

Case No. \_\_\_\_\_

UNITED STATES COURT OF APPEALS  
FOR THE NINTH CIRCUIT

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IN RE HIGH-TECH EMPLOYEE ANTITRUST LITIGATION

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Petition for permission to appeal from the United States District Court  
Northern District of California  
The Honorable Lucy H. Koh, Presiding  
Case No. 5:11-2509-LHK

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**DEFENDANT-PETITIONERS' EXCERPTS OF RECORD  
VOLUME III OF VIII**

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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN JOSE DIVISION

IN RE HIGH-TECH EMPLOYEE  
ANTITRUST LITIGATION

THIS DOCUMENT RELATES TO:

ALL ACTIONS.

Master Docket No. 11-CV-2509 LHK

**SUPPLEMENTAL EXPERT REPORT OF PROFESSOR KEVIN M. MURPHY**

**June 21, 2013**

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## I. INTRODUCTION

1. I have been asked by Counsel for Defendants to respond to the Supplemental Expert Report of Edward E. Leamer, Ph.D. (“Leamer Supplemental Report”)<sup>1</sup> and to consider whether Dr. Leamer’s analysis answers the Court’s question whether “Defendants’ salary structures were *so* rigid that compensation for employees with entirely different titles would necessarily move together through time such that a detrimental impact to an employee with one job title would necessarily result in an impact to other employees in entirely different jobs (*i.e.*, that any impact would ripple across the entire salary structure).”<sup>2</sup> I have concluded that Dr. Leamer’s report contains fundamental errors of economics and statistics, and provides no evidence that the Defendants had such rigid compensation structures that suppressing wages of some employees would necessarily suppress wages of all or nearly all members of the proposed class.

2. First, Dr. Leamer’s analysis is based on averages of compensation by job titles and average compensation for all job titles in the proposed class. He does not analyze the compensation of individual employees, so he ignores differences in compensation and compensation changes among employees with the same job title. Thus, his analysis cannot demonstrate the first required link in his theory of how the challenged conduct had class-wide impact, *i.e.*, that a raise to employees who receive a cold call would increase compensation even to other employees with the same job title.

3. Second, correlations of average compensation by job title with overall average compensation for the proposed Technical Class cannot show that raises for some employees necessarily would result in raises for some or all.

4. Third, neither his correlation analysis nor his regression analysis can distinguish a “somewhat rigid” compensation structure from one that is not. In particular, Dr. Leamer falls victim to two well-known statistical fallacies in constructing his regression model. In combination, these two fallacies virtually guarantee that Dr. Leamer will obtain the type of

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<sup>1</sup> *Supplemental Expert Report of Edward E. Leamer*, May 10, 2013 (“Leamer Supplemental Report”).

<sup>2</sup> *In Re: High-Tech Employee Antitrust Litigation, Order Granting in Part, Denying in Part Motion for Class Certification* (April 5, 2013) (“Order”) at 36.

regression results that he does, even if there is zero effect of an individual's pay on the pay of others.

5. Fourth, Dr. Leamer does not establish that the proposed class is properly defined.

6. Finally, Dr. Leamer did not address the Court's invitation to "improve the accuracy" of the Conduct Regression that he offers as evidence of "generalized" impact and damages, and thus did not respond to the lack of precision of his estimates.<sup>3</sup>

**II. THE VARIATION IN INDIVIDUAL COMPENSATION, WHICH DR. LEAMER'S ANALYSES IGNORE, SHOWS THAT A RAISE FOR ONE OR SOME DOES NOT NECESSARILY CAUSE A RAISE FOR ALL OR NEARLY ALL**

7. The question that I consider relevant for evaluating the Court's concerns about Plaintiffs' claims is whether a change in compensation at one point in the compensation structure would cause a change in compensation for the class as a whole. This is different than whether average compensation for different job titles moves together, since co-movement could simply reflect the response to common factors that have nothing to do with Dr. Leamer's "sharing" theory. Co-movement, which is the focus of Dr. Leamer's empirical analysis, is not informative as to how compensation of different class members would differ absent the alleged cold-calling agreements. To illustrate the difference between correlation (or co-movement) and causation, the use of umbrellas and windshield wipers in a city are highly correlated, but neither causes the other. Rather, they are both caused by a common external factor: rain.

**A. Dr. Leamer Focuses on Correlations of Average Compensation for Job Titles with Overall Average Compensation and He Does Not Analyze the Substantial Variation in Compensation Changes for Individual Employees**

8. Dr. Leamer's empirical analysis focuses on whether changes in average compensation for various job titles are correlated with movements in the average compensation level for the proposed class as a whole. He does not examine whether changes in compensation at the individual level, which is where the initial impact of any cold call would occur, necessarily cause

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<sup>3</sup> Order at 42-43 and fn. 15.



changes in compensation for all or nearly all employees in the same job title or for the proposed class as a whole.

9. Dr. Leamer offers no empirical evidence that demonstrates the type of propagation that Plaintiffs postulate—either across individuals within the same job title or across job titles. He acknowledged that the compensation data available to him could be studied at the individual level. But he chose to work with “title averages,” claiming that “the individual data is likely to be dominated by forces that operate at the individual level” and that “[a]veraging across individuals in a title can average out the individual effects.”<sup>4</sup> However, it is precisely those forces and individual effects that determine whether, as the Court asked, “Defendants’ salary structures were *so* rigid that compensation for employees with entirely different titles would necessarily move together through time such that a detrimental impact to an employee with one job title would necessarily result in an impact to other employees in entirely different jobs (*i.e.*, that any impact would ripple across the entire salary structure).”<sup>5</sup>

10. The amount of variation in compensation of individual employees over time determines whether a firm has to adjust compensation of a large number of individuals if it chooses to increase the compensation of an individual who receives a cold call. If individual pay were always identical for individuals within a job title, or if compensation were determined by a fixed formula (e.g., based only on objective factors such as level of tenure in the job with no deviation permitted), then a change in compensation for one individual would require a change for other individuals in that same job (assuming that the firm does not respond when an individual receives a cold call by promoting her to a better paid job title). In contrast, if, as a regular matter, there is wide variation in compensation changes for individuals in the same job, one cannot presume (as Dr. Leamer appears to do) that an increase in compensation for one employee in response to a cold-call would cause an increase in compensation for all employees with the same job title, because the firm has sufficient flexibility to respond to outside pressure on compensation of a given individual (such as pressure resulting from a cold call) to adjust compensation for that employee without changing compensation for other employees, even those

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<sup>4</sup> Leamer Supplemental Report ¶19.

<sup>5</sup> Order at 36.

in the same job title. For example, the firm can provide one-time retention bonuses or stock grants, increase base salary within the existing salary range for that title, or promote the individual to another job title with a higher salary. Moreover, the firm would have an incentive to respond in one of these other ways rather than adjust compensation broadly, since doing so would allow the firm to minimize its labor costs.

11. Data on compensation of individuals, which I discuss below, show that, consistent with that flexibility, there is substantial divergence in compensation of individuals within a job title. In particular, the Defendants routinely differentiate increases (and decreases) in pay across employees. Even within individual job titles, annual compensation changes at the individual level show a mixture of large and small increases and decreases at a given point in time. While compensation received by individual employees at a firm tends to be positively correlated over time, there is substantial individualization of pay.

12. The existence of positive correlations does not support Dr. Leamer's "sharing" theory, because it reflects the fact that there are many common factors that can cause similar adjustments in employee compensation firm wide. Dr. Leamer himself identifies such a factor when he argues that "the Pixar data are *contaminated* by very large bonuses for producers and directors in 2002 and 2006,"<sup>6</sup> although he fails to acknowledge that this type of "contamination" is exactly what his correlation analysis reflects. Similarly, Intel's decision to freeze salaries in 2009<sup>7</sup> is a common factor that would have affected compensation levels and changes in that year. Apple's tremendous success in recent years and Google's transformation from a relative newcomer to a well-established tech firm fall into a similar category. However, while compensation received by individual employees is affected by common factors, it also is affected by other factors that result in substantial "uncommon" changes over time.

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<sup>6</sup> Leamer Supplemental Report ¶67.

<sup>7</sup> Agam Shah, "Intel Freezes Salaries from CEO on Down," Computerworld, March 23, 2009.



**B. There Is Sufficient Variation in Compensation Across Individuals With The Same Job Title That One Cannot Assume That Adjusting One Employee's Compensation Requires Adjusting Others**

13. I performed several analyses to understand the extent to which compensation of individual employees moves together. Exhibit 1 displays the cumulative compensation histories for all employees within a single selected job title at each of the Defendants.<sup>8</sup> These exhibits are meant simply to illustrate the type of variation in compensation of individual employees that is present throughout the data (and that I summarize more systematically in my subsequent exhibits).

14. Exhibit 1 shows that individuals who start with the same job title have very different cumulative changes in compensation over time, and can end up with very different compensation in 2010 compared to 2005. This substantial divergence in compensation over time is fully consistent with correlation levels that are “high.”<sup>9</sup> In other words, correlated time series can diverge substantially, and can have substantial year-to-year changes in levels.

15. Exhibit 2 examines compensation changes between 2007 and 2008 (years in the middle of the class period) in the top three job titles at each Defendant (based on number of employees in 2007). The exhibit summarizes the large annual variation in changes in compensation for individuals who start in the same job.<sup>10</sup> For example, compensation changes for Adobe's employees with the title of [REDACTED] vary in sign and magnitude, with some individuals receiving large increases (more than 25 percent) and others

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<sup>8</sup> I selected the job titles by restricting the data to class members who remained employed by the Defendant in that job title in each year from 2005 through 2010 (2006-2010 for Lucasfilm because its data did not include job titles before 2006). I then selected for each Defendant the job title that included 25 employees (or the closest number to 25) in order to have examples with as many employees as seemed reasonable to display graphically in a single chart. If more than one job title contained 25 employees, then I selected the first one ranked alphabetically.

<sup>9</sup> According to Dr. Leamer, “A high positive correlation means that compensation of a title moves in a way that is similar to compensation in the rest of the Technical Class, thus supporting the conclusion that the title and the class have “coordinated” compensation levels, a fact which is consistent with sharing of gains and broad impact of the anti-cold-calling conspiracy whether it directly affects the title under study or the rest of the Technical Class” (Leamer Supplemental Report ¶51). I infer from this that Dr. Leamer considers his calculated correlations to be “high” and “positive.”

<sup>10</sup> I include individuals that change job titles in my analysis because moving an individual into a new job title (e.g., promoting him from a Software Engineer 3 to a Software Engineer 4) is one way in which a firm can increase an individual's compensation (in response to a cold call or otherwise) without adjusting the firm's compensation structure more broadly.



suffering large decreases (more than 25 percent). Taken together, Exhibit 2 and the summary statistics based on this type of analysis for more years and a larger number of jobs at each of the seven Defendant firms in Appendix B show that there is substantial room for a firm to adjust compensation differently for different individual employees, including those with the same job title, and that Defendants take advantage of this flexibility.

16. Exhibit 3 examines average annual changes in individuals' compensation between 2001 and 2011 after adjusting for individual characteristics (in effect, standardizing the changes across individuals by eliminating systematic impacts on compensation that reflect age, tenure, gender and job title).<sup>11</sup> The differentiation summarized in this exhibit reflects the differences between the change in compensation for an individual and what would be predicted based on changes in the overall compensation structure and that individual's characteristics and job. A value of +10 percent indicates that the individual obtained an increase 10 percent greater than equivalent "peers," while -10 percent indicates that the individual received 10 percent less than equivalent peers. Again, the results show that Defendants exercise substantial flexibility in adjusting individual compensation, with a wide distribution of annual adjusted changes (shown in the exhibit as deviations from the average change for the year).

17. Exhibit 4 summarizes the data from Exhibit 3. I group the data into four categories by compensation change, and show in the exhibit the top and bottom 10 percent (deciles) and the top and bottom 25 percent (quartiles). The exhibit shows the large differences in compensation changes between employees with the lowest compensation changes and those with the highest compensation changes (after controlling for age, tenure, gender, and job title). For example, at Adobe, employees in the bottom decile of the distribution have annual compensation changes that are 29 percent below the average; employees in the top decile of the distribution have annual compensation changes that are 29 percent above the average. Thus, the difference in the compensation changes between these two groups is nearly 60 percent—the top group's annual compensation increase is, on average, 60 percent higher than the increase of the bottom group. Similarly, the difference in the compensation changes between the employees in the bottom

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<sup>11</sup> This comparison eliminates systematic effects, such as larger average increases for younger employees or for those with less tenure.

quartile at Adobe and those in the top quartile is almost 40 percent.<sup>12</sup> The large variation in compensation changes at Adobe, as well as at the other six Defendants, shows that there is ample room for a firm to adjust the compensation of one employee without adjusting the compensation of others.

18. Thus, Exhibits 1-4 show that the Defendant firms routinely adjust compensation at the individual level. As a result, there is sufficient variation in rates of compensation growth for individual employees, even within the same job title, that a firm can increase compensation of an employee who receives an outside offer without adjusting compensation of other employees with the same job title.<sup>13</sup>

### **III. PROPERLY INTERPRETED, DR. LEAMER'S "CORRELATION" EVIDENCE SHOWS THAT LITTLE VARIATION IN AVERAGE JOB-LEVEL COMPENSATION IS "EXPLAINED" BY CHANGES IN CLASS-WIDE AVERAGE COMPENSATION**

19. Dr. Leamer presents "correlations that compare the movement over time of the average compensation of each title with the average compensation of the firm's Technical Class," and claims that these calculations reveal a "large amount of co-movement of compensation among most of the Technical Class titles of each defendant."<sup>14</sup> He claims that this co-movement is "consistent with a top-down budgeting method" and a "somewhat rigid" salary structure, which allows the effects of the anti-cold-calling conspiracy to spread broadly across each firm."<sup>15</sup>

20. However, whether the correlation evidence is "consistent with" his theory is only part of the issue that Dr. Leamer must address in order to support his theory. More relevant for purposes of understanding whether Plaintiffs' claims have merit is whether evidence of co-movement is *inconsistent* with a compensation structure that is not rigid in the way that Dr. Leamer claims. The essence of hypothesis testing is not to provide evidence "consistent with" a

<sup>12</sup> The difference between a 19 percent increase and a 19 percent decrease is 38 percent. In Exhibits 3-6, percent differences are defined as differences in logs.

<sup>13</sup> Appendix A provides additional evidence, relied upon by Dr. Leamer in his Reply Report, of the dispersion of compensation changes for employees at Intel and Apple within a single job title.

<sup>14</sup> Leamer Supplemental Report ¶4.

<sup>15</sup> Leamer Supplemental Report ¶4.



hypothesis, but to offer evidence capable of rejecting that hypothesis if it were not true. Evidence that is equally consistent with the theory being true and the theory being false is not informative. Dr. Leamer's analysis fails to meet this essential principle of scientific methodology.

21. In the language of economics, Dr. Leamer implies that his correlations reflect causality<sup>16</sup> – that a change in one variable leads to or causes a change in the other – but he then offers only evidence of co-movement. However, correlation, or similar movement, in average job-title compensation does not establish the necessary causation to support Dr. Leamer's theory. Moreover, as I explain below, Dr. Leamer also overstates the similarity in movement and mischaracterizes the implications of the measured correlations.

**A. It is Deviations in Compensation, Not Correlations, that Matter for Evaluating Plaintiffs' Claims**

22. Dr. Leamer does not explain what his correlation coefficients imply about his claim of a somewhat rigid compensation. Correlation measures the degree to which two series are linearly related to one another,<sup>17</sup> but not how much the two series deviate over time. There can be large deviations between the series, even though they have a "high" correlation coefficient. Economics tells us that what is relevant in understanding the rigidity of a firm's compensation structure is the extent to which compensation of alternative job titles deviate from one another, not whether they are weakly or strongly correlated. If they track closely, then the firm has exercised little scope to differentiate pay across job titles. If they diverge substantially, then the firm can and does differentiate pay across job titles. Even if, as Dr. Leamer claims, a "Large Share of [Job Title] Change Correlations are Positive," it does not follow that Defendants have compensation structures that require them to change compensation for all, or nearly all, class members if they raise one employee's compensation in response to a cold call.

23. Exhibit 5 shows the variation in annual changes in job-level average compensation after adjusting for individual characteristics (age, tenure, gender and job title) over the period 2001-

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<sup>16</sup> Leamer Supplemental Report ¶42, 46.

<sup>17</sup> See, for example, George Casella and Roger L. Berger, *Statistical Inference*, 1990, pp. 160-168.

2011.<sup>18</sup> The exhibit shows that there is substantial variation in annual changes for all firms. This distribution of changes in job-level average compensation is summarized in Exhibit 6.<sup>19</sup> As I did in Exhibit 4 (which summarizes the employee-level changes), I group data into categories by compensation change to show the large differences between the jobs (weighted by the number of employee-years) with the largest compensation changes and those with the smallest compensation changes. Using Adobe as an example, the jobs in the top decile increased by 16 percent relative to the average, while the jobs with the largest negative deviations decreased by 15 percent relative to the average. Thus, the annual change in job average compensation at Adobe was about 30 percent higher in jobs in the top decile than in jobs in the bottom decile (after adjusting for differences in the characteristics of the employees in each job). Similarly, the changes in job average compensation at Adobe was almost 20 percent higher in jobs in the top quartile than in jobs in the bottom quartile. The variation in changes in job average compensation is largest for Google and Pixar and smallest for Intel, but is economically large for all Defendants.

24. Exhibits 7 and 8 extend the analysis of the top 25 job titles from my initial report (see Exhibit 18 in that report), where I showed that there was wide variation in annual compensation changes for these job titles. In Exhibit 7, I select a sample of the most common jobs that span across each of Dr. Leamer's deciles for each Defendant, and plot the annual changes in average compensation at each job.<sup>20</sup> The exhibits confirm that, rather than moving in lockstep, average

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<sup>18</sup> Data for Lucasfilm are limited to 2006-2011.

<sup>19</sup> These calculations correct for the difference in individual characteristics across titles by using annual-level regressions of compensation changes on individual characteristics and fixed job effects. The job-level deviations are measured by the fixed job effects in these regressions. Correcting for individual characteristics makes very little difference to the results, but Dr. Leamer has expressed concern that variation in individual characteristics may be generating some of the variation over time in job-level compensation (Expert Report of Edward E. Leamer, Ph.D., October 1, 2012, ¶¶128-134). I also have calculated the same statistics without correcting for individual characteristics and obtain very similar results which support the same economic conclusions.

<sup>20</sup> I select the jobs as follows. First, I take the top five jobs from each of the ten deciles at each Defendant. Because some deciles have fewer than five jobs, I have fewer than 50 jobs for most Defendants after this first step. Second, I take the next largest jobs (based on 2001-2011 employment, which is the same employment measure used by Dr. Leamer when constructing his deciles) until I have 50 jobs for each Defendant. Finally, when plotting the changes, I require the average number of employees across the two years for which I am calculating the change to be at least five. The number of jobs plotted ranges from 9 (at Google in 2002) to 50 (at Intel in years 2004 through 2011).



job-level compensation changes in any given year vary both in sign and magnitude, with some jobs seeing large increases, some large decreases and others smaller increases or decreases.<sup>21</sup>

25. Exhibit 8 extends the time period and looks at 2-, 3-, 4- and 5-year changes in average job-title compensation relative to 2005, rather than the sequence of annual changes.<sup>22</sup> Over longer time frames, compensation for the majority of jobs increased, which simply means that wage growth is greater over the long term than the short term. But a “somewhat rigid” wage structure requires more than that. Rigidity has to do with whether the increase in compensation for all jobs is roughly the same or, at a minimum, changes in a systematic way. If, for example, average compensation routinely increases by 50 percent for one job and only 10 percent for another job, one cannot conclude that an increase in pay for one group caused by an employee receiving a cold-call or for some other reason was “shared” with the other group. Indeed, the fact that pay went up 40 percent more for one group than the other implies that increases in pay across jobs were not common, and that the wage “structure” changes substantially over time rather than remains rigid.

**B. Correlation Levels that Dr. Leamer Finds “Astounding”<sup>23</sup> Imply that Almost All the Variation in Job-Level Compensation is *Not Explained* by Class-Wide Average Compensation**

26. Dr. Leamer reached the wrong conclusion about the rigidity of the Defendants’ compensation structures from his correlation analysis because it appears that he did not consider what a particular level of correlation implies for the supposed rigidity of the compensation structure. He provides no means of evaluating whether a correlation of, say, 0.4 is sufficient to conclude that a compensation structure is somewhat rigid.

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<sup>21</sup> Exhibits 7 and 8 show changes in the raw data. I have also looked at versions of these charts adjusting the compensation changes for individual characteristics and fixed job effects. Adjusting for individual characteristics makes very little difference to the results.

<sup>22</sup> I have performed the same analysis for starting years of 2004 and 2006 because the starting year matters somewhat for the average level of change (although much less so for the variation in changes), and the results are comparable.

<sup>23</sup> Leamer Dep. at 563:8-15.

