0.028)	(0.026)	(0.026)	(0.025)	(0.024)	(0.112)
$(Age)^2/100$		-0.133***	-0.095***	-0.094***	-0.099***	-0.081***	-0.126
		(0.036)	(0.033)	(0.034)	(0.032)	(0.031)	(0.143)
(Seniority[a])			0.192***	0.190***	0.180***	0.164***	0.253***
			(0.029)	(0.030)	(0.029)	(0.029)	(0.096)
$(Seniority)^2$			-0.012***	-0.012***	-0.013***	-0.009***	-0.030***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.011)
Graduate Degree				0.010	0.026	-0.036	-0.117
				(0.050)	(0.045)	(0.041)	(0.300)
Job Indicators[b]	No	No	No	No	Yes	Yes	Yes
Constant	12.002***	9.514***	9.784***	9.784***	9.696***	10.009***	8.048***
	(0.024)	(0.534)	(0.504)	(0.504)	(0.618)	(0.568)	(2.336)
R^2 (adjusted)	0.161	0.235	0.351	0.351	0.509	0.489	0.384
N	529	529	529	529	529	434	95

Notes: (a) Seniority is measured in years in this table. (b) There are roughly 40 job classification indicators.
Standard errors are in parentheses.
***, **, and * represent significantly different from zero at 1%, 5%, and 10% respectively.

TABLE 5. Determinants of Choosing Entirely Base Pay
Probit (marginal effects reported), Dependent Variable: Entirely Base Pay = 1, not = 0

	(1)	(2)	(3)	(4)	(4*)	(5)	(6)	(7)	(8)	(9)
									male	female
Female	0.231***	0.233***	0.233***	0.237***	0.243***	0.172**	0.095	0.062		
	(0.056)	(0.056)	(0.057)	(0.057)	(0.058)	(0.072)	(0.073)	(0.074)		
White		0.032	0.040	0.044	0.046	0.006	0.027	0.026	0.006	0.397
		(0.053)	(0.053)	(0.054)	(0.055)	(0.060)	(0.059)	(0.060)	(0.061)	(0.197)
Non-U.S.		0.022	0.029	0.027	0.027	0.030	-0.003	0.004	-0.021	0.391
		(0.057)	(0.058)	(0.058)	(0.059)	(0.062)	(0.060)	(0.060)	(0.058)	(0.203)
Age		0.032	0.030	0.024	0.024	0.011	0.042	0.043**	0.025	0.004
		(0.028)	(0.028)	(0.029)	(0.029)	(0.033)	(0.035)	(0.035)	(0.036)	(0.178)
$(Age)^2/100$		-0.036	-0.033	-0.030	-0.029	-0.018	-0.052	-0.052	-0.026	-0.016
		(0.035)	(0.036)	(0.036)	(0.036)	(0.043)	(0.045)	(0.044)	(0.046)	(0.228)
(Seniority)			-0.107***	-0.112***	-0.109***	-0.084**	-0.058	-0.040	-0.011	-0.098
			(0.035)	(0.036)	(0.035)	(0.040)	(0.042)	(0.042)	(0.045)	(0.174)
$(Seniority)^2$			0.014***	0.014***	0.013***	0.011**	0.013	0.009*	0.006	0.014
			(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.027)
Graduate Degree				0.033	0.045	0.050	0.047	0.044	0.040	-0.381
				(0.055)	(0.056)	(0.059)	(0.059)	(0.059)	(0.058)	(0.328)
(Total Comp)/100k							-0.205***			
							(0.042)			
Log(Total Comp)								-0.341***	-0.364***	-0.372**
								(0.067)	(0.080)	(0.171)
Job Indicators[b]	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
R^2 (pseudo)	0.028	0.032	0.051	0.051	0.052	0.131	0.174	0.177	0.137	0.319
N	529	529	529	529	513	513	513	513	413	74

Notes: (a) Seniority measured in years in this table. (b) There are roughly 40 job classification indicators. Standard errors are in parentheses. ***, **, and * represent significantly different from zero at 1%, 5%, and 10% respectively. The N in column (7) is greater than the sum of the Ns in columns (8) and (9) since some observations were perfectly predicted in the latter two columns.