27. Dr. Leamer calculates correlation between changes in job-level averages and the class-wide average compensation<sup>24</sup> that range from -0.96 to 0.99 across the seven Defendants. This average hides wide variation in the estimated correlations across jobs. But, his conclusion would be unwarranted even if all of the true correlations between job-level compensation changes and class-wide average compensation were equal to his average estimated correlation (roughly 0.60).<sup>25</sup>

28. It is important to understand what a correlation means in order to interpret and evaluate Dr. Leamer's findings. A correlation of 0.6 between the average compensation for a job title and the class-wide average means that 64 percent of the variance remains after controlling for changes in the class-wide average ( $= 1 - .6^2$ ). The amount of variation that remains after accounting for movements in the class-wide average equals the square root of 0.64, or 0.80. This means that the remaining variation in job-level compensation after controlling for changes in average class-level compensation is 80 percent of the total variation in job-level compensation in the raw data, or *only 20 percent less than if there were no correlation at all*.<sup>26</sup>

29. Given that Defendants' data show that job-level compensation does not move in lockstep, or anything close to it, there is no economically meaningful sense in which Defendants have somewhat rigid compensation structures that would necessitate sharing of compensation jobs across the class irrespective of the correlation coefficients that Dr. Leamer calculates. The wide variation across individual employees within a job title does not support Dr. Leamer's inference that, in the Court's words, "the Defendants' salary structures were *so* rigid that compensation for employees with entirely different titles would necessarily move together through time such that a detrimental impact to an employee with one job title would necessarily result in an impact to

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<sup>24</sup> Dr. Leamer actually uses the average of class-wide compensation excluding the job at issue. Given the number of jobs, this is similar to the class-wide average compensation.

<sup>25</sup> In his backup, Dr. Leamer provided an estimate of the mean correlation by firm based on his "shrinkage" methodology. The average across Defendants of these measures is 0.57. I use 0.6 for illustrative purposes.

<sup>26</sup> The square of the correlation coefficient, which measures the percentage of the variance in job-level compensation changes that are explained by changes in the class-wide average, is .36 ( $0.36 = 0.6^2$  in this example). However, the range of variation in compensation changes we observe is measured by the standard deviation (which equals the square root of the variance), not the variance. This shows why Dr. Leamer's focus on the degree of correlation is so misguided.



other employees in entirely different jobs (*i.e.*, that any impact would ripple across the entire salary structure).”<sup>27</sup>

**IV. DR. LEAMER’S REGRESSION ANALYSIS DOES NOT SHOW THAT FORCES OF INTERNAL EQUITY COMBINED WITH THE HYPOTHESIZED “SOMEWHAT RIGID” WAGE STRUCTURE GENERATE CLASS-WIDE IMPACT FROM THE CHALLENGED AGREEMENTS**

30. Dr. Leamer explains the rationale for and conclusions to be drawn from his regression model as follows:

Correlation of title compensation and class compensation could come from sharing effects but could also come from third variables that operate on both title and class compensation at the same time, for example, “market forces.” To *confirm* the existence of a somewhat rigid compensation structure revealed by my correlation analysis, I examine (company by company) a multiple regression model which *forces the class compensation to compete with other variables as an explanation of title compensation*.<sup>28</sup>

Based on this analysis, Dr. Leamer claims to demonstrate that increased compensation for individuals in one part of the firm (e.g., within a particular job title) would “ripple” to (or, as he refers to it, “be shared” with) all other employees in the proposed Technical Class. He claims to do so with a regression model that demonstrates two types of “sharing.” First, Dr. Leamer claims to find contemporaneous sharing in which an increase in compensation for one group (a job title) causes a contemporaneous increase in compensation for other groups (other job titles in the class). Second, he claims to find lagged sharing that demonstrates a form of “catch-up” in which compensation for a group that falls behind in one year increases the following year through some unspecified “corrective action” to become closer to its “normal” level relative to the rest of the class.

31. However, both of Dr. Leamer’s inferences regarding sharing are unsupported by his regression and are entirely unfounded. His regression model suffers from two well-known statistical fallacies – the “reflection problem” and “reversion to the mean” – that make his interpretation of the sign and statistical significance of coefficients on the sharing and external variables in his regression for purposes of evaluating his theory improper. In combination, these

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<sup>27</sup> Order at 36.

<sup>28</sup> Leamer Supplemental Report ¶24 (footnote omitted, emphasis added).



two statistical fallacies virtually guarantee that Dr. Leamer will obtain the results that he does, even if his theory is wrong and there is no effect of one individual's compensation on the compensation of other employees and no impact of changes in average compensation for one job on average compensation for other jobs (i.e. no “sharing”).

**A. Dr. Leamer Ignores the “Reflection Problem”**

32. Dr. Leamer commits a long-recognized error of statistical inference. He ignores the “reflection problem” in concluding that the change in average class compensation causes the average compensation of a job title to increase. As a consequence, Dr. Leamer would expect to obtain the same regression results even if there were no “sharing,” and no propagation of a cold-call related increase in compensation for one employee or a small group of employees into increases in compensation for the rest of the proposed class.

33. The canonical example to illustrate the reflection problem is the relationship between one individual’s test scores and the average test scores of the individual’s classmates. There will tend to be a positive relationship between the performance of the individual and her classmates. If one uses a regression like Dr. Leamer’s, the positive coefficient on the classmates’ average test scores will show that a higher average score for an individual’s classmates are associated with higher score for the individual. However, this result provides no information to distinguish between two alternative theories: (1) that the student does better because she is in a class with higher performing classmates (in Dr. Leamer’s terminology, that the achievements of classmates are “shared” or transmitted to an individual student) or (2) that both the student and her classmates are influenced by common factors, such as the quality of the school or teacher or a more advantageous family background. A regression like that estimated by Dr. Leamer does not permit one to tell which is correct, because both theories could explain why a student performs better when she is in classroom with better students.<sup>29</sup>

34. This is the reflection problem, and it is the fallacy that Dr. Leamer commits. The coefficient on his contemporaneous variable merely shows that there is correlation between changes in compensation of one job title and the average compensation of the class, but it does not reveal the cause of that correlation. Indeed, finding that compensation for a given job

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<sup>29</sup> This problem is a critical issue in deriving conclusions from analyses such as those performed by Dr. Leamer.



increases more than normal when the average increase for all other jobs in the class is larger than normal is hardly surprising, even in the absence of sharing. After all, the class-wide average outcome is essentially the average of the outcomes for the constituent groups.

35. The “reflection problem” is a well-known pitfall in interpreting regressions like those offered by Dr. Leamer that attempt to identify whether group-level outcomes (in this case, compensation for the class as a whole) influences individual-level outcomes (in this case, average job-level compensation). As described by Professor Charles F. Manski, who pioneered the research in this area, correlation between group behavior and individual behavior cannot by itself answer the question whether group behavior influenced individual behavior:

This identification problem arises because mean [average] behavior in the group is itself determined by the behavior of group members. Hence, data on outcomes do not reveal whether group behavior actually affects individual behavior, or group behavior is simply the aggregation of individual behaviors. This *reflection problem* is similar to the problem of interpreting the (almost) simultaneous movements of a person and his reflection in a mirror. Does the mirror image cause the person’s movements or reflect them?<sup>30</sup>

Generally, when individuals in a group are subject to at least some common influences, it will appear that they are responding to each other even when they are not. Moreover, this can be true even when such common factors are relatively unimportant determinants of individual outcomes.

36. In the Technical Appendix, I explain how the statistical property known as the reflection problem makes Dr. Leamer’s conclusions about “sharing” and “catch-up” unjustified. The import of that analysis is as follows. Consider a hypothetical firm with many job titles. Compensation in each job title is determined solely by the sum of two types of factors: (1) common factors (firm-level success, changes in the general economy, etc.) and (2) job-specific factors (group-level performance, changes in the market for individual skills, etc.). One can illustrate the fallacy in Dr. Leamer’s results by considering the case where these job-specific factors are completely independent across jobs. In other words, there is no “sharing” – no impact of compensation in one job on compensation in any other job – because the job-specific factors are entirely independent of and do not influence one another.

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<sup>30</sup> Charles F. Manski, “Economic Analysis of Social Interactions” 14 *J. Econ. Perspectives* 115 (2000), at 128. Understanding mean reversion (or simultaneity) in data is an important issue when evaluating policy interventions (see Robert A. Moffitt, “Policy Interventions, Low-Level Equilibria, and Social Interactions” in *Social Dynamics*, MIT Press, 2001, Section 3.2.1 – Simultaneity).



37. Now consider Dr. Leamer's regression, which he says demonstrates that there is "sharing" of compensation adjustments between job titles. In essence, what Dr. Leamer does is to substitute a variable that measures the change in average compensation for the rest of the class (his "contemporaneous sharing" variable) for the common and job-specific variables that are the true determinants of job-specific compensation. Thus, his sharing variable reflects changes in compensation for all the other jobs at the firm, even though, by assumption, compensation changes for those other jobs have no direct causal impact on the change in compensation of a particular job (because job-specific factors are totally independent). The consequence is that his estimated coefficient on this variable will reflect the variance of changes in the common factors and the variance of the changes in job title-specific factors for all the job titles, but (for the technical reason that I explain in the Technical Appendix) the magnitude of the estimate will be dominated by the common factors (rather than job-specific factors) when the firm has many different job titles contributing to firm-wide average compensation. As a result, the measure of the change in average compensation for the firm effectively serves as a proxy for the common factors that affect both compensation of the particular job title and compensation of all other jobs at the firm. The coefficient on the change in class-wide compensation does not measure "sharing" or any causal relationship between compensation of a particular job and the job-specific factors that influence compensation for other jobs. Nevertheless, Dr. Leamer interprets his results as proof that the change in job title compensation is caused by sharing because he fails to recognize the reflection problem.

38. Dr. Leamer's confusion about what he can conclude from this correlation evidence, and the relevance of external factors, was apparent at this deposition. He testified that changes in compensation for the various job titles at Adobe between 2001 and 2003, during the "tech bust," were particularly useful for testing his rigid compensation structure and sharing theories.<sup>31</sup> But this is exactly the wrong type of variation (a shock common to Adobe as a whole and indeed to the entire tech industry) to test his theory that cold calls to individual employees would be "shared" with all or nearly all Technical Class employees. The fact that compensation for many or even all groups of employees at Adobe fell when there was a common shock (the tech-bust) that affected Adobe's business as a whole and the local labor market broadly, and then rose when

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<sup>31</sup> Deposition of Edward Leamer, June 11, 2013 ("Leamer Dep.") at 747:17-749:16.

economic conditions improved, does not show that a force that operates directly on one group of employees would ripple out to (*cause* compensation changes for) others. Shocks that directly affect many groups would be reflected in correlation of compensation of those groups, even if there were no linkages at all.

39. Furthermore, Dr. Leamer's characterization of his average compensation change and lagged compensation change variables as "internal factors" that cause changes in average compensation for a job makes no sense. Changes in average compensation of the class cannot be the ultimate "cause" of changes in job-level compensation, because the change in the overall average is determined by the changes in average compensation of the jobs that comprise that class average. In a sense, this conceptual error is at the heart of the "reflection problem" – as a matter of economic logic, both the overall average and its components must be determined by some underlying factors that Dr. Leamer has not identified. His analysis cannot reveal whether these underlying factors are internal (which one might define to be firm-specific factors) or instead are driven by the external marketplace.

40. The simple, but important, implication of Dr. Leamer's confounding of internal and external factors is that there must be omitted factors in Dr. Leamer's model, or there can be no adjustment process of the type that he claims. If we accept his estimated "sharing" model, then there must be some cause that initiates the deviations from his somewhat rigid compensation structure, and thus leads to the changes in overall average compensation which then are propagated throughout the compensation structure. Once one admits that such unmeasured factors exist, but that they are unidentified, it is pure faith to claim, as Dr. Leamer does, that they are not common.

#### **B. Dr. Leamer's "Horse Race" Is Uninformative**

41. Dr. Leamer does not completely ignore the fact that common factors can generate the appearance of sharing even when none actually exists. To test whether his "sharing effect" simply reflects "external factors" that are common across job titles,<sup>32</sup> he claims to have run a "horse race" between the "sharing" effects that underlie his theory and external factors that, if they were the cause of his results, would refute his theory. Based on this analysis, which he

<sup>32</sup> Leamer Dep. at 571:25-573:3 and 597:21-598:2.



implements by including “external” factors in the same regression as the two “sharing” variables, he concludes that “[t]he regression analysis reported above indicates that the internal sharing effects are generally more detectable than either revenue sharing or the external market forces.”<sup>33</sup>

42. Dr. Leamer’s “horse race” is flawed, just like his methodology in general. His results simply reinforce his errors of interpretation rather than providing information about the underlying data. In the Technical Appendix, I illustrate this by showing what happens when some measured common factors are added to the model. I show that, when measured common factors (in his case San Jose employment and firm revenue) that capture only a portion of the variance in common factors (with the rest being unmeasured) are included, the coefficient on the measured external factors will reflect only a small fraction of the true impact of the external factors, while the estimated coefficient on the firm-wide average compensation change will decline only slightly (the technical explanation for this is in the Appendix). For example, in the model that I develop in the Technical Appendix, adding factors that account for 50 percent (a relatively large fraction) of the common factors reduces the estimated sharing effect from 0.86 to 0.75. In addition, the estimated impact of the common factors that are included in the regression is only one-quarter of its true size.

43. This downward bias in the estimated effect of Dr. Leamer’s “external factors” is once again a well-known problem in econometrics. The classic example can be seen in the economics of education. If an analyst constructed a regression model in which income was a function of education and an individual’s lagged income, the coefficient on education in the regression will understate, perhaps dramatically, how much education contributes to the individual’s income. The problem is that education also increases lagged income and therefore part (maybe most) of the effect of education on income will be captured by this lagged effect rather than by the education variable itself. At a technical level, Dr. Leamer’s regression model suffers from what is known in econometrics as an “endogeneity problem,” which arises when some of the same unmeasured common factors drive both the independent and dependent variables. It is well known that including an endogenous variable (i.e., one that is correlated with the omitted factors – here, lagged income) will bias coefficients on both the endogenous variable (in this case the

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<sup>33</sup> Leamer Supplemental Report ¶65.

sharing variable) and on the other variables included in the regression (in this case, education),<sup>34</sup> and that controlling for some of these omitted factors does not solve this problem.

44. The consequence is that Dr. Leamer's analysis and the "horse race" that he claims supports the "somewhat rigid" compensation structure on which his theory relies are uninformative. His "horse race" between his "sharing" and "external" variables was fixed, because the statistical properties of the model predetermine that the "external" variables he added would not matter substantially and that his "result" that internal sharing was important would survive even when it does not represent the underlying process that generates the data (i.e. even when there is no sharing).

**C. Dr. Leamer Does Not Take Into Account the Tendency of Compensation to "Revert to the Mean"**

45. Dr. Leamer's second statistical fallacy arises from "reversion to the mean" and is known as the "regression fallacy."<sup>35</sup> The regression fallacy arises when an analyst examines a data series that is subject to shocks that are, at least to some extent, temporary, and ignores the tendency of such data to "regress" or revert to the mean of the distribution. Reversion to the mean describes many phenomena, such as the tendency for athletes who perform extremely well or extremely poorly in one year to perform more like the average athlete in the following year. With employee compensation data, it reflects the tendency of an individual who receives an exceptionally large bonus or other form of compensation in one year to receive a smaller bonus or other compensation in the following year (although one that still may be above average).

46. A simple illustration of this phenomenon is the expected compensation of a salesman who is paid on commission. In any year, the salesman's compensation can be low (assume \$75,000), medium (\$100,000), or high (\$125,000) based on whether it was a bad, average or good year. Assume that one third of the years are good, another third are average, and the rest are bad. If year one is good, and the salesman earns \$125,000, then there are three equally likely

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<sup>34</sup> Endogeneity causes the ordinary least squares estimator to be biased and inconsistent. See for example, William H. Greene, *Econometric Analysis*, Sixth Edition, Chapter 12. See also Robert S. Pindyck and Daniel L. Rubinfeld, *Econometric Models and Economic Forecasts*, Fourth Edition, Chapter 12.

<sup>35</sup> See, e.g., Milton Friedman, "Do Old Fallacies Ever Die?" 30 *J. Econ. Literature* 2129 (1992). Friedman says that he "suspect[s] that the regression fallacy is the most common fallacy in the statistical analysis of economic data." He also notes that "the phenomenon in question is what gave regression analysis its name."



possible changes for next year: next year is good (compensation of \$125,000 and no change from year one); next year is average (compensation of \$100,000 and a decline of \$25,000 in compensation year over year); and next year is bad (compensation of \$75,000 and a decline of \$50,000 in compensation year over year). Since, by assumption, the three outcomes are equally likely, the expected change in compensation is -\$25,000  $((\$0 - \$25,000 - \$50,000)/3)$ . In contrast, if year one were a bad year (compensation of \$75,000), the potential changes in compensation the follow year are +\$50,000, +\$25,000 and zero, and the expected change is therefore +\$25,000. If year one is an average year, the three possibilities are no change, +\$25,000 and -\$25,000, for an expected change of zero. The first two scenarios demonstrate expected reversion to the mean compensation level of \$100,000.

47. Exhibit 9 plots the data generated by this process. The level of compensation in year one is measured on the horizontal axis and the change in compensation from year one to year two is measured on the vertical axis. The exhibit shows the regression line that would result from regressing the change in compensation from year one to year two on the level of compensation in year one. The line has slope -1.0, which reflects the fact that the extra compensation (relative to the average) earned today – which is +\$25,000 in a good year and -\$25,000 in a bad year – is not expected to persist in year two, but instead will “revert” in year two to the average of \$0.<sup>36</sup> An analyst that applied Dr. Leamer’s methodology could mistakenly conclude from a regression analysis of the change in compensation from year one to year two on the level of compensation in year one that the firm is constantly adjusting the salesman’s compensation to keep it in line with the long-run average (that the firm is actively “catching-up” the salesman’s compensation to the normal level in Dr. Leamer’s terminology), when in fact the firm plays no active role at all. Rather, it is the natural variation in pay that generates what appear to be systematic adjustments to compensation.

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<sup>36</sup> This example is easily extended to allow for persistence in compensation over time. In particular, if we assume that the state persists with probability  $p < 1$  (i.e. if times are good this year, they will be good the next year with probability  $p$  and shift to being average or bad each with probability  $(1-p)/2$  then the regression coefficient will be  $-3/2(1-p)$ ). When  $p = 1/3$  then we have the same case discussed above (no persistence). As long as  $p < 1$ , i.e. there is some temporary component to compensation, the regression coefficient will be negative.



48. At his deposition, Dr. Leamer claimed that reversion to the mean was not a problem that affected interpretation of his analysis or its relevance in supporting Plaintiffs' claims.<sup>37</sup> He appeared to acknowledge that firms could respond to the pressures for internal equity with bonuses and stock grants, which are less visible and so might not be as likely to generate internal equity concerns.<sup>38</sup> However, even if this were true, it does not vindicate Dr. Leamer's methodology or make his conclusions sensible, but instead explains why his theory makes no sense. A firm that uses less visible forms of compensation (bonuses and stock grants) to increase compensation for some individuals without succumbing to pressures for internal equity and adjusting all employees' compensation can avoid "sharing." The compensation data would then make it appear that there was a large "lagged sharing" or "catch-up" effect in Dr. Leamer's regression because of the strong reversion to the mean generated when compensation is adjusted through one-time stock grants and bonuses, rather than through adjustment in base pay, *even if there was no sharing at all*. In such an example, the sharing effect that Dr. Leamer claims he has estimated instead would result from the firm's decision to use a form of compensation that avoided sharing.<sup>39</sup> In other words, Dr. Leamer's model gets it completely backwards.

49. Of course, compensation, especially bonuses and stock grants, has transitory components for reasons unrelated to internal equity. Firms use bonuses and stock grants to provide incentive-based pay<sup>40</sup> that is based on a measure of performance, such as individual or group performance or an individual's or group's contribution to firm profits or revenues. But human performance is subject to many random factors, and exceptional performance often will not recur (or recur as strongly) in subsequent years.<sup>41</sup> This is reflected in the salesman example I gave above. In that

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<sup>37</sup> Leamer Dep. at 634:3-635:6.

<sup>38</sup> Leamer Dep. at 690:5-691:22.

<sup>39</sup> Dr. Leamer's conduct regression estimates undercompensation based on total compensation, which includes one-time stock grants and bonuses. Therefore, even if one were to accept the results of his conduct regression, those results may be caused by the types of compensation that Dr. Leamer admits might not be shared.

<sup>40</sup> Susan E. Jackson et al., *Managing Human Resources*. Eleventh Edition. Chapter 11.

<sup>41</sup> At his deposition, Dr. Leamer stated that he believed that there would not be "measurement error" or "randomness" in compensation that "create regression to the mean" (Leamer Dep. at 642:12-643:10). However, this is incorrect. When pay is based on performance there will be random elements of pay due to the fact that there are many factors that determine performance beyond the skill level of the individual. Of course, this is not random like flipping a coin; it simply means there are many factors other than the measurable productivity of the individual or group that contribute to performance (and thus pay), and that such factors will vary over time. For example, the



case, we will observe reversion to the mean absent any concerns over internal equity, any rigidity in pay structure, and any conscious action by the firm other than to pay for performance.

50. Thus, Dr. Leamer's conclusion that Defendants' data is generated by a causal "sharing" relationship, and that the coefficient on the lagged sharing variable "measures the extent to which corrective action is taken at the company,"<sup>42</sup> is unjustified. It reflects a misinterpretation of the data, because he fails to take into account the empirical regularity of reversion to the mean.

51. Plaintiffs rely heavily on this lagged sharing term as evidence for their sharing and somewhat rigid compensation structure claims. In particular, they claim in their Motion that I cannot explain Dr. Leamer's finding that "gains for some are shared with others *in a subsequent year*."<sup>43</sup> But their claim is false – there is a very simple explanation for this finding, one that is well-established in the labor and econometrics literature<sup>44</sup> but overlooked by Dr. Leamer – namely, that reversion to the mean is expected in job-level compensation data. This is not because firms are "sharing" increases or trying to equalize compensation changes across firm. Plaintiffs simply rely on the mistaken belief that one can infer a causal relationship from the fact that high values of a time series are followed by lower values, and low values are followed by higher values.

52. Thus, Dr. Leamer confuses predictable reversion to the mean in the data with evidence of a somewhat rigid compensation structure. The data on compensation growth by title says something very different. There is substantial long-run volatility in compensation across jobs, and this volatility results in reversion to the mean.

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batting averages of individual players and even teams exhibit strong reversion to the mean because the relationship between skill and outcomes is highly imperfect (*see, for example, Nate Silver, The Signal and The Noise (2012)*).

<sup>42</sup> Leamer Supplemental Report ¶26.

<sup>43</sup> In Re: High-Tech Employee Antitrust Litigation, *Plaintiffs' Supplemental Motion and Brief in Support of Class Certification*, August 8, 2013 ("Motion") at 24.

<sup>44</sup> Chang Hwan Kim and Christopher R. Tamborini, "Do Survey Data Estimate Earnings Inequality Correctly? Measurement Errors Among Black and White Male Coworkers," *Social Forces* (2012). Donggyun Shin and Gary Solon, "New Evidence on Real Wage Cyclicalities within Employer-Employee Matches," *Scottish Journal of Political Economy* 54 (2007).

**D. Empirical Evidence Shows that Dr. Leamer's Regression Results do not Reflect the Causality Required by his Theory to Support Plaintiffs' Claims of Class-Wide Impact**

53. Dr. Leamer claims that his regression identified impacts of "sharing" and "catch-up" (or "corrective action") from forces of internal equity and a "somewhat rigid" compensation structure at each Defendant. He also claims that the relative unimportance of external market forces (measured by information sector employment in the San Jose MSA) demonstrates that the change in compensation for a job title within a firm is not driven by outside influences, such as changes in market compensation. I now use other data where "sharing" forces are not present to demonstrate that the (misnamed) "sharing" effect is an artifact of Dr. Leamer's regression specification.

**1. The Same False "Causality" is Found with Another Compensation Dataset**

54. The fallacy of Dr. Leamer's inference is demonstrated by applying his regression model to wage and employment data for the overall U.S. economy. In these data, compensation cannot be driven by the force of internal equity combined with a rigid compensation structure within a firm. I use data on individuals from the American Community Surveys ("ACS")<sup>45</sup> for the period 2001 to 2010 to calculate average annual compensation for hundreds of occupations in the U.S. economy – jobs such as computer software (applications) engineers; farmers and ranchers; and paralegals and legal assistants. I replicate Dr. Leamer's regression by substituting occupation-level compensation for job-title compensation; U.S. average annual compensation for average class-wide compensation;<sup>46</sup> U.S. real GDP per worker for average firm revenue per employee; and U.S. total employment for San Jose information sector employment. Thus, my regression replicates both the factors that Dr. Leamer claims determine average job-title compensation (his

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<sup>45</sup> The ACS database is obtained from IPUMS-USA (Integrated Public Use Microdata Series) which is a project "dedicated to collecting and distributing United States census data." (<https://usa.ipums.org/usa/>) "The Integrated Public Use Microdata Series (IPUMS-USA) consists of more than fifty high-precision samples of the American population drawn from fifteen federal censuses and from the American Community Surveys of 2000-2011." (<https://usa.ipums.org/usa-action/faq>) "The ACS is a project of the U.S. Census Bureau that has replaced the decennial census as the key source of information about American population and housing characteristics. ... The 2000 ACS is an approximately 1-in-750 public use sample consisting of 372,000 person records. Public use samples from the 2001-onward ACS are even larger. The 2001-2004 samples each represent approximately 0.4% of the population, including more than 1,000,000 person records per sample. The 2005-onward ACS datasets are full 1% samples containing more than 2,800,000 person records." (<https://usa.ipums.org/usa/acs.shtml>).

<sup>46</sup> Like Dr. Leamer, I exclude the given occupation from the calculation of U.S. average compensation.



“sharing” and “catch-up” variables) and the factors that he claims do not affect, or have a much weaker influence on, average job-title compensation (firm revenue and external factors).

55. Exhibit 10 compares Dr. Leamer’s results with those I obtain using the ACS data. As the exhibit shows, coefficient estimates on variables that are analogous to variables in Dr. Leamer’s specification are similar to those he finds in his regression. If anything, they show a stronger impact in the supposed “causal” directions of “sharing” and “catch-up” than he finds. For the data as a whole, the weighted average coefficient estimate on the “contemporaneous effect” variable is 1.09, compared to only 0.72 in Dr. Leamer’s regression. The “lagged effect” or “catch-up” variable has a coefficient estimate of 1.32, compared to only 0.41 in his regression.

56. In addition, as an analogue of Dr. Leamer’s “decile-based” regressions using Defendants’ data, I performed an analysis where I rank U.S. occupations by their overall average real earnings during the 2001-2010 period in the ACS data, and group them into deciles of roughly the same size (in terms of their fraction in total U.S. employment in the data over this period). Exhibit 11 compares the coefficient estimates from regressions using the ACS data and those from Dr. Leamer’s regressions. I find that, in almost all cases across the deciles, the estimated “sharing” and “catch-up” effects are stronger using the ACS data than the ones Dr. Leamer finds using Defendants’ data. Thus, interpreted through Dr. Leamer’s view of how the marketplace operates, this means that there is greater sharing and catch-up between extremely diverse occupations and unrelated industries and employers than there is for “technical” jobs within an employer.

57. These results, which use national data for widely disparate jobs across all kinds of industries and firms, strongly suggest that Dr. Leamer’s results are not capturing what he claims – in short, that his results likely are spurious. The logical interpretation is that they suffer from the reflection problem and reversion to the mean that we expect to be there. While the findings from running his regression on national occupation-level compensation are senseless viewed through Dr. Leamer’s economic theory, they are not surprising when that theory is discarded.

58. A variety of common factors would cause average compensation in one occupation to be correlated with average compensation for the U.S. economy as a whole, but Dr. Leamer’s hypothesized “internal equity” and “rigid compensation structures” are not among those factors. Common influences, such as the overall performance of the economy, will cause average



compensation for most occupations to move in a common way with the aggregate economy. But this no more demonstrates that compensation for farmers is “catching” up to preserve “fairness” relative to paralegals than it can be concluded that Dr. Leamer’s regressions demonstrate “fairness” and causation within the Defendants’ data.

## **2. A Regression Model that Explains the Change in Chicago Temperature as “Catch-up” from the Difference between Chicago and Milwaukee Temperatures Illustrates Dr. Leamer’s Misleading Conclusions**

59. The misleading conclusions caused by ignoring the “reflection problem” and “reversion to the mean” are not limited to regressions using labor market compensation data. To illustrate how easy it is to get results like those presented by Dr. Leamer, and how wrong the conclusions that can be drawn when an analyst ignores basic statistics, I use data on daily temperature for two cities: Chicago (where I live) and Milwaukee (a nearby city). In keeping with Dr. Leamer’s specification, I examine changes in daily temperature in one of the two cities (e.g. Chicago), using as explanatory variables (a) changes in the temperature of the “reference” city (e.g. Milwaukee), and (b) prior day’s temperature difference between the reference city and the city under study. The first explanatory variable is analogous to Dr. Leamer’s contemporaneous “sharing” variable, and the second variable is analogous to his “catch-up effect” variable.

60. Exhibit 12 shows the results of this analysis. The left panel presents results for Chicago and the right panel presents results for Milwaukee. “Model 1” shows estimates from a simple specification including just the “sharing” and “catch-up” variables. Not surprisingly, the results mirror those presented by Dr. Leamer. The coefficient estimates on both variables are positive. Given how Dr. Leamer interprets similar results from his regression, he would conclude that, for example, the positive coefficient on the second variable implies that there is “corrective” action to lower Chicago’s temperature and increase the temperature in Milwaukee when yesterday’s temperature in Chicago is warmer than normal.

61. The effect of adding common factor variables, and thus running the Dr. Leamer-type horse race, is illustrated in the next two columns. “Model 2” includes only indicator variables for months of the year as explanatory variables, and does not contain the “sharing” or “catch-up” variables. The results agree with intuition: as can be seen from coefficient estimates on the

month indicator variables, temperature begins to fall in August, declines rapidly through the fall, and then begins to rise in February.

62. In the next “Model 3” column, I combine the explanatory variables from Model 1 and 2. Now the sensible monthly pattern is gone. Instead, coefficient estimates on the month variables would seem to suggest that for Chicago, temperature increases in every month of the year and for Milwaukee, temperature decreases in every month of the year. This happens because coefficients on the month variables no longer reflect their actual effects on temperature. Instead, measurement of the monthly pattern is confounded by what Dr. Leamer would call contemporaneous “sharing” and lagged “catch-up” variables. Dr. Leamer would thus come to two conclusions – both of which contrary to common sense – that changes in Chicago temperature can be explained by “sharing” or “catch-up” effects with Milwaukee temperature.

#### **E. Conclusion**

63. Dr. Leamer’s correlation and regression results reflect the same pattern of “sharing effects” that one would find in national level labor market data, a regression analysis to explain changes in the daily temperature in Chicago based on the lag of temperature in Milwaukee, or using other data on related time series that have both common and idiosyncratic effects. Dr. Leamer confuses well-known and predictable properties of regressions of related time series with causal effects. He characterizes his results as evidence of “sharing” generated by concerns about internal equity and compensation policies that enforce a somewhat rigid wage structure, but his inference is at odds with sound econometric practice.

64. In their Motion for Reconsideration, Plaintiffs dispute the explanation I provided in my previous report<sup>47</sup> for why the data are consistent with Defendants’ employees’ compensation being determined by competition in a broad labor market, with highly individualized adjustments for unique circumstances of individual employees, such as information received through a cold call.<sup>48</sup> They claim instead that Dr. Leamer’s regression analysis in his Supplemental Report demonstrates that my “speculation” is “unsupportable.” Yet, the evidence that I provided above,

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<sup>47</sup> In Re: High-Tech Employee Antitrust Litigation, Expert Report of Professor Kevin M. Murphy, November 12, 2012.

<sup>48</sup> Motion at 24.



like that in my previous report, shows that, far from disproving my conclusion, Dr. Leamer's empirical findings are consistent with the existence of a broad labor market in which employee compensation is affected by individual factors, such as information revealed during a cold call, but the impact of such events on other employees is limited and does not spread to the entire proposed class. Dr. Leamer's results are fully consistent, and indeed expected, if a reduction in cold-calling would not have class-wide impact.

**V. DR. LEAMER DOES NOT ESTABLISH THAT THE PROPOSED TECHNICAL CLASS IS PROPERLY DEFINED**

65. Dr. Leamer claims that he “do[es] not find persuasive evidence to suggest that there are sizeable groups whose compensation might have been disconnected from Defendants’ somewhat rigid compensation structure”<sup>49</sup> or that there is any way to “identify and exclude from the Technical Class job titles based on a lack of these positive correlative relationships.”<sup>50</sup> In other words, Dr. Leamer appears to argue that Plaintiffs’ have defined the class “just right,” or at a minimum in a way that would permit the boundary of that proposed class to be evaluated empirically, no basis for including all jobs that could qualify as “technical” in their proposed class, no matter where located in the country.

66. Dr. Leamer’s opinions about the composition of the proposed class have no merit given that, as I demonstrated above, his empirical evidence has not established any causal relationship between cold-calls that affect one job title and compensation provided to employees with other job titles, let alone a class-wide impact. While it is possible that there would be some forces within a company that would cause adjustment of compensation of some other employees in response to a cold-call, Dr. Leamer has no basis on which to identify the scope of such influence or to conclude that large portions of the proposed class are not unaffected by the challenged agreements. What matters in determining “common impact” for a class as large and diverse as the proposed Technical Class is not the average extent of linkage between different groups (such as job titles), but that the linkages spread across all (or nearly all) the groups included in the proposed class. Even if correlation mattered for understanding whether some kind of “causal”

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<sup>49</sup> Leamer Supplemental Report ¶10.

<sup>50</sup> Leamer Supplemental Report ¶11.

relationship existed between certain groups, the average level of correlation would not be informative about whether all those groups belong in the same class. Rather, the correlation would have to be high for all, or nearly all groups in the proposed class (again, if as Dr. Leamer claims, correlation itself were informative, which it is not).

#### **VI. DR. LEAMER'S CONDUCT REGRESSION REMAINS UNINFORMATIVE**

67. Dr. Leamer's Conduct Regression suffers from errors that render it uninformative.

68. First, the Court noted that "Dr. Leamer's report is slightly ambiguous as to whether any variables besides revenue should have been included to control for correlations across employees... To the extent there are other variables that may improve the accuracy of the Conduct Regression and obviate the need for clustering, Dr. Leamer is encouraged to include them in his next report."<sup>51</sup> Dr. Leamer did not take the opportunity to do so. His argument that these common factors all can be taken into account simply by including additional measured common factors is simply wrong, even if it were feasible to do so given that these factors will differ across Defendants (thereby requiring inclusion of Defendant-specific variables). In any event, Dr. Leamer's failure to respond to the Court's suggestion leaves unknown what method he thinks could be used to demonstrate that his Conduct Regression has any probative value.

69. Second, Dr. Leamer acknowledged at his deposition that he responded only to one of the models that I offered in my original report to demonstrate that he wrongly assumed a common conduct effect for all Defendants,<sup>52</sup> and he claimed that the model that he had critiqued had "overwhelmed the data."<sup>53</sup> However, he did not comment on the more parsimonious model that I also offered, which included fewer explanatory variables but which still permitted measurement of separate Defendant-specific conduct effects.<sup>54</sup> My second model (Appendix 11 of my Original Report ) includes Defendant-specific conduct measures by interacting the conduct

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<sup>51</sup> Order fn. 15.

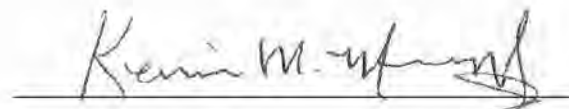
<sup>52</sup> Leamer Dep. at 770:25-771:13.

<sup>53</sup> Leamer Dep. at 770:19-23.

<sup>54</sup> When asked if he recalled "any reason why you didn't offer a criticism of that second approach by Dr. Murphy in your ... reply declaration," Dr. Leamer responded "Presumably because I didn't have comments to make about it" (Leamer Dep. at 771:6-13).



variable with each defendant. I reduced the number of explanatory variables by not including interactions between conduct and age, and conduct and hiring rate, because as I explained the interactions with age and hiring rate added very little power to the regression. My results (on which Dr. Leamer did not comment on) showed large variation in the size and even the *sign* of the estimated undercompensation effects, with the estimates indicating that employees at Adobe, Lucasfilm and Pixar were not undercompensated, but instead were overcompensated. This indicates that Dr. Leamer had no basis to assume a common impact across Defendants. Dr. Leamer's Table 1 and 2 in his Supplemental Report, which show that there are low or even negative correlations in average total compensation between certain Defendants, also show that one cannot simply assume common impact across Defendants.

A handwritten signature in black ink, reading "Kevin M. Murphy", is written over a horizontal line.

Kevin M. Murphy

June 21, 2013



## TECHNICAL APPENDIX: MODELLING THE REFLECTION PROBLEM

1. In order to mathematically model the reflection problem in the context of Dr. Leamer's analysis, and thereby illustrate why his conclusions are unjustified, I consider a hypothetical firm with  $J$  jobs, each of which has an equal number of employees. Compensation in each job is determined by two types of factors: (1) common factors (firm-level success, changes in the general economy, etc.) and (2) job-specific factors (group-level performance, changes in the market for individual skills, etc.). I assume that compensation for each job is determined by the sum of these two factors. I denote the common factors by  $A$ , and the job specific factors by  $e$ . Thus, compensation of job  $j$  in year  $t$ ,  $w_{jt}$  is given by

$$(1) \quad w_{jt} = A_t + e_{jt},$$

where  $A_t$  reflects the influence of the common factors in year  $t$  and  $e_{jt}$  reflects job-specific factors for job  $j$  in that year.

2. I assume that the job-specific factors are independent of (uncorrelated with) one another, and thus there is no "sharing." Transforming equation (1) into year-over-year changes yields for job  $j$

$$(2) \quad w_{jt} - w_{jt-1} = (A_t - A_{t-1}) + (e_{jt} - e_{jt-1})$$

The change in average compensation for jobs other than job  $j$  is given by

$$(3) \quad w_{-jt} - w_{-jt-1} = (A_t - A_{t-1}) + \frac{1}{J-1} \sum_{i \neq j} (e_{it} - e_{it-1})$$

3. Equations (2) and (3) describe the true process that determines compensation changes in this model, namely the contributions of changes in common and job-specific factors.

4. Now consider a regression analysis analogous to that performed by Dr. Leamer, in which the researcher wants to use these data to understand whether there is "sharing" of the type he claims. The type of regression model specified by Dr. Leamer is:

$$(4) \quad w_{jt} - w_{jt-1} = \alpha + \beta(w_{-jt} - w_{-jt-1}) + \varepsilon_{jt},$$

with the change in compensation for one job modeled to be "explained by" the change in compensation of all other jobs, rather than by the changes in common and job-specific factors

that generate the data. It then is straight forward to show that the regression coefficient on the change in the average compensation,  $\beta$ , in equation (4) will be given by

$$(5) \quad \hat{\beta} = \frac{\sigma_A^2}{\sigma_A^2 + \frac{1}{J-1}\sigma_e^2}$$

where  $\sigma_A^2$  is the variance of the changes in the common factors and  $\sigma_e^2$  is the variance of the changes in the job-specific factors.

5. Equation (5) has the important implication that, when the average outcome variable (in this case average compensation growth) is obtained by averaging over a large number of jobs, the resulting average largely will reflect common factors because the idiosyncratic job-level factors will tend to average out. The denominator in equation (5) is the variance of the change in class-wide average compensation, while the variance of changes in job-level compensation is

$$(6) \quad \sigma_A^2 + \sigma_e^2 .$$

Equation (5) shows that the importance of common factors is amplified in the class-wide variables because the contribution of job-specific factors is reduced by the factor  $1/(J-1) < 1$ . For example, if there are 25 jobs, then the contribution of job-specific factors is reduced by a factor of 24 (= 25-1). This means that the change in average compensation variable effectively serves a proxy for the common factors that affect firm-wide compensation. These common factors will be picked up by (and attributed to by an analyst using Dr. Leamer's approach) the average compensation change variable, even if they are a small part of what drives job-level compensation.

6. This proxy effect can be illustrated by considering a simple example where common factors account for only 20 percent of job-level variation and there are 25 equally sized jobs in the firm. The fraction of variance in job-level compensation changes accounted for by the common factors is equal to  $\sigma_A^2/(\sigma_A^2 + \sigma_e^2)$ , which implies that  $\sigma_e^2/\sigma_A^2=4$ . Under these conditions, equation (5) implies that we would expect a regression coefficient of  $1/(1+4/24)=0.86$  on the average wage change variable and a correlation between job-level and average compensation. Thus, even though *by construction*, common factors account for only 20 percent of overall changes in compensation and there is no sharing at all (i.e., changes in compensation for an individual job have no effect on compensation in other jobs by construction), an analyst using Dr. Leamer's methodology would conclude that the compensation structure displays



“astounding” correlation, is “somewhat rigid” and most importantly (and most egregiously for purposes of evaluating Plaintiffs’ claims) that 86 percent of the change in average compensation is “shared.” This would be true in spite of the fact that there is zero actual sharing and thus no reason why an entire putative “class” of all employees at the firm possibly could be harmed by actions that affect some individuals or even some jobs.

7. Dr. Leamer claims that he was able to reject an alternative theory that his results reflected the influence of common factors by running a horse raise with his “sharing” theory. However, my model shows why he is wrong. Assume that there are some measured common factors, and that these variables capture a fraction  $R^2$  of the variance of the common factors. Then, the coefficient on the average compensation change variable becomes

$$(7) \quad \tilde{\beta} = \frac{(1-R^2)\sigma_A^2}{(1-R^2)\sigma_A^2 + \frac{1}{J-1}\sigma_e^2}$$

8. If one adds variables to the regression that explain one-half of the common factor effect (i.e.  $R^2=0.50$ ), this implies a regression coefficient of 0.75 (versus 0.86 in the regression without the control variable). Importantly, the estimated coefficient on the common factors in the regression would be only one-fourth of its true size, causing the researcher to greatly understate its influence. Adding factors that explain less than 50 percent of the common components generates even smaller changes. For example, adding factors that explain 20 percent of the common factors would result in a “sharing” coefficient of 0.83 (versus 0.86 without controls) and a coefficient on the common variable equal to only about one sixth of its actual size.

### **Derivation of Equation (7) and Estimated Coefficient on Common Factors**

For simplicity of notation, I now denote everything in changes. Consider also that everything on the right hand side is independent of each other

$$w_{jt} = A_t + e_{jt}$$

$$w_{-jt} = \frac{1}{J-1} \sum_{i \neq j} w_{it} = A_t + \frac{1}{J-1} \sum_{i \neq j} e_{it}$$

Now assume that

$$A_t = X_t + u_t$$

X is observed variable orthogonal to u.