TABLE 6. Determinants of Choosing Some Bonus Pay
Probit (marginal effects reported), Dependent Variable: Some Bonus Pay = 1, not = 0

	(1)	(2)	(3)	(4)	(4*)	(5)	(6)	(7)	(8)	(9)
									male	female
Female	-0.055	-0.058	-0.058*	-0.056	-0.028	-0.040	-0.013	0.022		
	(0.037)	(0.036)	(0.030)	(0.030)	(0.046)	(0.050)	(0.056)	(0.064)		
White		-0.052	-0.032	-0.030	-0.028	-0.012	-0.014	-0.014	0.004	-0.223
		(0.045)	(0.040)	(0.040)	(0.048)	(0.048)	(0.048)	(0.047)	(0.046)	(0.266)
Non-U.S.		-0.056	-0.060*	-0.061*	-0.089**	-0.078*	-0.067	-0.062	-0.046	-0.097
		(0.038)	(0.031)	(0.031)	(0.038)	(0.038)	(0.040)	(0.039)	(0.042)	(0.142)
Age		-0.060***	-0.041**	-0.042**	-0.043*	-0.037	-0.048*	-0.054**	-0.047*	-0.100
		(0.020)	(0.018)	(0.019)	(0.024)	(0.024)	(0.025)	(0.025)	(0.026)	(0.127)
$(Age)^2/100$		0.071***	0.046**	0.048**	0.049*	0.041	0.052	0.057*	0.048	0.001
		(0.026)	(0.023)	(0.024)	(0.024)	(0.031)	(0.031)	(0.032)	(0.033)	(0.002)
(Seniority[a])			-0.143***	-0.145***	-0.220***	-0.211***	-0.224***	-0.242***	-0.274***	-0.181
			(0.023)	(0.024)	(0.034)	(0.036)	(0.037)	(0.038)	(0.042)	(0.148)
$(Seniority)^2$			0.011***	0.011***	0.020***	0.020***	0.020***	0.022***	0.024***	0.020
			(0.003)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.023)
Graduate Degree				0.023	0.015	0.027	0.032	0.034	0.073	
				(0.043)	(0.050)	(0.052)	(0.053)	(0.052)	(0.058)	
(Total Pay)/100k							0.064**			
							(0.028)			
Log(Total Comp)								0.177***	0.165***	0.261***
								(0.051)	(0.058)	(0.145)
Job Indicators[b]	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
R^2 (adjusted)	0.004	0.034	0.156	0.157	0.180	0.234	0.246	0.263	0.297	0.229
N	529	529	529	529	427	427	427	427	364	50

Notes: (a) Seniority measured in years in this table. (b) There are roughly 40 job classification indicators. Standard errors are in parentheses. ***, **, and * represent significantly different from zero at 1%, 5%, and 10% respectively.
The N in column (7) is greater than the sum of the Ns in columns (8) and (9) since some observations were perfectly predicted in the latter two columns.

TABLE 7. Determinants of Choosing Some Option Pay
Probit (marginal effects reported), Dependent Variable: Some Option Pay = 1, not = 0