Regress  $w_{jt}$  and  $w_{-jt}$  on X to get residuals. These are

$$\tilde{w}_{jt} = u_t + e_{jt}$$

$$\tilde{w}_{-jt} = u_t + \frac{1}{J-1} \sum_{i \neq j} e_{it}$$

Now run OLS to get  $\beta$ .

$$\beta = \frac{\sigma_u^2}{\sigma_u^2 + \frac{1}{J-1} \sigma_e^2}$$

By definition

$$\sigma_u^2 = \sigma_A^2 (1 - R^2)$$

This yields

$$\beta = \frac{\sigma_A^2 (1 - R^2)}{\sigma_A^2 (1 - R^2) + \frac{1}{J-1} \sigma_e^2}$$

To get the coefficient on X we regress

$$w_{jt} - \beta w_{-jt} = (1 - \beta)(X_t + u_t) + e_{jt} - \frac{\beta}{J-1} \sum_{i \neq j} e_{it}$$

on X.

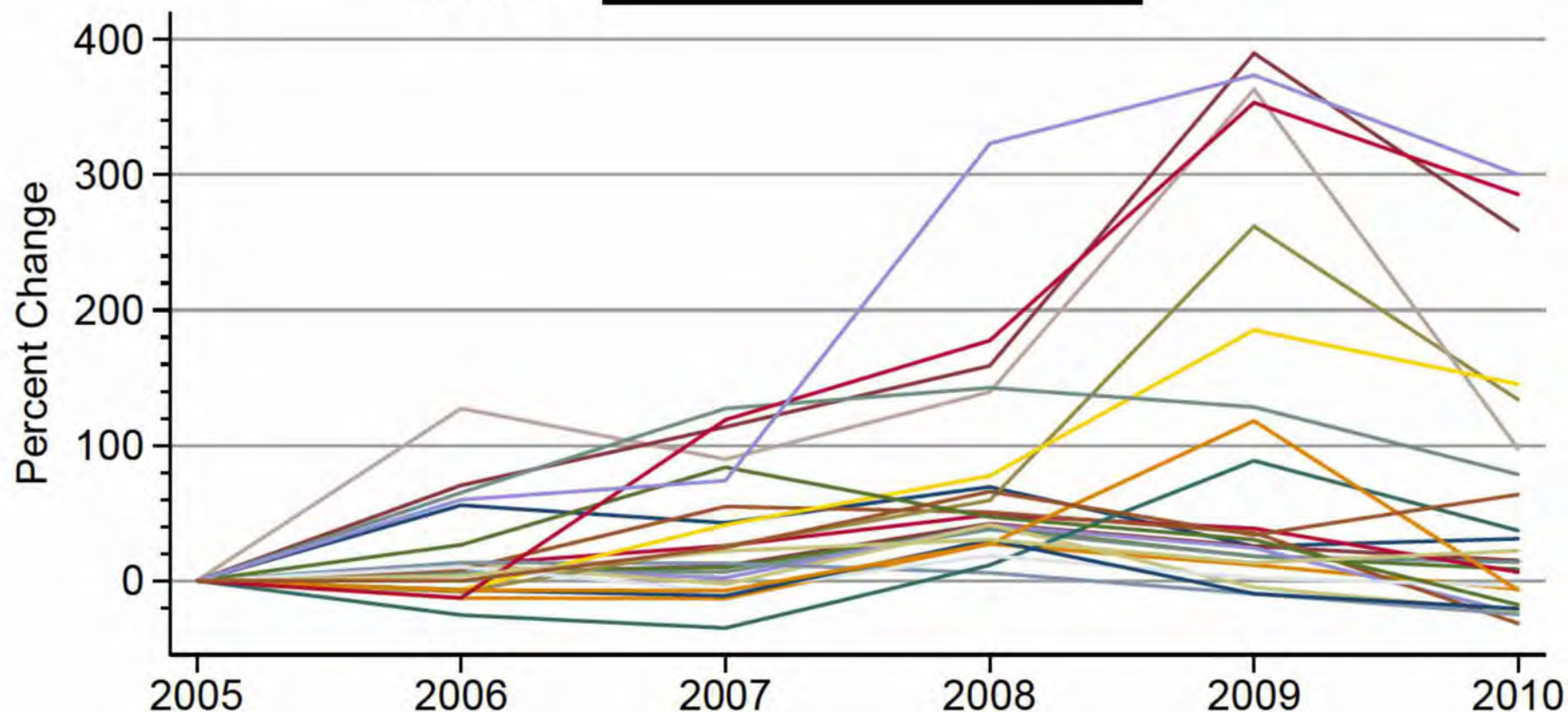
This gives a coefficient of  $(1 - \beta)$  versus the true coefficient of 1.



## Exhibit 1 Adobe

### There is Substantial Variation in the Cumulative Change in Total Compensation Among Employees with the Same 2005 Job

Adobe - [REDACTED]



Notes:

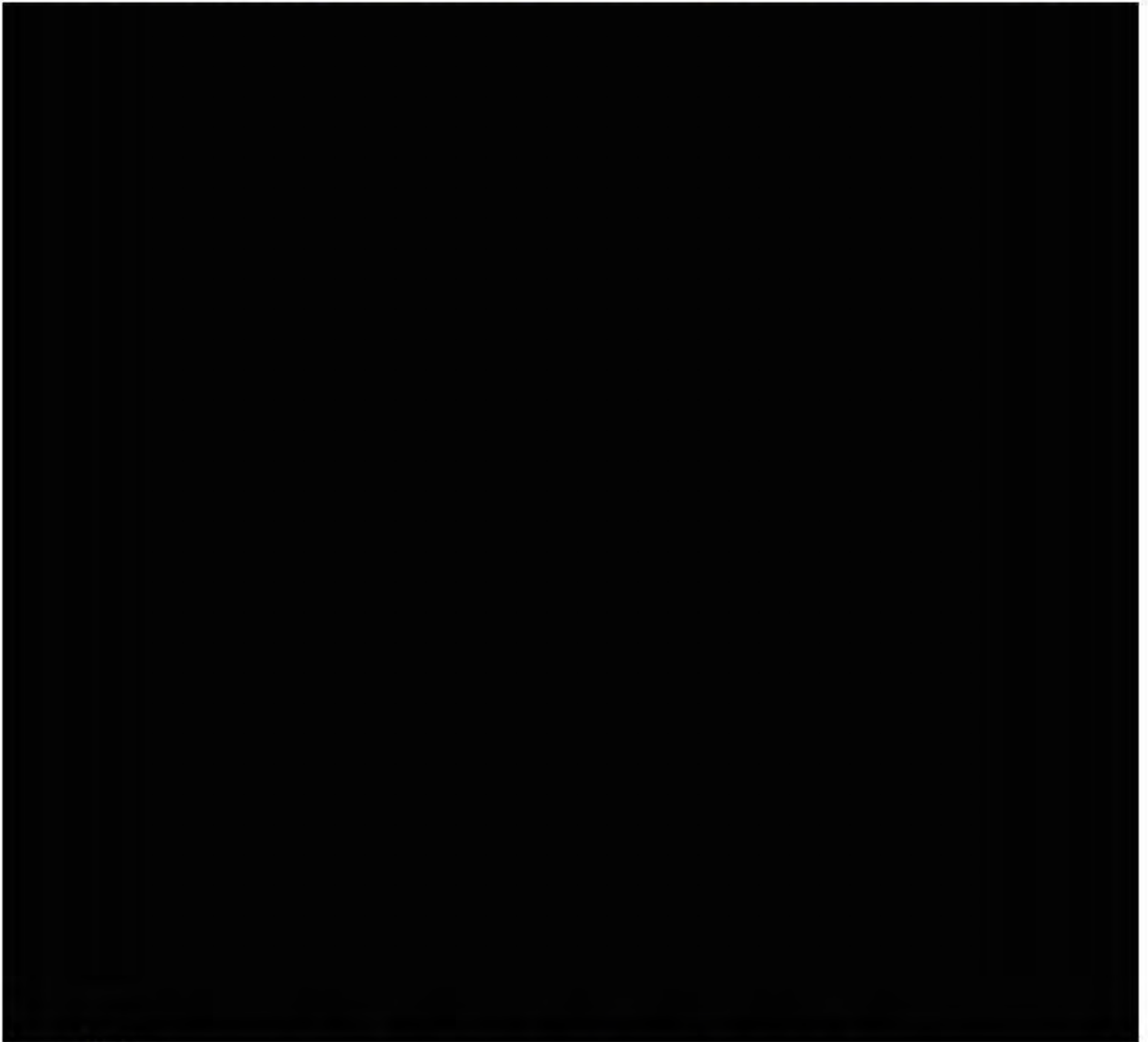
[1] Each line represents the cumulative compensation change for an individual employee.

[2] Data are restricted to those employees who remained in RD class positions through 2010. I then selected the Adobe job title with 25 employees (or the closest number to 25).

Source: Dr. Leamer's backup data and materials.

## Exhibit 1 Apple & Google

### There is Substantial Variation in the Cumulative Change in Total Compensation Among Employees with the Same 2005 Job



Notes:

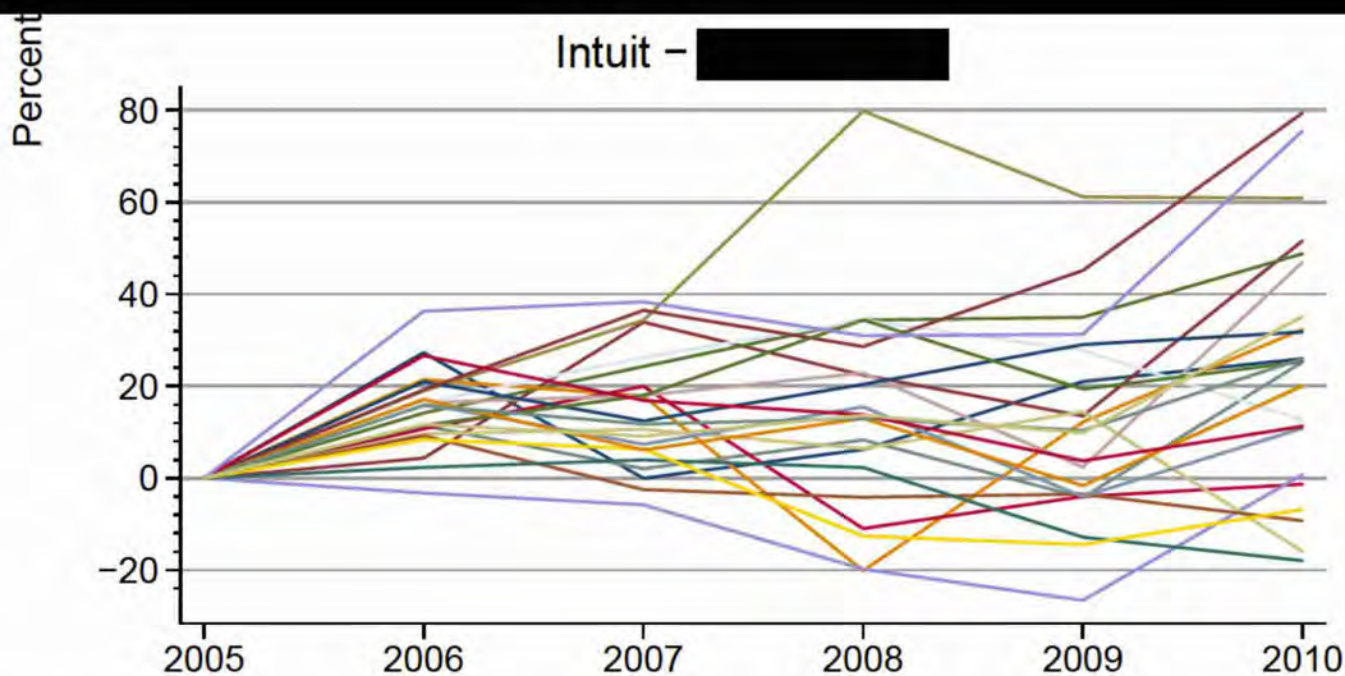
- [1] Each line represents the cumulative compensation change for an individual employee.
- [2] Data are restricted to those employees who remained in RD class positions through 2010. I then selected from each Defendant the job title that included 25 employees (or the closest number to 25).

Source: Dr. Leamer's backup data and materials.



## Exhibit 1 Intel & Intuit

**There is Substantial Variation in the Cumulative Change in Total Compensation Among Employees with the Same 2005 Job**



Notes:

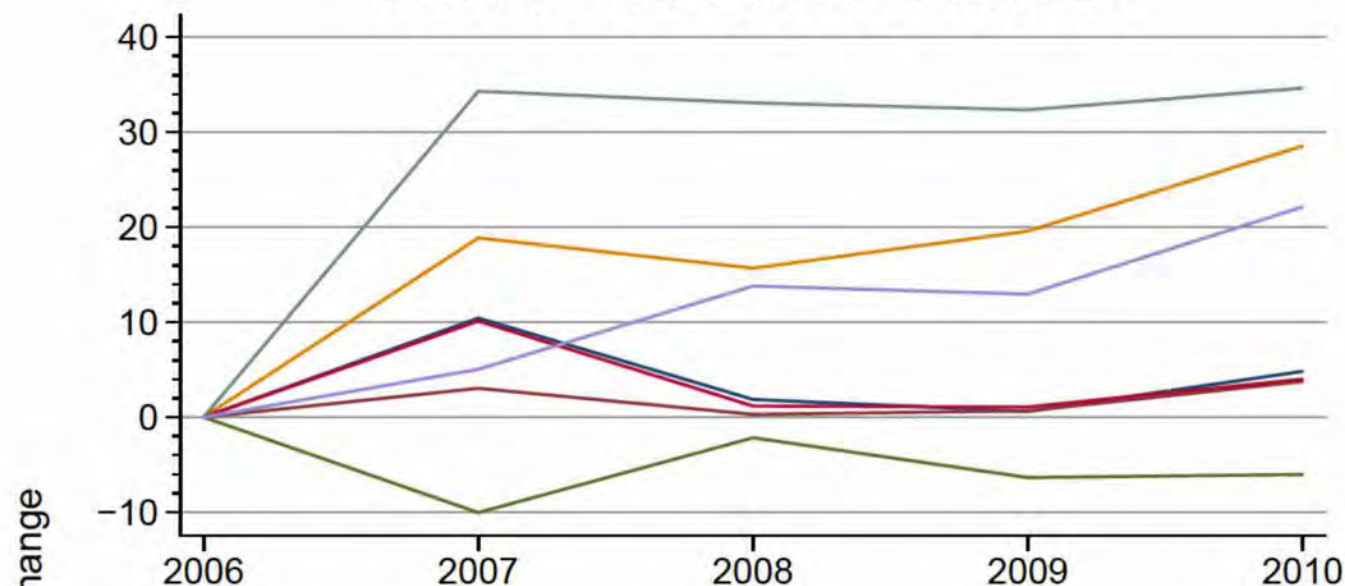
- [1] Each line represents the cumulative compensation change for an individual employee.
- [2] Data are restricted to those employees who remained in RD class positions through 2010. I then selected from each Defendant the job title that included 25 employees (or the closest number to 25).

Source: Dr. Leamer's backup data and materials.

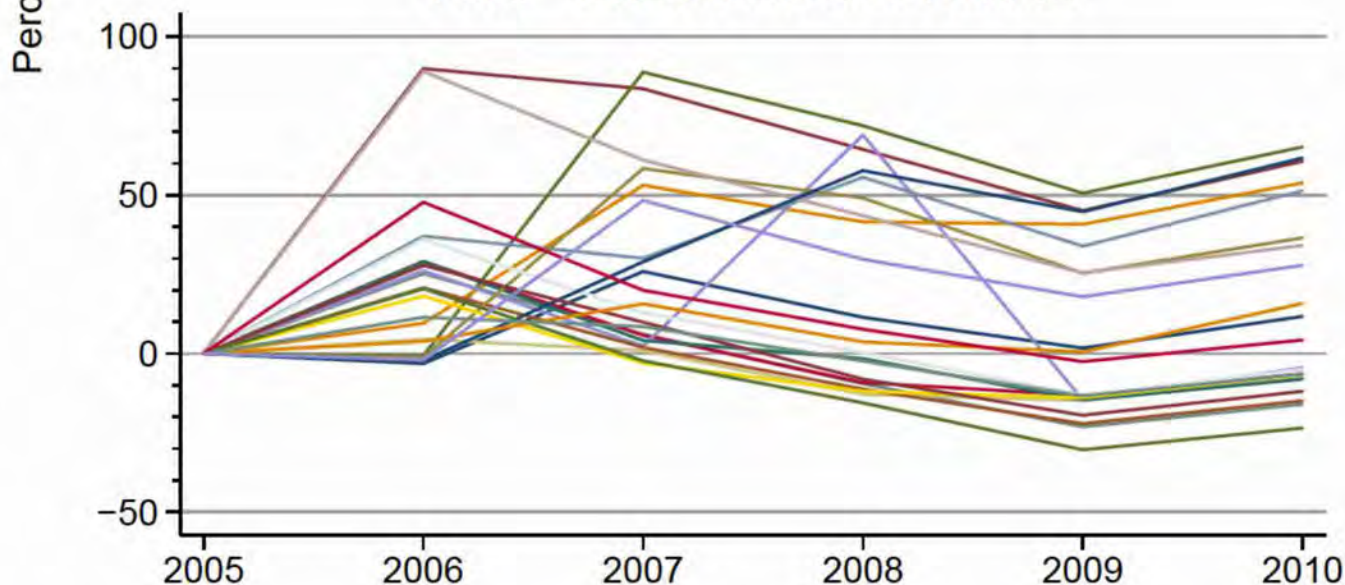
## Exhibit 1 Lucasfilm & Pixar

**There is Substantial Variation in the Cumulative Change in Total Compensation Among Employees with the Same 2005 Job**

Lucasfilm – SENIOR R&D ENGINEER



Pixar – ENGINEER SOFTWARE



Notes:

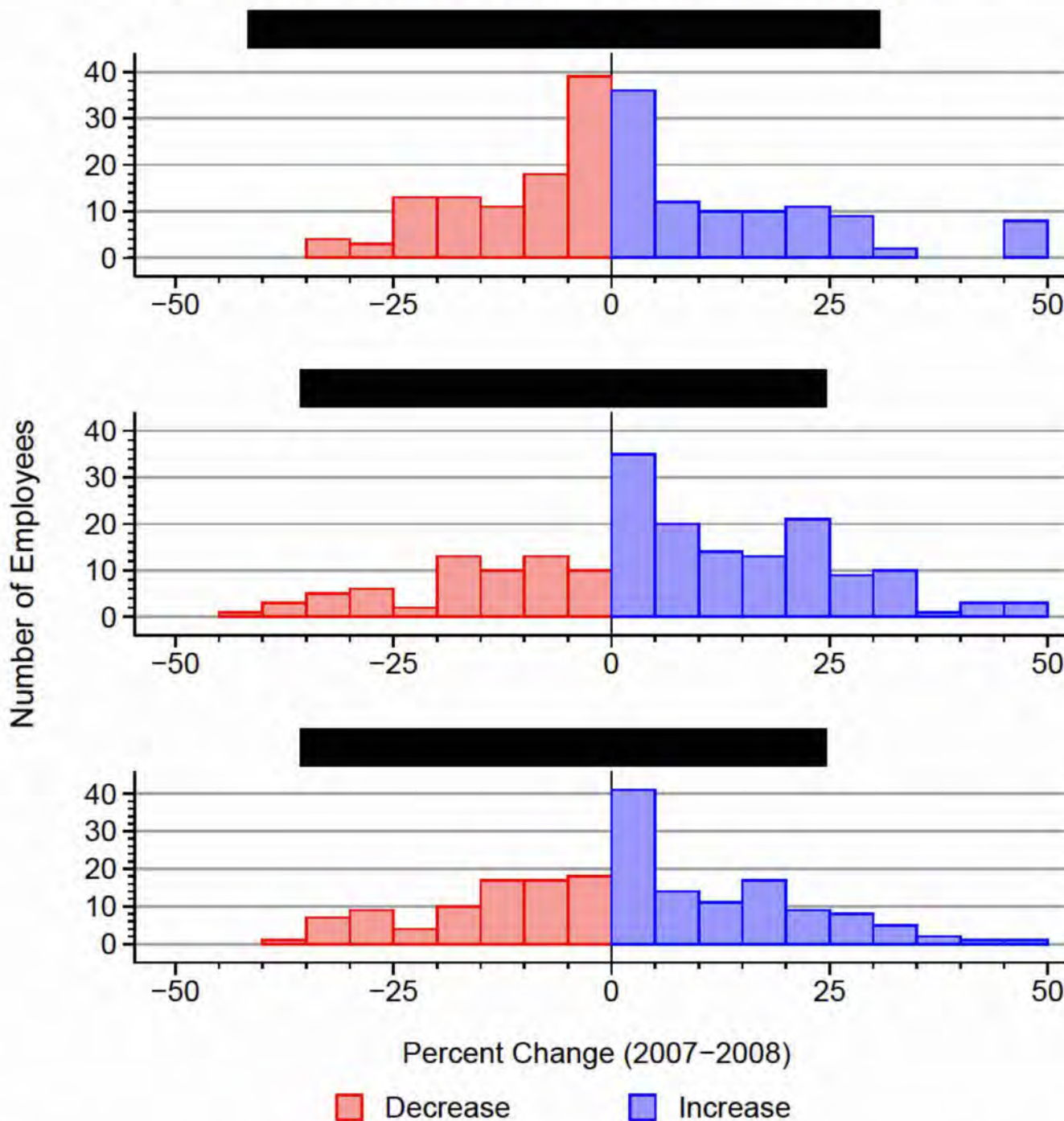
- [1] Each line represents the cumulative compensation change for an individual employee.
- [2] Data are restricted to those employees who remained in RD class positions through 2010. I then selected from each Defendant the job title that included 25 employees (or the closest number to 25).
- [3] The Lucasfilm chart begins in 2006, which is the first year for which I have data on Lucasfilm job titles.