	(1)	(2)	(3)	(4)	(4*)	(5)	(6)	(7)	(8)	(9)
									male	female
Female	-0.242***	-0.246***	-0.247***	-0.252***	-0.259***	-0.202***	-0.140*	-0.113		
	(0.056)	(0.056)	(0.058)	(0.058)	(0.059)	(0.074)	(0.077)	(0.078)		
White		0.031	0.021	0.015	0.013	0.057	0.043	0.045	0.063	-0.517
		(0.057)	(0.058)	(0.058)	(0.059)	(0.064)	(0.065)	(0.065)	(0.067)	(1.198)
Non-U.S.		0.005	0.002	0.005	0.001	-0.003	0.028	0.025	0.048	-0.989
		(0.058)	(0.059)	(0.060)	(0.060)	(0.063)	(0.062)	(0.062)	(0.061)	(5.280)
Age		-0.025	-0.027	-0.024	-0.024	-0.013	-0.038	-0.039*	-0.007	0.050
		(0.029)	(0.029)	(0.030)	(0.030)	(0.034)	(0.036)	(0.036)	(0.037)	(2.498)
$(Age)^2/100$		0.029	0.034	0.030	0.031	0.022	0.048	0.049	0.005	-0.001
		(0.036)	(0.038)	(0.038)	(0.038)	(0.044)	(0.046)	(0.046)	(0.047)	(0.005)
(Seniority[a])			0.201***	0.207***	0.201***	0.185***	0.170***	0.154***	0.142***	0.292
			(0.038)	(0.039)	(0.039)	(0.043)	(0.044)	(0.044)	(0.046)	(1.460)
$(Seniority)^2$			-0.024***	-0.024***	-0.023***	-0.022***	-0.024***	-0.021***	-0.019***	-0.044
			(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.222)
Graduate Degree				-0.043	-0.052	-0.059	-0.056	-0.054	-0.063	0.652***
				(0.057)	(0.058)	(0.061)	(0.061)	(0.061)	(0.062)	(0.136)
(Total Comp)/100k							0.169***			
							(0.042)			
Log(Total Comp)								0.289***	0.265***	0.190
								(0.068)	(0.081)	(0.951)
Job Indicators[b]	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
R^2 (pseudo)	0.028	0.030	0.076	0.077	0.079	0.144	0.172	0.173	0.130	0.646
N	529	529	529	529	517	517	517	517	417	71

Notes: (a) Seniority measured in years in this table. (b) There are roughly 40 job classification indicators. Standard errors are in parentheses. ***, **, and * represent significantly different from zero at 1%, 5%, and 10% respectively.
The N in column (7) is greater than the sum of the Ns in columns (8) and (9) since some observations were perfectly predicted in the latter two columns.

TABLE 8. Determinants of Choice of Base Pay: OLS, Dependent Variable = Base Pay

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
									male	female
Total Comp		0.695***	0.700***	0.673***	0.689***	0.689***	0.605***		0.575***	0.756***
		(0.018)	(0.019)	(0.020)	(0.021)	(0.021)	(0.023)		(0.027)	(0.039)
Female	-44612***		4218	1952	2143	2866	6240	14612***		
	(8365)		(4615)	(4603)	(4538)	(4566)	(4887)	(5368)		
White				1457	2123	2928	5352	5841	4738	12769**
				(4433)	(4360)	(4397)	(4266)	(4600)	(4905)	(6276)
Non-U.S.				3988	4451	4061	3279	475	1016	19283**
				(4654)	(4567)	(4572)	(4341)	(4672)	(4938)	(7381)
Age				4141*	3983*	3525	3504	3683	3936	2934
				(2313)	(2279)	(2303)	(2297)	(2480)	(2734)	(3733)
$(Age)^2/100$				-36	-36	-31	-32	-36	-34	-42
				(29)	(29)	(29)	(29)	(31)	(35)	(47)
(Seniority)					-11573***	-12455***	-6817**	-10866***	-8690***	2354
					(2566)	(2646)	(2682)	(2943)	(3269)	(3272)
$(Seniority)^2$					1247***	1318***	723**	1451***	977***	-230
					(296)	(300)	(298)	(326)	(359)	(353)
Graduate						5809	4464	5412	4512	1422
Degree						(4293)	(4049)	(4367)	(4542)	(9830)
Log(Total								102713***		
Comp)								(4433)		
Job Indicators[b]	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Constant	143232***	17395***	15793***	-79759*	-61448	-52689	-12508	-1140940	-19110	-28710
	(3544)	(3518)	(3930)	(43488)	(43084)	(43534)	(55948)	(73884)	(63421)	(77921)
R^2	0.049	0.735	0.775	0.745	0.754	0.754	0.794	0.761	0.774	0.921
N	529	529	529	529	529	529	529	529	434	95

Notes: (a) Seniority measured in years in this table. (b) There are roughly 40 job classification indicators. Standard errors are in parentheses. ***, **, and * represent significantly different from zero at 1%, 5%, and 10% respectively.