Source: Dr. Leamer's backup data and materials.



## Exhibit 2 Adobe

### There is Substantial Variation in Total Compensation Changes Among Employees in the Same Job in 2007



**Notes:**

- [1] The top 3 Adobe jobs by 2007 employment are shown. See Appendix B for additional jobs and years.
- [2] Some large positive and large negative changes may be capped at +/-50 percent for ease of display.

Source: Dr. Leamer's backup data and materials.

## Exhibit 2 Apple

### There is Substantial Variation in Total Compensation Changes Among Employees in the Same Job in 2007



■ Decrease

■ Increase

Notes:

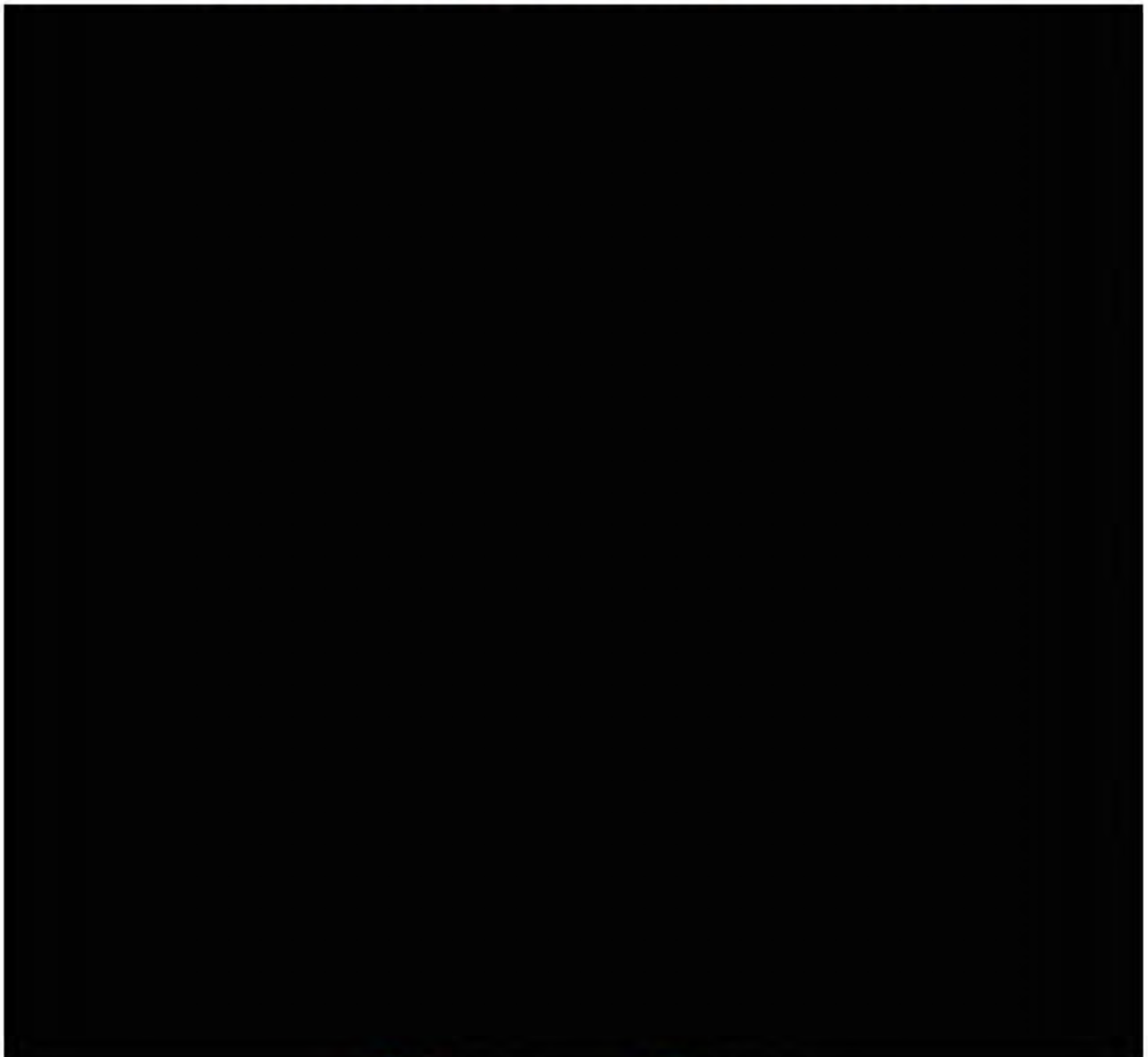
- [1] The top 3 Apple jobs by 2007 employment are shown. See Appendix B for additional jobs and years.
- [2] Some large positive and large negative changes may be capped at +/-75 percent for ease of display.

Source: Dr. Leamer's backup data and materials.



## Exhibit 2 Google

### There is Substantial Variation in Total Compensation Changes Among Employees in the Same Job in 2007



■ Decrease      ■ Increase

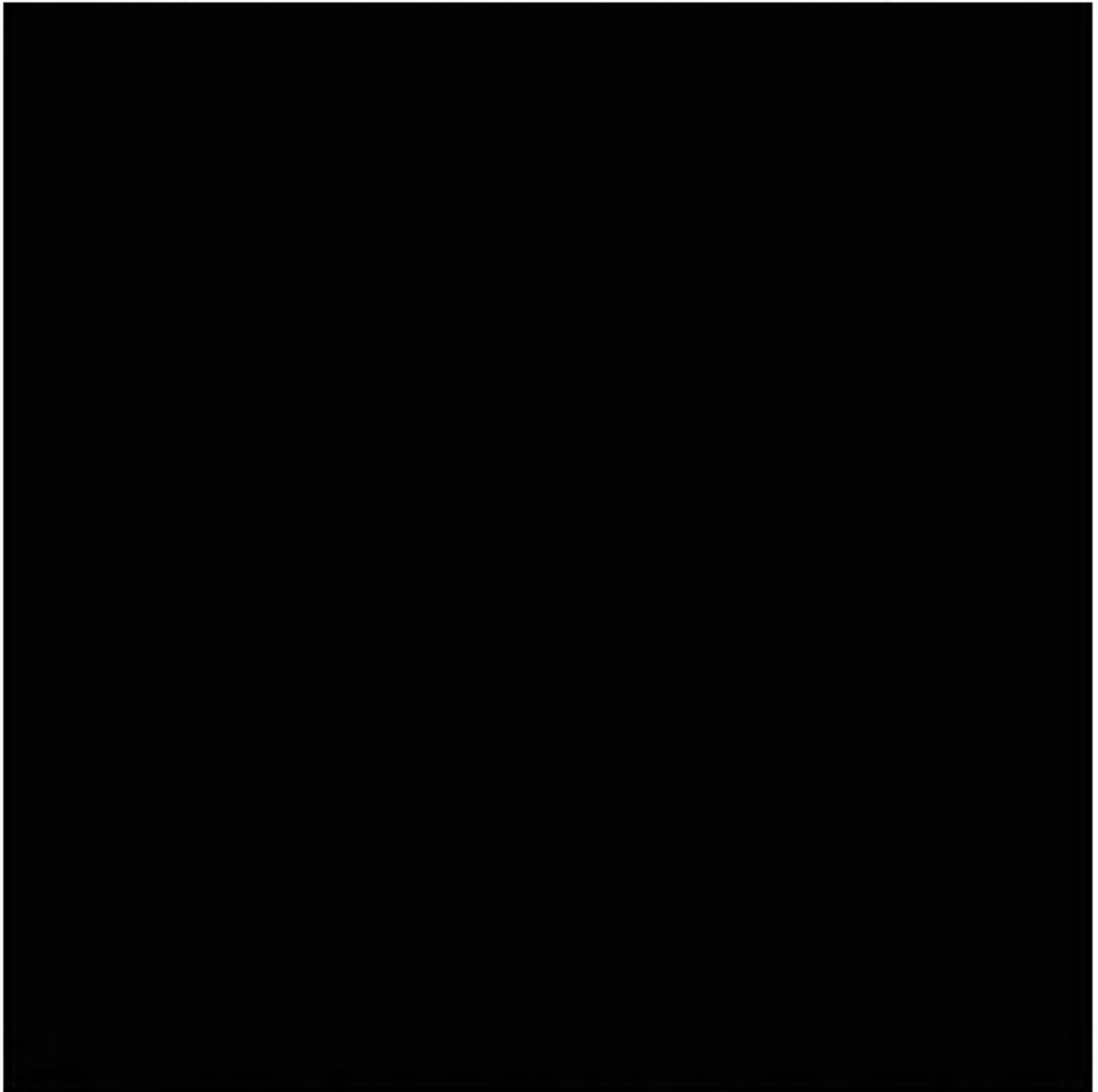
Notes:

- [1] The top 3 Google jobs by 2007 employment are shown. See Appendix B for additional jobs and years.
- [2] Some large positive and large negative changes may be capped at +/-75 percent for ease of display.

Source: Dr. Leamer's backup data and materials.

## Exhibit 2 Intel

### There is Substantial Variation in Total Compensation Changes Among Employees in the Same Job in 2007



Notes:

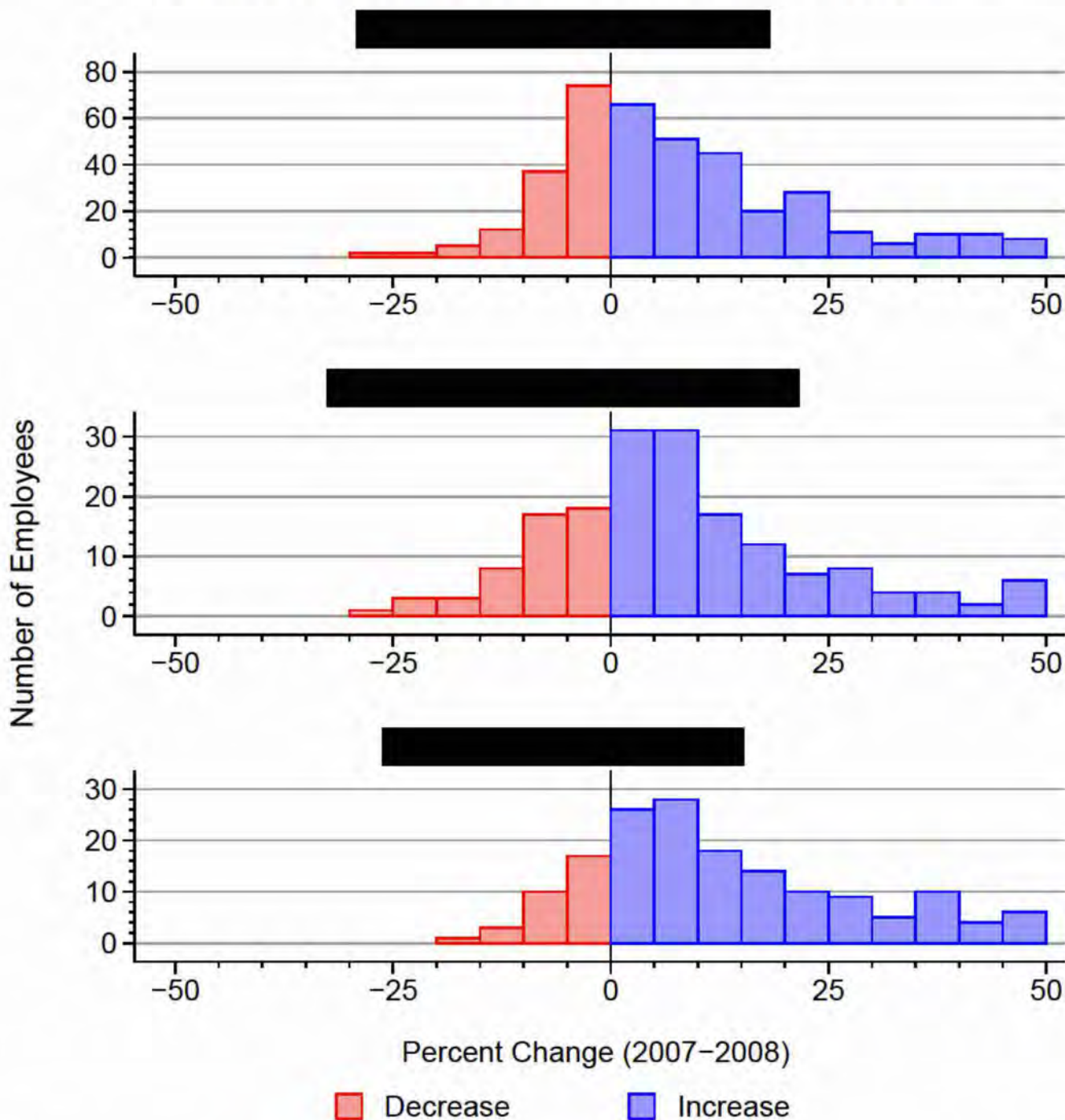
- [1] The top 3 Intel jobs by 2007 employment are shown. See Appendix B for additional jobs and years.
- [2] Some large positive and large negative changes may be capped at +/-50 percent for ease of display.

Source: Dr. Leamer's backup data and materials.



## Exhibit 2 Intuit

**There is Substantial Variation in Total Compensation Changes Among Employees in the Same Job in 2007**



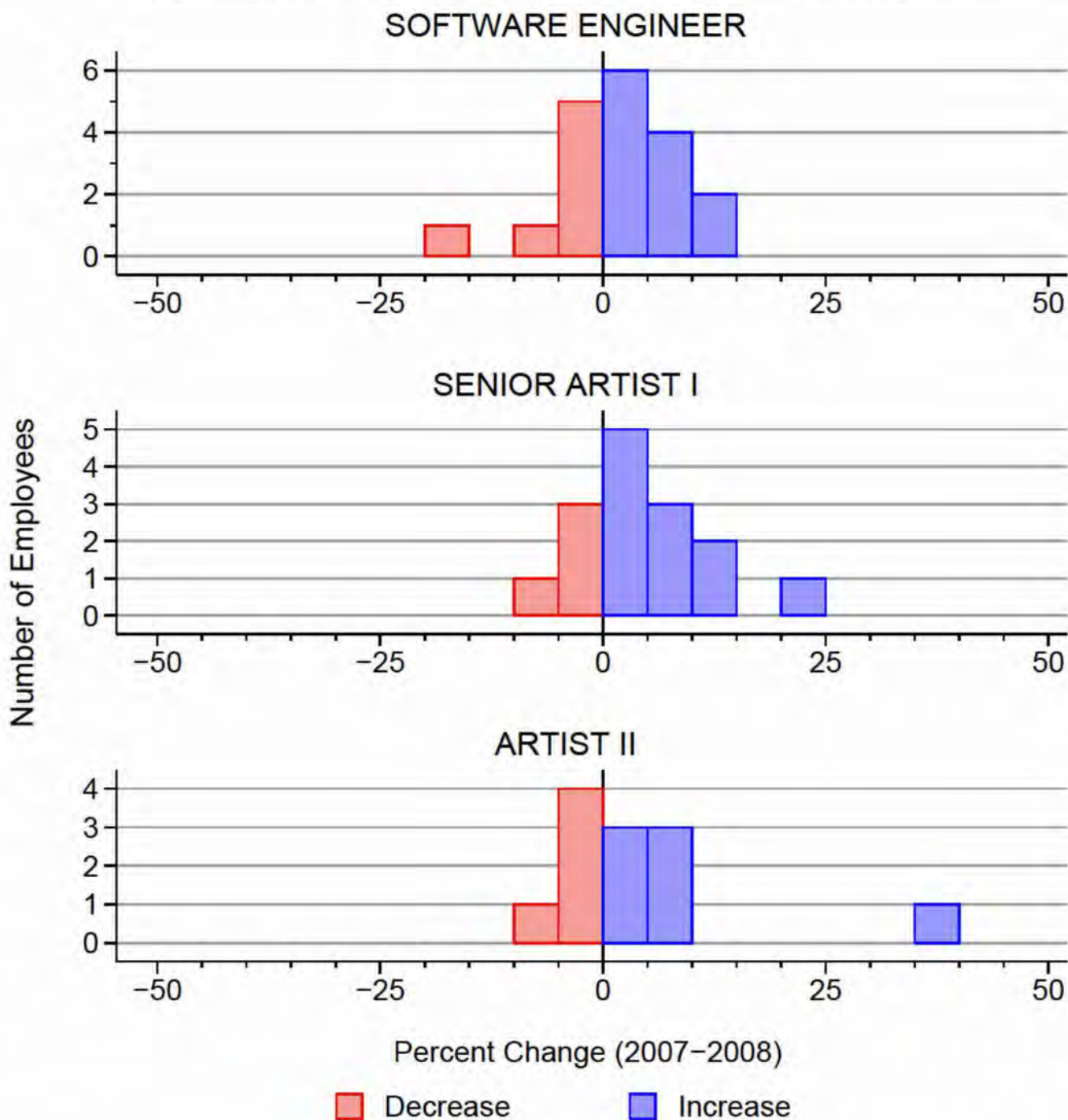
**Notes:**

- [1] The top 3 Intuit jobs by 2007 employment are shown. See Appendix B for additional jobs and years.
- [2] Some large positive and large negative changes may be capped at +/-50 percent for ease of display.

Source: Dr. Leamer's backup data and materials.

## Exhibit 2 Lucasfilm

### There is Substantial Variation in Total Compensation Changes Among Employees in the Same Job in 2007



Notes:

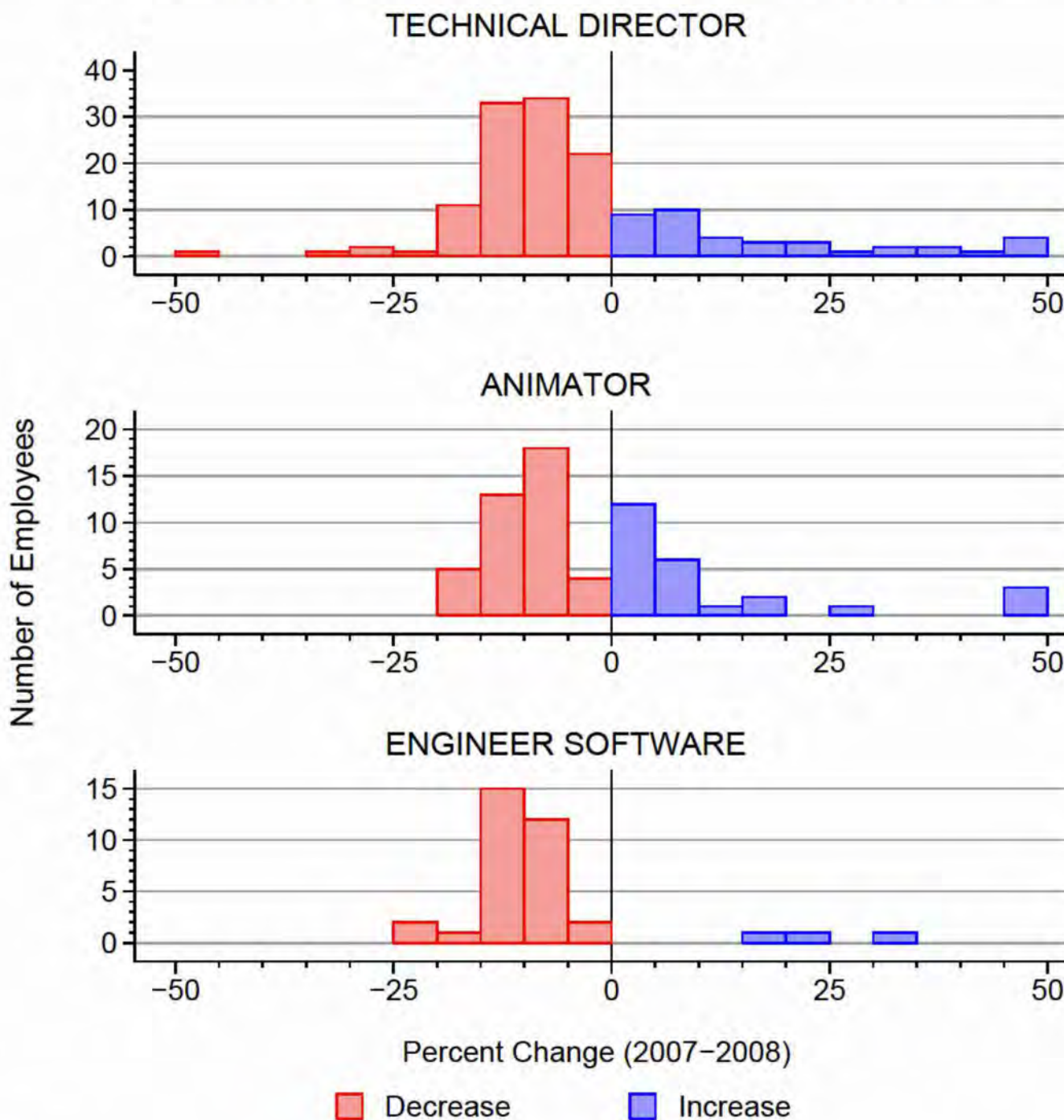
- [1] The top 3 Lucasfilm jobs by 2007 employment are shown. See Appendix B for additional jobs and years.
- [2] Some large positive and large negative changes may be capped at +/-50 percent for ease of display.