TABLE 9. Determinants of Choice of Bonus Pay: OLS, Dependent Variable = Bonus Pay

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
									male	female
Total Comp		0.006	0.005	0.006	0.016***	0.016***	0.023***		0.026***	0.021
		(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)		(0.006)	(0.016)
Female	-1222		-866	-963	-620	-494	-1047	-438		
	(980)		(1022)	(1041)	(1019)	(1026)	(1129)	(1142)		
White				-1081	-929	-790	-874	-897	-1091	-1742
				(1002)	(979)	(988)	(985)	(979)	(1080)	(2524)
Non-U.S.				-1662	-1592	-1660	-1202	-1207	-987	69
				(1050)	(1026)	(1028)	(1002)	(994)	(1087)	(2968)
Age				-614	-498	-578	-149	-227	-51	-1193
				(523)	(512)	(517)	(531)	(528)	(602)	(1501)
$(Age)^2/100$				7.38	5.68	6.61	1.03	1.77	-0.77	13.41
				(6.65)	(6.51)	(6.57)	(6.73)	(6.69)	(7.71)	(19.01)
(Seniority)					-2152***	-2305***	-2480***	-2797***	-3111***	1116
					(576)	(594)	(620)	(626)	(720)	(1230)
$(Seniority)^2$					130*	142**	171**	210***	208***	-88
					(66)	(67)	(69)	(69)	(79)	(142)
Graduate Degree						1007	1423	1202	1701*	-632
						(965)	(935)	(929)	(1000)	(3953)
Log(Total Comp)								4782***		
								(943)		
Job Indicators[b]	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Constant	3138***	1879**	2208**	15424	15566	17085	4058	-47314***	3864	21824
	(415)	(779)	(871)	(9833)	(9675)	(9783)	(12924)	(15717)	(13964)	(31335)
R^2	0.001	0.003	0.002	0.003	0.050	0.050	0.160	0.171	0.217	0.103
N	529	529	529	529	529	529	529	529	434	95

Notes: (a) Seniority measured in years in this table. (b) There are roughly 40 job classification indicators. Standard errors are in parentheses. ***, **, and * represent significantly different from zero at 1%, 5%, and 10% respectively.

TABLE 10. Determinants of Choice of Base Pay: OLS, Dependent Variable = Stock Options Pay

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
									male	female
Total Comp		0.299***	0.295***	0.323***	0.300***	0.300***	0.372***		0.400***	0.223***
		(0.018)	(0.019)	(0.020)	(0.021)	(0.021)	(0.023)		(0.027)	(0.037)
Female	-23890***		-3353	-988	-1524	-2372	-5193	-3040		
	(5277)		(4545)	(4540)	(4436)	(4459)	(4836)	(5395)		
White				-376	-1194	-2138	-4478	-3751	-3647	-11027*
				(4373)	(4261)	(4294)	(4221)	(4623)	(4851)	(5973)
Non-U.S.				-2326	-2858	-2401	-2077	-4837	-28892	-19352***
				(4582)	(4464)	(4465)	(4295)	(4695)	(4883)	(7025)
Age				-3526	-3485	-2947	-3355	-2374	-3885	-1741
				(2281)	(2228)	(2249)	(2273)	(2492)	(2704)	(3552)
$(Age)^2/100$				28.73	30.39	24.11	30.82	19.14	34.86	29.04
				(29.02)	(28.33)	(28.55)	(28.85)	(31.61)	(34.63)	(44.98)
(Seniority)					13724***	14760***	9297***	8492***	11802***	-3470
					(2508)	(2584)	(2654)	(2958)	(3233)	(3076)
$(Seniority)^2$					-1377***	-1460***	-894***	-567*	-1185***	318
					(289)	(293)	(295)	(327)	(355)	(336)
Graduate Degree						-6816	-5607	-5261	-6213	-791
						(4173)	(4006)	(4389)	(4492)	(9355)
Log(Total Comp)								53993***		
								(4455)		
Job Indicators[b]	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Constant	35597***	-19274***	-18001***	64335	45883	35605	8450	-596682***	15247	6887
	(2236)	(3464)	(3871)	(42896)	(42108)	(42515)	(55362)	(74249)	(62712)	(74156)
R^2	0.036	0.344	0.343	0.368	0.401	0.403	0.487	0.384	0.487	0.499
N	529	529	529	529	529	529	529	529	434	95

Notes: (a) Seniority measured in years in this table. (b) There are roughly 40 job classification indicators. Standard errors are in parentheses. ***, **, and * represent significantly different from zero at 1%, 5%, and 10% respectively.