Source: Dr. Leamer's backup data and materials.



## Exhibit 2 Pixar

### There is Substantial Variation in Total Compensation Changes Among Employees in the Same Job in 2007



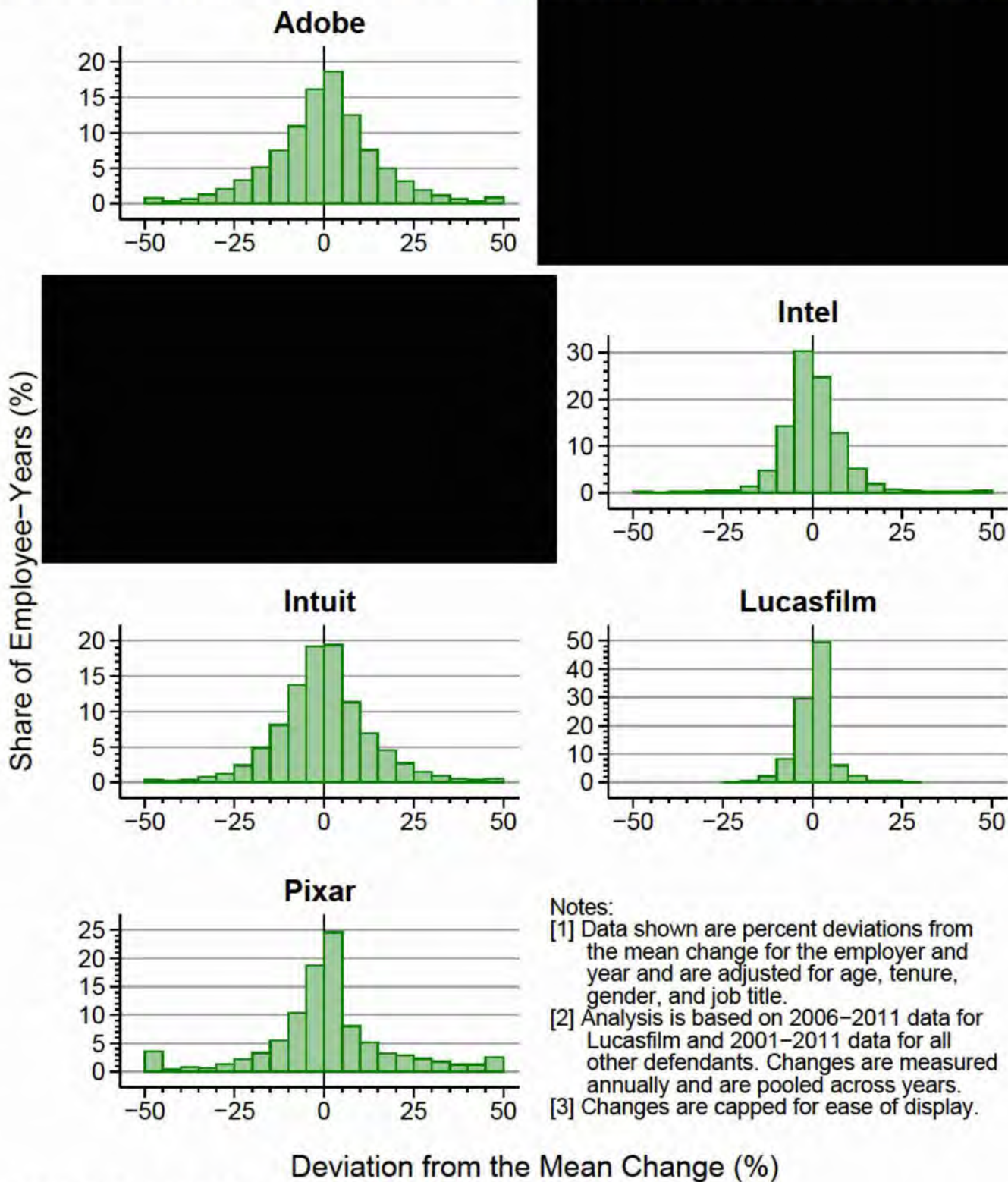
Notes:

- [1] The top 3 Pixar jobs by 2007 employment are shown. See Appendix B for additional jobs and years.
- [2] Some large positive and large negative changes may be capped at +/-50 percent for ease of display.

Source: Dr. Leamer's backup data and materials.

### Exhibit 3

## There is Substantial Variation in Changes in Employee Total Compensation (Adjusted for Individual Characteristics and Job)



Notes:  
 [1] Data shown are percent deviations from the mean change for the employer and year and are adjusted for age, tenure, gender, and job title.  
 [2] Analysis is based on 2006-2011 data for Lucasfilm and 2001-2011 data for all other defendants. Changes are measured annually and are pooled across years.  
 [3] Changes are capped for ease of display.

Source: Dr. Leamer's backup data and materials.



## Exhibit 4

### There Are Large Differences in Compensation Changes Between the Employees with the Lowest Changes and Those with the Highest

Employer	Percent Deviation from Mean Compensation Change			
	Bottom Decile	Bottom Quartile	Top Quartile	Top Decile
Adobe	-29%	-19%	19%	29%
Google	-72%	-44%	47%	78%
Intel	-17%	-11%	11%	19%
Intuit	-24%	-16%	17%	26%
Lucasfilm	-9%	-5%	6%	10%
Pixar	-45%	-25%	25%	42%

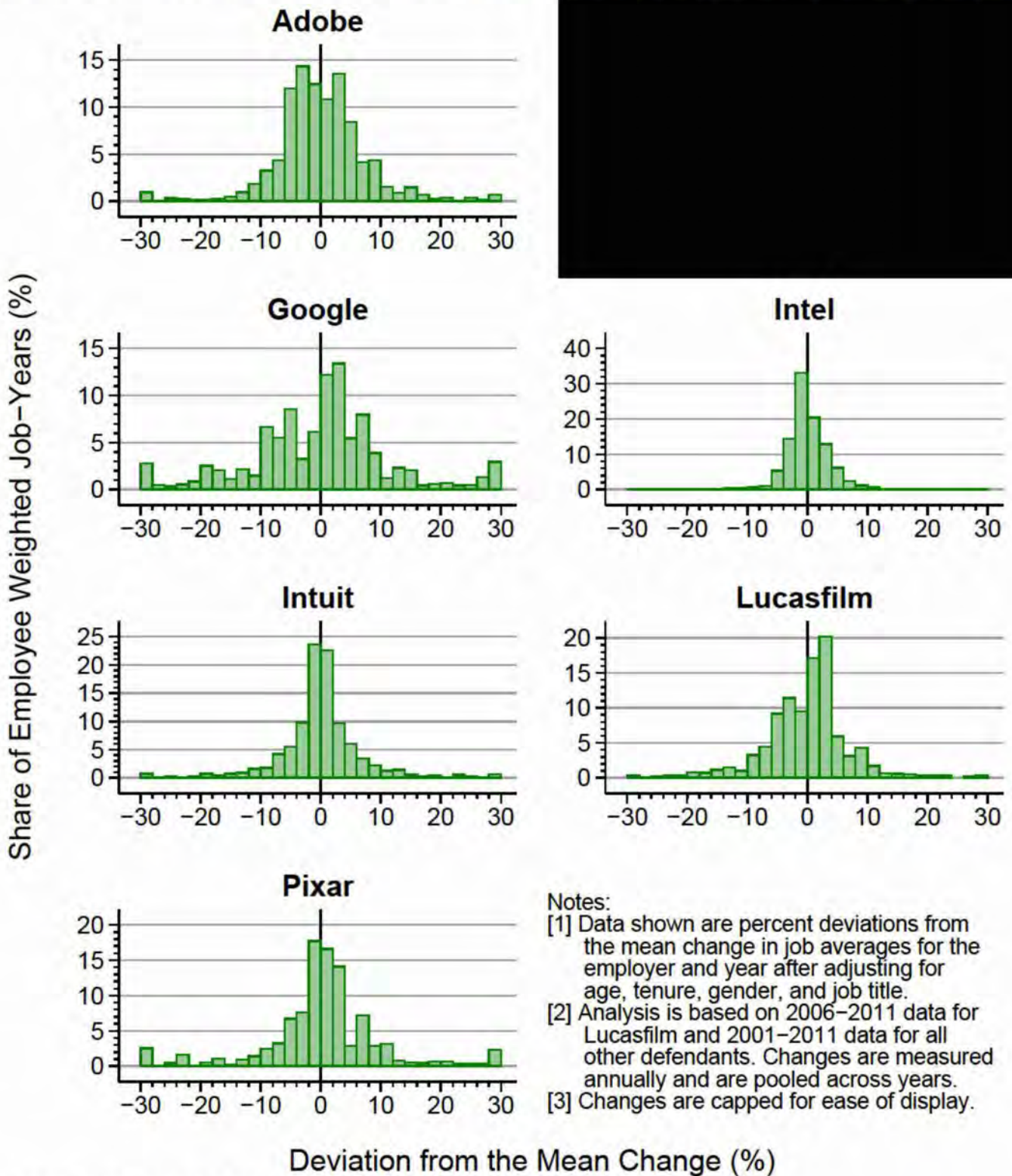
Notes:

- [1] Data shown are percent deviations from the average change for the employer and year after adjusting for age, tenure, gender, and job title.
- [2] Percent deviations shown are averages within each decile or quartile.
- [3] Analysis is based on 2006-2011 data for Lucasfilm and 2001-2011 data for other defendants.
- [4] Deciles and quartiles are based on the share of employee years at each defendant.

Source: Dr. Leamer's backup data and materials.

## Exhibit 5

### There is Substantial Variation in Changes in Job Average Total Compensation (Adjusted for Individual Characteristics and Job)



**Notes:**

- [1] Data shown are percent deviations from the mean change in job averages for the employer and year after adjusting for age, tenure, gender, and job title.
- [2] Analysis is based on 2006–2011 data for Lucasfilm and 2001–2011 data for all other defendants. Changes are measured annually and are pooled across years.
- [3] Changes are capped for ease of display.

Source: Dr. Leamer's backup data and materials.



## Exhibit 6

### There Are Large Differences in the Changes in Average Compensation Between Jobs with the Lowest Changes and Those with the Highest

Employer	Percent Deviation from Mean Change in Job Average			
	Bottom Decile	Bottom Quartile	Top Quartile	Top Decile
Adobe	-15%	-9%	10%	16%
Google	-29%	-19%	16%	29%
Intel	-6%	-4%	5%	7%
Intuit	-14%	-8%	8%	14%
Lucasfilm	-14%	-9%	8%	13%
Pixar	-27%	-14%	13%	23%

Notes:

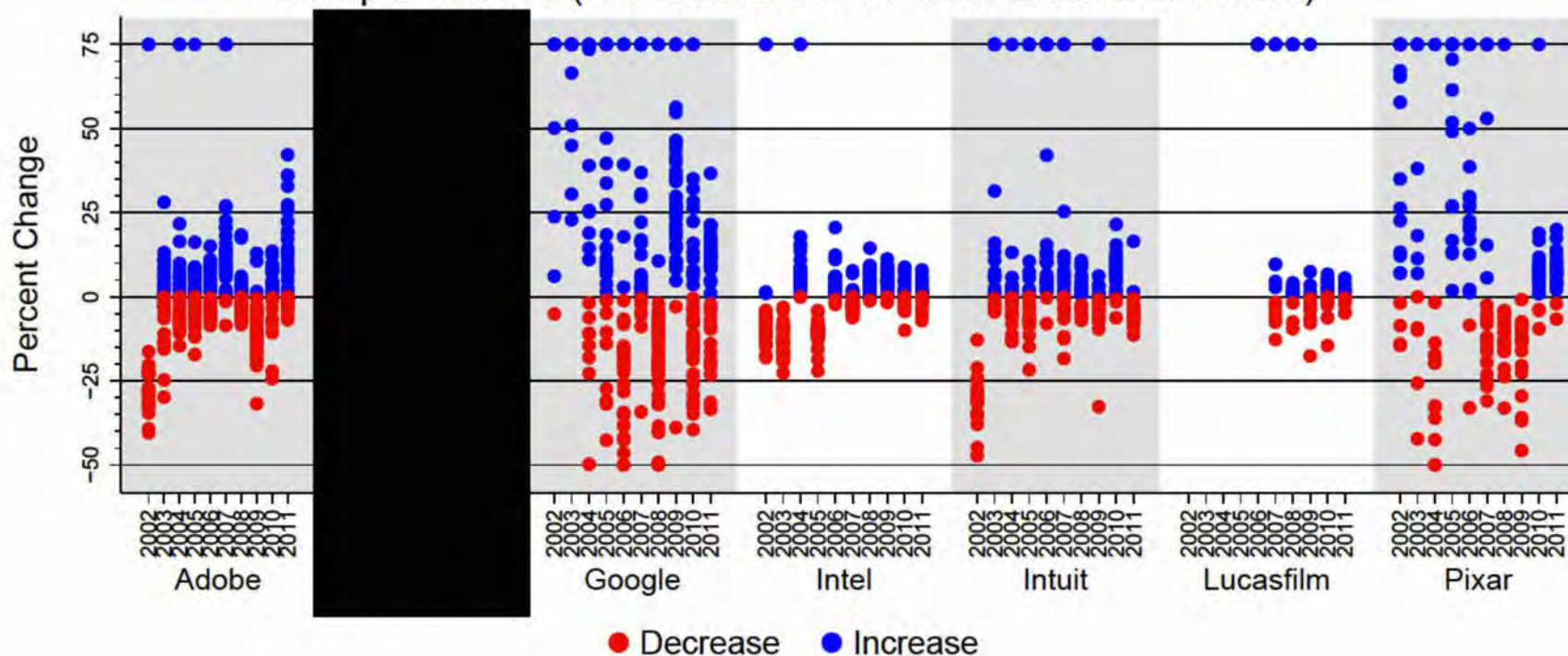
- [1] Data shown are percent deviations from the mean change (weighted by employees) in job averages for the employer and year after adjusting for age, tenure, gender, and job title.
- [2] Percent deviations shown are averages within each decile or quartile.
- [3] Analysis is based on 2006 - 2011 data for Lucasfilm and 2001 - 2011 data for all other defendants.
- [4] Deciles and quartiles are based on the share of employee weighted job-years at each defendant.

Source: Dr. Leamer's backup data and materials.

## Exhibit 7

### There is Substantial Variation in Annual Changes in Job Average Total Compensation at Each Defendant

Sample of Jobs (A Maximum of 50 from Each Defendant)



**Notes:**

- [1] Each dot represents the percent change in the average real total compensation for a given job from the previous year to the current year.
- [2] The jobs selected are the five largest jobs (based on 2001–2011 employment) from each decile in Figures 9–12 of Dr. Leamer’s Supplemental Report. If there are fewer than five jobs in any decile, then the next largest jobs across all deciles are included to reach 50. In addition, I require that the average number of employees in the job across the two years over which I calculate the compensation change to be at least five.
- [3] Annual changes are capped at -50 and +75 percent.
- [4] Lucasfilm data are missing job titles prior to 2006.

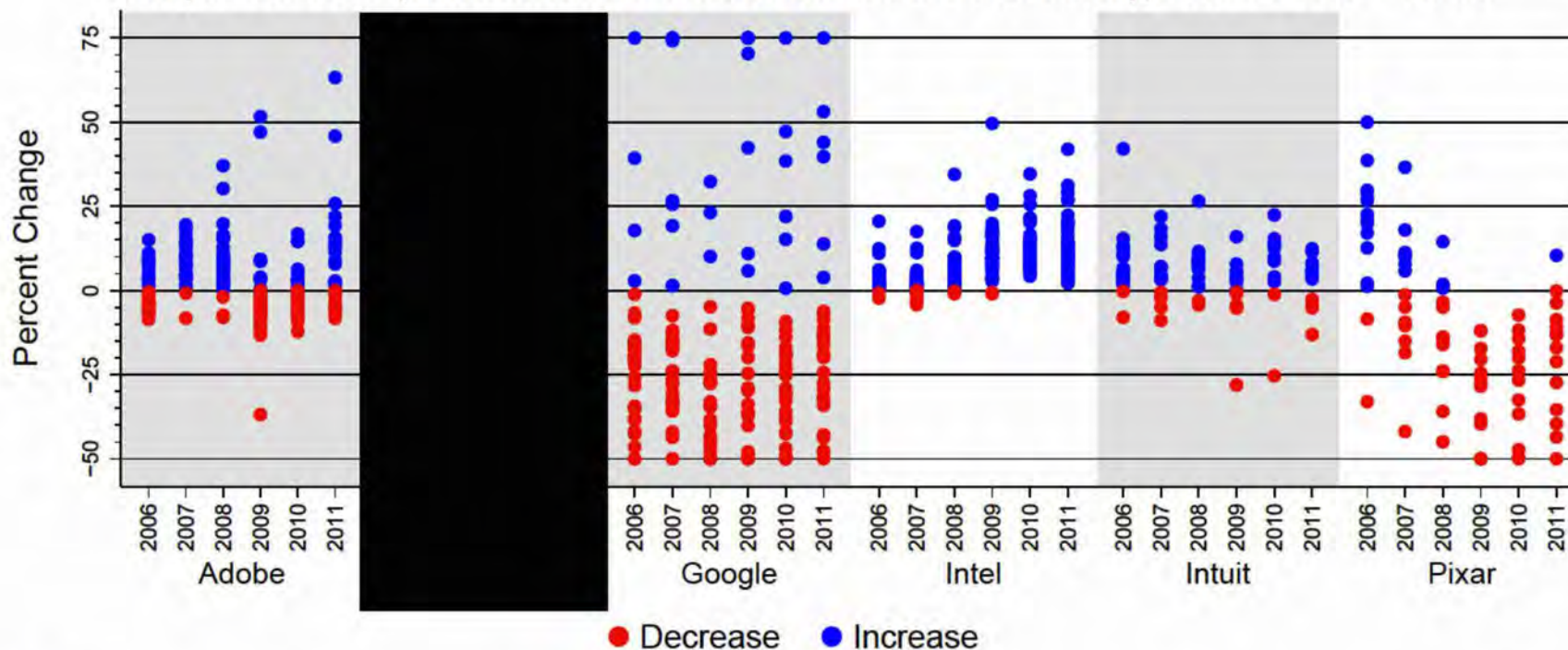
Source: Dr. Leamer’s backup data and materials.



## Exhibit 8

### There is Substantial Variation in Cumulative Changes in Job Average Total Compensation at Each Defendant

Sample of Jobs (A Maximum of 50 from Each Defendant), Base Year = 2005



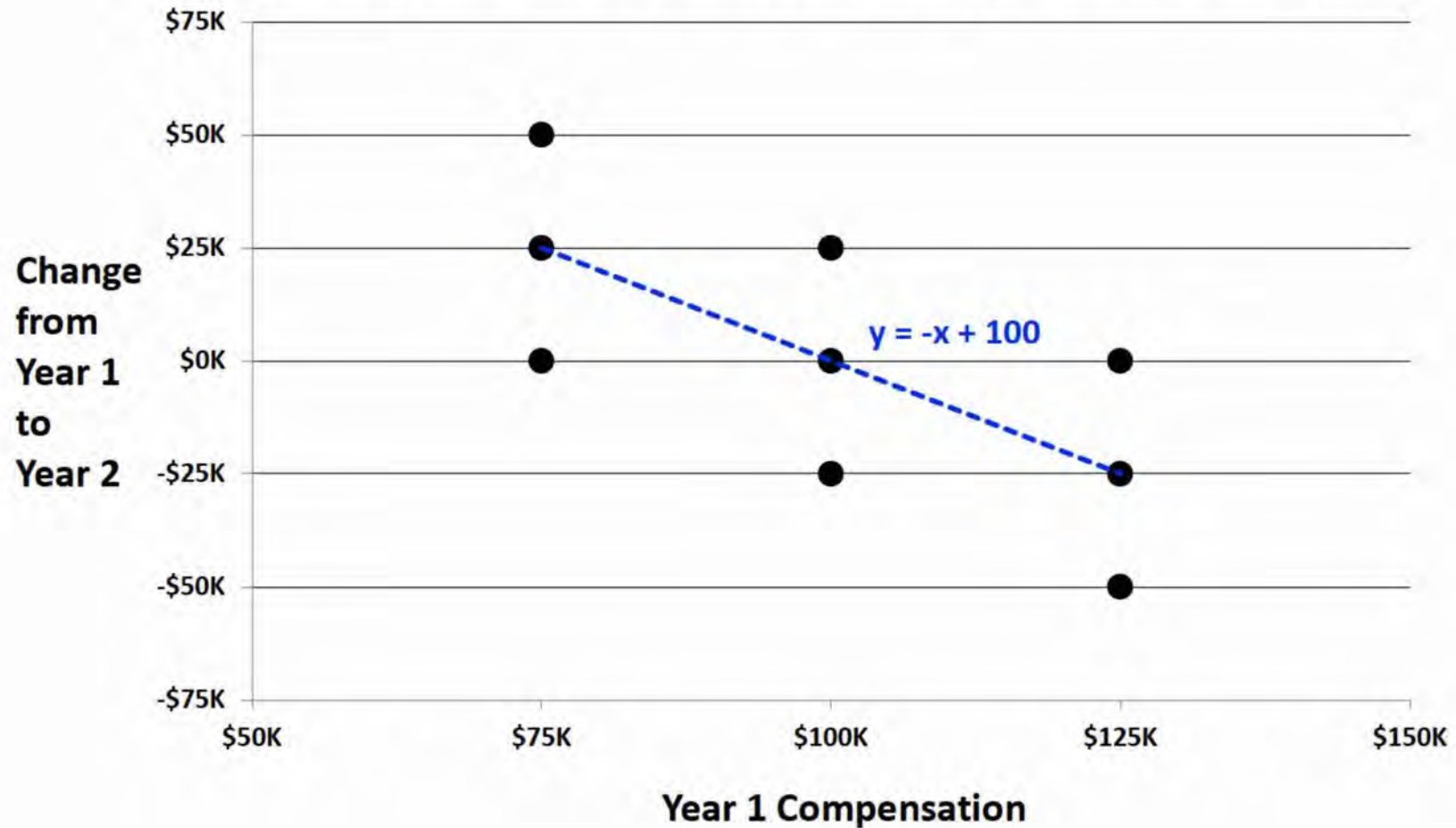
**Notes:**

- [1] Each dot represents the percent change in the average real total compensation for a given job from the previous year to the current year.
- [2] The jobs selected are the five largest jobs (based on 2001–2011 employment) from each decile in Figures 9–12 of Dr. Leamer’s Supplemental Report. If there are fewer than five jobs in any decile, then the next largest jobs across all deciles are included to reach 50. In addition, I require that the average number of employees in the job across the two years over which I calculate the compensation change to be at least five.
- [3] Cumulative changes are capped at –50 and +75 percent.
- [4] Lucasfilm is excluded because its data are missing job titles prior to 2006.

Source: Dr. Leamer’s backup data and materials.

## Exhibit 9

**"Reversion to the Mean" Implies Negative Relationship Between Expected Compensation Change and Lagged Compensation Level**





# Exhibit 10

## Dr. Leamer's Regression Model Does Not Establish "Sharing" or "Catch-Up" between Jobs

### Panel A: Leamer Model Using Defendants' Data

Number of Job Titles 889

#### Dependent Variable

DLog(Title Average Annual Total Compensation)

#### "Contemporaneous Effect Variable"

DLog(R&D Average Annual Total Compensation)

#### "Lagged Effect Variable"

Log(R&D Avg Annual Total Comp (-1) /  
Title Avg Annual Total Compensation (-1))

#### "External Forces Variables"

Log(Firm Revenue Per Employee (-1) /  
Title Avg Annual Total Compensation (-1))

DLog(San-Jose Information Sector Employment)

#### Coefficient Estimate

0.72

0.41

0.12

-0.20

### Panel B: Leamer Model Using U.S. Economy-Wide Data (ACS)

Number of U.S. Occupations 465

#### Dependent Variable

DLog(Occupation Average Annual Wage)

#### "Contemporaneous Effect Variable"

Dlog(U.S. Average Annual Wage)

#### "Lagged Effect Variable"

Log(U.S. Avg Annual Wage (-1) /  
Occupation Avg Annual Wage (-1))

#### "External Forces Variables"

Log(U.S. Real GDP per Worker (-1) /  
Occupation Avg Annual Wage (-1))

DLog(U.S. Total Employment)

#### Coefficient Estimate

1.09

1.32

-0.14

0.03

Notes: Coefficient estimates shown are weighted averages across regressions for all job titles or occupations.

Source: Panel A is based on Leamer Supplemental Report Exhibits 1 and 2. Panel B is based on data from the following public sources:

[American Community Surveys \(ACS\)](#), 2001-2010: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, Matthew Sobek.

Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010, <https://usa.ipums.org>.

[U.S. Real GDP \(GDPC1\)](#): U.S. Department of Commerce Bureau of Economic Analysis. [U.S. Total Employment \(LNU02000000\)](#): U.S. Department of Labor Bureau of Labor Statistics.



# Exhibit 11

## Dr. Leamer's Decile-Based Regressions Do Not Establish "Sharing" or "Catch-Up" between Jobs

**Panel A: Leamer Model Using Defendants' Data**

Decile	Regression Coefficient Estimates			
	"Contemporaneous Sharing"	"Catch-Up"	"External Variable 1" (Firm Revenue)	"External Variable 2" (San Jose IT Employment)
1	0.60	0.37	-0.27	0.19
2	0.55	0.28	-0.09	-0.07
3	0.71	0.40	-0.18	0.13
4	0.58	0.20	0.01	0.05
5	0.73	0.24	0.04	0.04
6	0.66	0.36	0.12	-0.36
7	0.75	0.33	-0.02	-0.07
8	0.71	0.36	0.29	-0.52
9	0.85	0.47	0.15	-0.18
10	1.13	0.04	0.61	-0.37
<b>Average:</b>	<b>0.73</b>	<b>0.31</b>	<b>0.07</b>	<b>-0.12</b>

**Panel B: Leamer Model Using U.S. Economy-Wide Data (ACS)**

Decile	Regression Coefficient Estimates			
	"Contemporaneous Sharing"	"Catch-Up"	"External Variable 1" (U.S. GDP)	"External Variable 2" (U.S. Employment)
1	1.36	1.54	-0.48	0.10
2	0.94	1.12	-0.36	-0.28
3	0.85	0.85	-0.12	-0.36
4	1.18	1.74	-0.34	0.16
5	0.86	1.35	-0.21	0.00
6	0.81	0.62	-0.10	-0.25
7	0.84	1.16	0.19	-0.17
8	1.02	0.91	0.15	0.31
9	1.56	0.37	0.36	-0.57
10	0.57	0.92	0.54	-0.02
<b>Average:</b>	<b>1.00</b>	<b>1.06</b>	<b>-0.04</b>	<b>-0.11</b>

Notes: Estimates shown in Panel A are weighted averages across defendants. Deciles in Panel B are defined according to a similar methodology as Dr. Leamer's decile-based analyses, using U.S. occupation's overall average real wage and employment.

Source: Panel A is based on Dr. Leamer's backup materials for Leamer Supplemental Report Figures 9 to 12. Panel B is based on data from the following public sources:

American Community Surveys (ACS), 2001-2010: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, Matthew Sobek.

Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010, <https://usa.ipums.org>.

U.S. Real GDP (GDPC1): U.S. Department of Commerce Bureau of Economic Analysis. U.S. Total Employment (LNU02000000): U.S. Department of Labor Bureau of Labor Statistics.



## Exhibit 12

### Dr. Leamer's Interpretation of His Regression Results Would Imply that Changes in Chicago Temperature Can be Explained by "Sharing" or "Catch-Up" with Milwaukee Temperature (and Vice Versa)

(Chicago and Milwaukee Daily Temperature Data - January 1995 to May 2013)

Dependent Variable: Change in Chicago Temperature

Variable	Model 1	Model 2	Model 3
	<b>Coefficient Estimates</b>		
<b>Change in Milwaukee Temperature</b>	0.94		0.93
<b>Lagged Difference in Temperature (Milwaukee minus Chicago)</b>	0.48		0.56
<b>January</b>		-0.20	0.64
<b>February</b>		0.27	0.91
<b>March</b>		0.45	1.51
<b>April</b>		0.28	1.96
<b>May</b>		0.37	2.20
<b>June</b>		0.19	1.76
<b>July</b>		0.11	1.38
<b>August</b>		-0.17	0.99
<b>September</b>		-0.40	0.77
<b>October</b>		-0.30	0.69
<b>November</b>		-0.43	0.68
<b>December</b>		-0.20	0.55
Constant	Yes	No	No
R-Squared	0.89	0.00	0.89
Number of Observations	6,633	6,692	6,633

Dependent Variable: Change in Milwaukee Temperature

Variable	Model 1	Model 2	Model 3
	<b>Coefficient Estimates</b>		
<b>Change in Chicago Temperature</b>	0.94		0.95
<b>Lagged Difference in Temperature (Chicago minus Milwaukee)</b>	0.46		0.54
<b>January</b>		-0.19	-0.64
<b>February</b>		0.25	-0.85
<b>March</b>		0.34	-1.42
<b>April</b>		0.27	-1.86
<b>May</b>		0.37	-2.08
<b>June</b>		0.26	-1.67
<b>July</b>		0.11	-1.32
<b>August</b>		-0.19	-0.98
<b>September</b>		-0.38	-0.79
<b>October</b>		-0.31	-0.70
<b>November</b>		-0.44	-0.70
<b>December</b>		-0.18	-0.56
Constant	Yes	No	No
R-Squared	0.88	0.00	0.89
Number of Observations	6,633	6,637	6,633

Source: <http://academic.udayton.edu/kissock/http/Weather/citylistUS.htm>.

# Appendix A



**Dr. Leamer’s Evidence Does not Show “Lack of Variation” in Individual Compensation**

Materials Dr. Leamer submitted with his earlier reports further demonstrate the variation in individual compensation. At paragraph 63 of Dr. Leamer’s Reply Report, Dr. Leamer cites an example of [REDACTED]

[REDACTED]

Attached as Exhibit 1 are tables with data as provided in Dr. Leamer’s backup materials showing compensation and job titles for these same 28 Intel employees and 4 Apple employees over time:

- Page 1 provides the base salaries for each of the 28 Intel employees for the year 2007 to 2011. The columns on the far right show the dollar and percentage increases in base salary for each employee during this period, and the bottom rows show the minimum and maximum base salaries each year and the ranges between them.
- Page 2 provides the total compensation (including base salaries, bonuses, and equity compensation) for each of the 28 Intel employees for the years 2007 to 2011. The columns on the far right show the increases in total compensation for each employee during this period, and the bottom rows show the minimum and maximum total compensation each year and the corresponding ranges.
- Page 3 provides the job titles of each of the 28 Intel employees in each year from 2007 to 2011.
- Pages 4-6 provide this same data for the 4 Apple employees referenced in Dr. Leamer’s Reply Report for the years 2008 to 2011.

Attached as Exhibit 2 are charts showing graphically how the compensation of these employees changed over time.



# **Exhibit 1**

## Base Salary Growth of 28 Similarly Situated Intel Employees



Note: The Dollar Range Percentage is calculated as the difference between the logs of the maximum and minimum.

Sources: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶63 and December 12, 2012 Correction Letter.



## Total Compensation Growth of 28 Similarly Situated Intel Employees



Note: The Dollar Range Percentage is calculated as the difference between the logs of the maximum and minimum.

Sources: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶63 and December 12, 2012 Correction Letter.

## Job Progressions of 28 Similarly Situated Intel Employees



Sources: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶63 and December 12, 2012 Correction Letter.



## Base Salary Growth of 4 Similarly Situated Apple Employees

2008, Apple, [REDACTED]

Employee	Base Salary				2008 to 2011 Growth	
	2008	2009	2010	2011	Dollars	Percent
Employee 1	[REDACTED]					
Employee 2						
Employee 3						
Employee 4						
Minimum						
Maximum						
Dollar Range						
Dollar Range Percentage						

Note: The Dollar Range Percentage is calculated as the difference between the logs of the maximum and minimum.

Sources: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶164.

## Total Compensation Growth of 4 Similarly Situated Apple Employees

2008, Apple, [REDACTED]

Employee	Total Compensation				2008 to 2011 Growth	
	2008	2009	2010	2011	Dollars	Percent
Employee 1	[REDACTED]					
Employee 2						
Employee 3						
Employee 4						
Minimum						
Maximum						
Dollar Range						
Dollar Range Percentage						

Note: The Dollar Range Percentage is calculated as the difference between the logs of the maximum and minimum.

Sources: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶164.



## Job Progressions of 4 Similarly Situated Apple Employees

2008, Apple, [REDACTED]

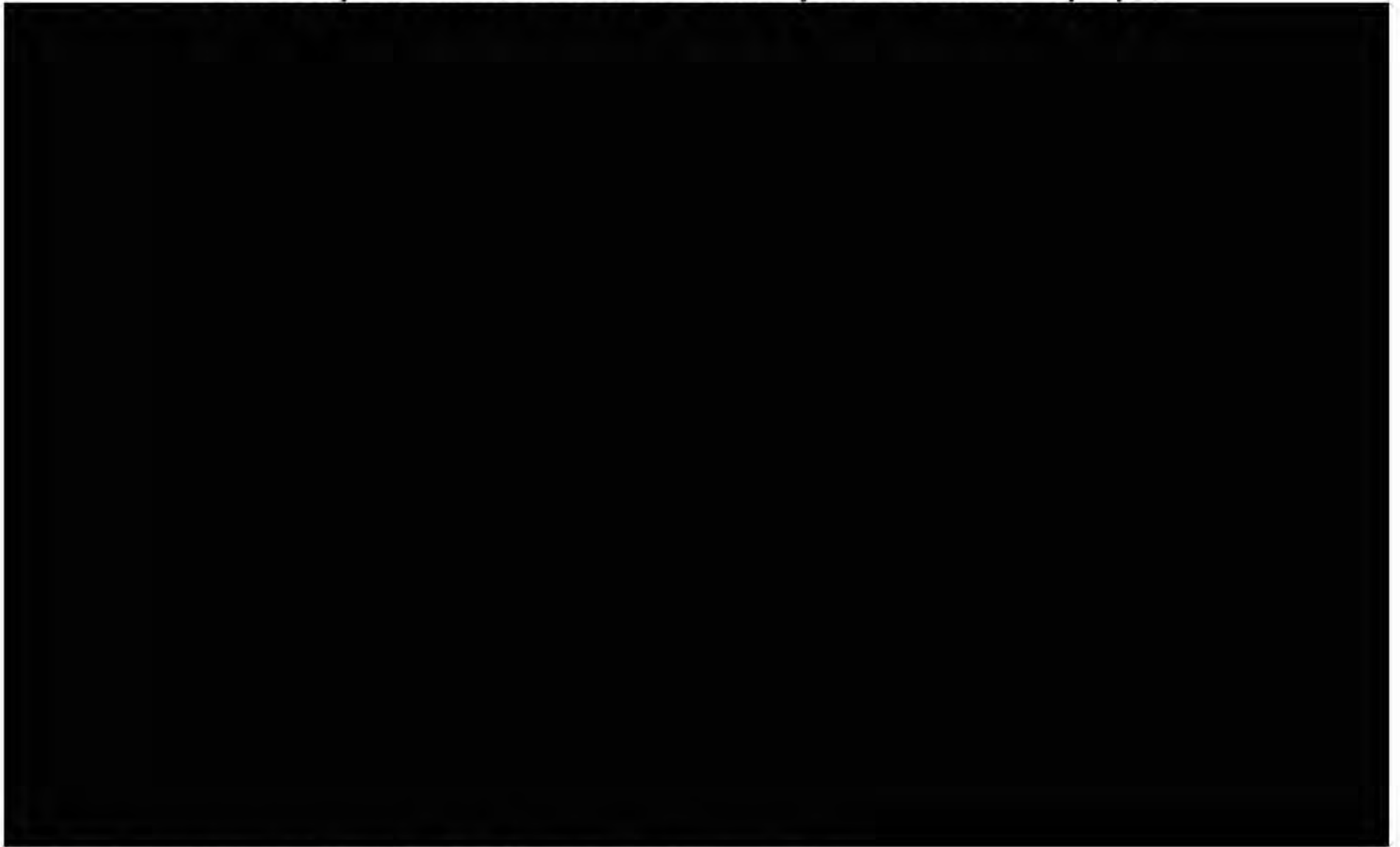
Employee	Job Title and Grade			
	2008	2009	2010	2011
Employee 1	[REDACTED]			
Employee 2	[REDACTED]			
Employee 3	[REDACTED]			
Employee 4	[REDACTED]			

Sources: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶164.

## **Exhibit 2**



## Total Compensation Growth of 28 Similarly Situated Intel Employees



Source: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶63 and December 12, 2012 Correction Letter.

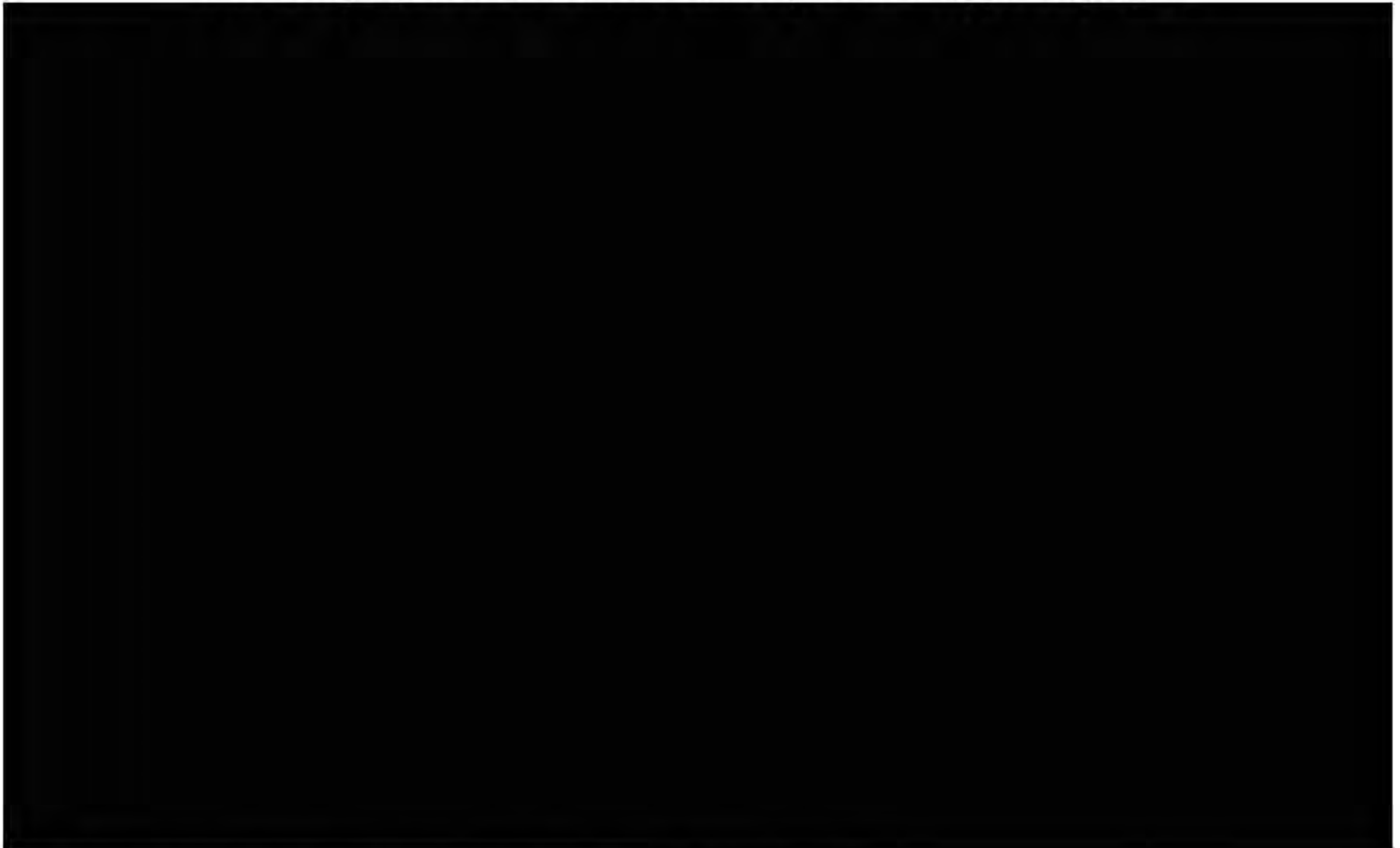
## Total Compensation Growth of 9 Similarly Situated Intel Employees



Notes: Included are the nine employees (out of the 28 similarly situated Intel employees as of 2007) who continued to hold the job title FINANCIAL\_ANALYST\_3 through 2009.  
Source: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶63 and December 12, 2012 Correction Letter.



## Total Compensation Growth of 4 Similarly Situated Apple Employees



Source: Dr. Leamer's backup data; Dr. Leamer's Reply Report at ¶163 and December 12, 2012 Correction Letter.

## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2001	ADOBE		152	-16%	-57%	-41%	-25%	-18%	-11%	13%	51%
2002	ADOBE		121	9%	-30%	-21%	1%	10%	19%	32%	57%
2003	ADOBE		113	-3%	-31%	-20%	-11%	-4%	4%	14%	35%
2004	ADOBE		122	13%	-21%	-13%	7%	14%	20%	37%	93%
2005	ADOBE		188	6%	-22%	-13%	-5%	3%	16%	33%	64%
2006	ADOBE		158	14%	-18%	-13%	1%	10%	25%	46%	221%
2007	ADOBE		214	9%	-39%	-27%	-4%	9%	24%	38%	59%
2008	ADOBE		219	-10%	-48%	-30%	-19%	-9%	-4%	16%	33%
2009	ADOBE		256	7%	-35%	-21%	0%	7%	14%	37%	57%
2010	ADOBE		244	6%	-30%	-23%	1%	5%	12%	33%	48%
2001	ADOBE		155	-16%	-66%	-43%	-28%	-19%	-8%	28%	64%
2002	ADOBE		130	5%	-34%	-26%	-3%	6%	15%	32%	46%
2003	ADOBE		121	-2%	-28%	-22%	-11%	-3%	6%	23%	35%
2004	ADOBE		127	11%	-19%	-13%	5%	12%	17%	33%	43%
2005	ADOBE		171	7%	-32%	-14%	-5%	5%	15%	33%	80%
2006	ADOBE		174	15%	-28%	-15%	1%	10%	24%	55%	258%
2007	ADOBE		204	5%	-36%	-27%	-7%	5%	17%	35%	77%
2008	ADOBE		235	-9%	-60%	-30%	-18%	-7%	-3%	14%	36%
2009	ADOBE		252	5%	-62%	-25%	-4%	7%	14%	32%	47%
2010	ADOBE		262	6%	-48%	-28%	1%	6%	15%	32%	48%
2005	ADOBE		35	25%	-28%	-27%	0%	14%	45%	89%	112%
2006	ADOBE		26	22%	-24%	-7%	5%	20%	33%	71%	82%
2007	ADOBE		33	29%	-49%	-30%	17%	32%	47%	74%	89%
2008	ADOBE		32	17%	-44%	-30%	-17%	-7%	26%	158%	179%
2009	ADOBE		33	-7%	-57%	-57%	-33%	-15%	14%	53%	80%
2010	ADOBE		33	62%	7%	9%	33%	52%	72%	157%	176%
2001	ADOBE		33	-21%	-51%	-46%	-31%	-23%	-17%	8%	72%
2002	ADOBE		31	14%	-13%	-5%	6%	12%	22%	49%	52%
2003	ADOBE		27	1%	-23%	-18%	-8%	1%	11%	23%	24%
2004	ADOBE		30	16%	-6%	0%	11%	16%	24%	33%	36%
2005	ADOBE		35	4%	-19%	-15%	-7%	-1%	12%	37%	50%
2006	ADOBE		39	23%	-11%	-1%	8%	25%	35%	59%	70%
2007	ADOBE		34	3%	-28%	-15%	-6%	1%	9%	29%	30%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	ADOBE		40	-13%	-31%	-28%	-18%	-12%	-7%	-1%	9%
2009	ADOBE		37	10%	-11%	-9%	3%	9%	17%	37%	40%
2010	ADOBE		28	4%	-12%	-10%	1%	4%	7%	25%	26%
2005	ADOBE		25	5%	-19%	-9%	-3%	1%	8%	35%	48%
2006	ADOBE		25	12%	-10%	-6%	6%	12%	18%	26%	37%
2009	ADOBE		30	6%	-20%	-17%	-9%	3%	9%	25%	105%
2010	ADOBE		30	21%	-33%	-16%	4%	29%	33%	51%	63%
2009	ADOBE		25	-4%	-53%	-52%	-13%	0%	7%	25%	31%
2010	ADOBE		29	34%	-20%	-18%	28%	38%	43%	68%	79%
2010	ADOBE		28	30%	-30%	-28%	6%	32%	46%	75%	110%
2001	ADOBE		34	-27%	-60%	-53%	-43%	-25%	-19%	12%	14%
2002	ADOBE		29	-8%	-42%	-38%	-23%	-12%	10%	29%	30%
2005	ADOBE		32	13%	-20%	-6%	1%	12%	26%	40%	41%
2008	ADOBE		27	-5%	-27%	-22%	-13%	-10%	-1%	29%	39%
2010	ADOBE		29	24%	-25%	-24%	10%	28%	35%	57%	58%
2001	ADOBE		28	-26%	-51%	-50%	-40%	-24%	-20%	6%	7%
2002	ADOBE		30	-8%	-40%	-32%	-21%	-12%	9%	26%	26%
2003	ADOBE		39	10%	-17%	-14%	-2%	9%	24%	33%	46%
2004	ADOBE		57	16%	-25%	-4%	5%	10%	18%	59%	130%
2005	ADOBE		49	8%	-16%	-11%	-3%	5%	12%	49%	63%
2006	ADOBE		52	21%	-9%	-6%	7%	16%	29%	65%	104%
2007	ADOBE		58	8%	-29%	-11%	-2%	5%	15%	32%	62%
2008	ADOBE		68	-10%	-39%	-33%	-25%	-15%	-9%	27%	138%
2009	ADOBE		65	2%	-35%	-19%	-4%	1%	8%	23%	57%
2010	ADOBE		51	34%	-16%	16%	29%	36%	40%	54%	59%
2001	ADOBE		25	-26%	-53%	-50%	-46%	-30%	-25%	9%	125%
2004	ADOBE		31	8%	-14%	-13%	2%	9%	14%	27%	28%
2005	ADOBE		55	8%	-34%	-18%	-3%	4%	12%	57%	97%
2006	ADOBE		58	16%	-46%	-9%	7%	14%	26%	51%	56%
2007	ADOBE		68	12%	-15%	-13%	-2%	6%	18%	50%	217%
2008	ADOBE		67	-10%	-41%	-30%	-20%	-12%	-6%	1%	137%
2009	ADOBE		64	2%	-55%	-19%	-9%	3%	7%	43%	56%
2010	ADOBE		72	33%	-23%	-1%	27%	31%	37%	73%	108%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	ADOBE		28	19%	-24%	-9%	-4%	12%	40%	54%	78%
2008	ADOBE		25	-14%	-32%	-31%	-19%	-12%	-7%	-1%	8%
2005	ADOBE		25	14%	-7%	-5%	-1%	9%	29%	48%	51%
2006	ADOBE		29	18%	-9%	2%	8%	14%	24%	40%	57%
2007	ADOBE		29	3%	-18%	-17%	-6%	2%	9%	31%	32%
2008	ADOBE		27	-15%	-31%	-29%	-26%	-15%	-7%	0%	16%
2009	ADOBE		29	4%	-18%	-17%	-3%	5%	11%	26%	34%
2001	ADOBE		32	-20%	-36%	-35%	-23%	-22%	-17%	-7%	3%
2002	ADOBE		26	8%	-15%	-15%	2%	7%	15%	25%	26%
2001	ADOBE		80	-18%	-56%	-38%	-24%	-19%	-11%	5%	11%
2002	ADOBE		62	12%	-18%	-13%	3%	10%	15%	52%	65%
2003	ADOBE		53	-4%	-31%	-25%	-10%	-4%	2%	15%	25%
2004	ADOBE		44	15%	-8%	-5%	10%	16%	21%	32%	40%
2005	ADOBE		66	3%	-20%	-18%	-8%	-1%	12%	35%	53%
2006	ADOBE		59	14%	-12%	-8%	1%	12%	24%	38%	65%
2007	ADOBE		91	4%	-35%	-31%	-16%	7%	18%	40%	67%
2008	ADOBE		109	-13%	-37%	-33%	-27%	-11%	-3%	19%	34%
2009	ADOBE		158	1%	-38%	-24%	-17%	2%	15%	31%	57%
2010	ADOBE		144	3%	-29%	-23%	-7%	5%	11%	24%	44%
2003	ADOBE		26	14%	-33%	-15%	4%	14%	28%	43%	58%
2005	ADOBE		35	20%	-23%	-18%	-4%	12%	27%	76%	135%
2006	ADOBE		33	15%	-27%	-17%	-2%	3%	29%	55%	158%
2007	ADOBE		35	28%	-16%	-11%	11%	32%	40%	57%	78%
2008	ADOBE		38	14%	-35%	-33%	-15%	-12%	43%	131%	136%
2009	ADOBE		38	-20%	-57%	-57%	-38%	-19%	-5%	24%	41%
2010	ADOBE		41	42%	-47%	-33%	20%	47%	55%	135%	196%
2005	ADOBE		31	22%	-7%	-6%	6%	17%	38%	58%	63%
2006	ADOBE		35	16%	-9%	-3%	6%	16%	23%	41%	49%
2007	ADOBE		43	15%	-26%	-22%	4%	14%	27%	45%	53%
2008	ADOBE		37	-11%	-27%	-26%	-18%	-13%	-7%	15%	16%
2009	ADOBE		32	5%	-26%	-18%	0%	4%	11%	34%	38%
2010	ADOBE		30	24%	-23%	-19%	11%	28%	43%	56%	59%
2005	ADOBE		26	7%	-18%	-9%	-5%	3%	10%	16%	94%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	ADOBE		27	25%	-12%	0%	12%	23%	40%	47%	55%
2007	ADOBE		31	9%	-29%	-13%	-5%	8%	19%	52%	54%
2008	ADOBE		46	-4%	-27%	-26%	-19%	-8%	0%	25%	167%
2009	ADOBE		44	5%	-54%	-25%	-5%	6%	12%	41%	42%
2010	ADOBE		42	7%	-17%	-13%	-4%	8%	12%	34%	46%
2001	ADOBE		28	-24%	-69%	-52%	-35%	-29%	-14%	8%	16%
2002	ADOBE		37	-8%	-49%	-44%	-22%	-16%	10%	32%	33%
2003	ADOBE		44	11%	-18%	-11%	3%	9%	17%	29%	51%
2004	ADOBE		40	10%	-15%	-11%	6%	9%	15%	26%	28%
2005	ADOBE		41	2%	-23%	-20%	-7%	-1%	6%	45%	49%
2006	ADOBE		35	24%	-9%	2%	14%	20%	32%	59%	65%
2007	ADOBE		48	8%	-24%	-10%	-4%	3%	16%	42%	116%
2008	ADOBE		63	-11%	-41%	-27%	-18%	-9%	-5%	7%	9%
2009	ADOBE		64	9%	-21%	-14%	-3%	6%	15%	39%	71%
2010	ADOBE		48	7%	-68%	-14%	0%	7%	11%	35%	67%
2006	ADOBE		26	28%	-13%	-7%	16%	25%	45%	61%	77%
2007	ADOBE		29	0%	-36%	-33%	-11%	-3%	6%	19%	138%
2008	ADOBE		39	0%	-21%	-21%	-13%	-8%	-4%	74%	74%
2009	ADOBE		39	1%	-48%	-47%	-8%	5%	11%	43%	70%
2010	ADOBE		42	18%	-67%	-35%	-6%	7%	22%	109%	147%
2006	ADOBE		26	1%	-18%	-16%	-6%	4%	6%	17%	18%
2001	ADOBE		25	-9%	-50%	-50%	-36%	-21%	-5%	114%	139%
2002	ADOBE		31	-3%	-45%	-35%	-22%	-3%	13%	44%	51%
2003	ADOBE		32	3%	-24%	-9%	-5%	3%	8%	17%	33%
2004	ADOBE		39	12%	-20%	-14%	5%	14%	18%	30%	38%
2005	ADOBE		45	3%	-32%	-14%	-8%	-2%	11%	37%	58%
2006	ADOBE		50	20%	-13%	-1%	11%	18%	26%	42%	102%
2007	ADOBE		52	1%	-24%	-20%	-9%	0%	7%	23%	39%
2008	ADOBE		48	-8%	-26%	-19%	-13%	-6%	-4%	6%	11%
2009	ADOBE		51	11%	-50%	-10%	-1%	7%	15%	30%	143%
2010	ADOBE		49	6%	-54%	-31%	-2%	5%	10%	67%	84%
2001	ADOBE		135	-18%	-49%	-46%	-36%	-21%	-11%	39%	94%
2002	ADOBE		139	7%	-42%	-27%	-8%	6%	17%	28%	233%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2003	ADOBE		152	-1%	-61%	-28%	-10%	-1%	5%	21%	183%
2004	ADOBE		166	13%	-37%	-17%	3%	14%	20%	37%	122%
2005	ADOBE		175	1%	-39%	-23%	-8%	-2%	5%	27%	136%
2006	ADOBE		218	14%	-56%	-12%	1%	14%	25%	47%	78%
2007	ADOBE		212	6%	-32%	-21%	-4%	4%	15%	37%	97%
2008	ADOBE		220	-8%	-37%	-31%	-18%	-6%	-3%	14%	80%
2009	ADOBE		219	9%	-71%	-15%	1%	7%	15%	40%	83%
2010	ADOBE		203	2%	-59%	-27%	-7%	4%	8%	29%	48%
2001	ADOBE		31	-21%	-51%	-46%	-33%	-24%	-18%	-3%	108%
2003	ADOBE		27	5%	-51%	-21%	-3%	5%	16%	28%	42%
2004	ADOBE		26	9%	-3%	-1%	2%	10%	15%	21%	26%
2005	ADOBE		39	14%	-23%	-18%	-4%	10%	31%	61%	64%
2006	ADOBE		42	12%	-22%	-19%	1%	12%	20%	40%	46%
2007	ADOBE		57	11%	-24%	-19%	-2%	9%	23%	44%	58%
2008	ADOBE		67	-13%	-35%	-29%	-22%	-17%	-6%	17%	42%
2009	ADOBE		60	8%	-22%	-16%	-4%	3%	12%	47%	144%
2010	ADOBE		73	31%	-31%	-22%	19%	35%	39%	69%	111%
2005	ADOBE		25	11%	-16%	-16%	5%	9%	19%	31%	31%
2006	ADOBE		31	1%	-15%	-13%	-5%	3%	7%	16%	19%
2007	ADOBE		32	7%	-15%	-11%	3%	7%	12%	33%	36%
2008	ADOBE		32	-7%	-24%	-20%	-10%	-5%	-2%	4%	4%
2009	ADOBE		30	11%	-9%	-9%	5%	9%	13%	33%	33%
2001	ADOBE		35	-14%	-35%	-35%	-23%	-13%	-7%	3%	9%
2001	ADOBE		125	-15%	-40%	-34%	-24%	-17%	-10%	9%	53%
2002	ADOBE		112	12%	-25%	-20%	2%	10%	21%	45%	58%
2003	ADOBE		95	-4%	-37%	-24%	-11%	-1%	2%	14%	25%
2004	ADOBE		83	13%	-33%	-17%	7%	14%	23%	38%	52%
2005	ADOBE		123	6%	-27%	-20%	-8%	5%	16%	37%	45%
2006	ADOBE		110	11%	-16%	-8%	0%	6%	21%	38%	49%
2007	ADOBE		96	7%	-32%	-26%	0%	8%	18%	37%	70%
2008	ADOBE		89	-12%	-37%	-33%	-17%	-12%	-8%	6%	13%
2009	ADOBE		65	8%	-23%	-18%	3%	9%	13%	27%	53%
2010	ADOBE		39	6%	-26%	-23%	0%	5%	13%	30%	32%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2001	ADOBE		73	-20%	-56%	-43%	-28%	-22%	-14%	7%	47%
2002	ADOBE		74	9%	-30%	-24%	1%	9%	19%	36%	47%
2003	ADOBE		87	-4%	-30%	-24%	-13%	-3%	3%	17%	35%
2004	ADOBE		101	16%	-17%	-2%	10%	15%	21%	35%	65%
2005	ADOBE		163	1%	-27%	-15%	-9%	-2%	7%	29%	81%
2006	ADOBE		191	14%	-18%	-15%	2%	10%	26%	51%	70%
2007	ADOBE		173	4%	-38%	-31%	-2%	5%	13%	26%	45%
2008	ADOBE		171	-9%	-30%	-23%	-17%	-8%	-5%	5%	22%
2009	ADOBE		151	12%	-23%	-9%	5%	8%	15%	36%	58%
2010	ADOBE		124	5%	-33%	-17%	1%	4%	9%	30%	48%
2004	ADOBE		35	13%	-21%	-16%	9%	15%	19%	33%	38%
2005	ADOBE		44	2%	-16%	-16%	-6%	1%	6%	28%	29%
2006	ADOBE		50	20%	-21%	-20%	7%	19%	31%	57%	63%
2007	ADOBE		46	5%	-34%	-25%	-9%	-1%	19%	44%	74%
2008	ADOBE		49	-10%	-33%	-30%	-17%	-7%	-4%	5%	13%
2009	ADOBE		51	9%	-15%	-12%	1%	7%	11%	52%	64%
2010	ADOBE		46	6%	-32%	-30%	1%	6%	16%	26%	26%
2009	ADOBE		26	10%	-31%	-11%	-4%	3%	10%	22%	175%
2010	ADOBE		30	6%	-19%	-18%	-1%	4%	15%	40%	48%
2005	ADOBE		29	-3%	-21%	-20%	-6%	-3%	2%	12%	17%
2006	ADOBE		27	4%	-8%	-8%	-4%	3%	10%	21%	22%
2007	ADOBE		32	7%	-8%	-7%	3%	7%	11%	16%	21%
2008	ADOBE		43	2%	-13%	-10%	-5%	-1%	8%	26%	29%
2009	ADOBE		48	9%	-27%	-21%	-1%	8%	16%	42%	54%
2010	ADOBE		56	3%	-34%	-23%	-3%	4%	11%	27%	34%
2001	ADOBE		26	-26%	-45%	-45%	-30%	-26%	-22%	-1%	-1%
2005	ADOBE		32	-1%	-30%	-23%	-9%	-2%	3%	25%	27%
2006	ADOBE		25	18%	-13%	-13%	5%	17%	22%	73%	73%
2007	ADOBE		27	-2%	-40%	-30%	-17%	-1%	11%	25%	43%











































## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2001	INTEL		66	-1%	-25%	-14%	-12%	-6%	6%	23%	57%
2002	INTEL		78	-2%	-23%	-22%	-7%	-2%	5%	13%	33%
2003	INTEL		58	12%	-3%	-2%	7%	10%	17%	27%	42%
2004	INTEL		46	6%	-9%	-5%	2%	7%	9%	14%	24%
2005	INTEL		61	17%	-11%	3%	10%	15%	23%	34%	35%
2006	INTEL		76	16%	-7%	1%	10%	15%	22%	33%	37%
2007	INTEL		68	13%	0%	3%	7%	11%	19%	26%	29%
2008	INTEL		82	1%	-11%	-7%	-2%	1%	4%	12%	21%
2009	INTEL		95	15%	1%	4%	10%	15%	19%	26%	31%
2010	INTEL		82	23%	-2%	9%	16%	22%	29%	47%	49%
2001	INTEL		68	-3%	-27%	-15%	-12%	-3%	5%	15%	42%
2002	INTEL		58	-7%	-34%	-23%	-13%	-7%	-2%	10%	10%
2003	INTEL		68	10%	-18%	-3%	7%	9%	14%	23%	26%
2004	INTEL		79	1%	-18%	-11%	-3%	0%	4%	10%	23%
2005	INTEL		110	13%	-9%	0%	8%	11%	19%	31%	42%
2006	INTEL		93	11%	-11%	0%	6%	10%	16%	23%	24%
2007	INTEL		105	9%	-9%	-1%	6%	8%	14%	23%	28%
2008	INTEL		106	3%	-7%	-5%	-1%	3%	6%	9%	23%
2009	INTEL		104	7%	-6%	-1%	4%	7%	11%	15%	18%
2010	INTEL		97	16%	-5%	3%	11%	15%	22%	32%	46%
2001	INTEL		74	-7%	-48%	-38%	-13%	-8%	-2%	22%	55%
2002	INTEL		96	-7%	-38%	-30%	-13%	-6%	-1%	6%	38%
2003	INTEL		102	15%	-19%	-6%	7%	11%	21%	76%	90%
2004	INTEL		97	-1%	-31%	-17%	-7%	-1%	4%	12%	46%
2005	INTEL		139	15%	-4%	5%	8%	14%	20%	29%	74%
2006	INTEL		147	10%	-12%	-7%	5%	10%	16%	22%	32%
2007	INTEL		145	14%	-2%	5%	10%	13%	17%	25%	59%
2008	INTEL		161	5%	-13%	-6%	1%	4%	8%	16%	34%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		163	8%	-9%	0%	4%	7%	11%	20%	31%
2010	INTEL		169	17%	-3%	4%	12%	18%	22%	32%	52%
2001	INTEL		82	-4%	-53%	-41%	-15%	-10%	2%	49%	86%
2002	INTEL		93	-14%	-50%	-43%	-19%	-13%	-7%	3%	48%
2003	INTEL		87	20%	-21%	1%	10%	17%	22%	36%	139%
2004	INTEL		90	-5%	-33%	-22%	-7%	-5%	0%	6%	17%
2005	INTEL		113	17%	-5%	4%	12%	17%	21%	30%	71%
2006	INTEL		121	6%	-23%	-9%	3%	6%	11%	16%	27%
2007	INTEL		129	14%	-4%	4%	10%	13%	18%	27%	49%
2008	INTEL		163	5%	-22%	-12%	0%	5%	9%	17%	40%
2009	INTEL		163	7%	-13%	-1%	2%	7%	11%	21%	24%
2010	INTEL		170	14%	-13%	3%	9%	13%	18%	26%	52%
2001	INTEL		49	-2%	-39%	-27%	-15%	-8%	4%	49%	61%
2002	INTEL		50	-11%	-49%	-43%	-20%	-11%	-5%	22%	59%
2003	INTEL		57	25%	-18%	-13%	11%	19%	26%	123%	137%
2004	INTEL		64	-6%	-26%	-18%	-11%	-6%	-2%	7%	9%
2005	INTEL		66	17%	-8%	4%	11%	13%	20%	46%	82%
2006	INTEL		82	3%	-41%	-14%	-2%	3%	8%	15%	54%
2007	INTEL		93	19%	-11%	9%	14%	16%	23%	48%	65%
2008	INTEL		102	8%	-22%	-4%	2%	7%	13%	25%	46%
2009	INTEL		99	3%	-15%	-8%	-3%	2%	9%	18%	27%
2010	INTEL		112	16%	-1%	8%	12%	15%	20%	28%	54%
2002	INTEL		69	-1%	-13%	-11%	-7%	-1%	3%	11%	19%
2003	INTEL		40	12%	-13%	0%	9%	13%	17%	23%	30%
2004	INTEL		29	2%	-13%	-6%	-1%	3%	5%	9%	13%
2005	INTEL		34	10%	-4%	-3%	2%	9%	16%	23%	24%
2006	INTEL		30	8%	-4%	-4%	0%	6%	13%	23%	25%
2002	INTEL		170	-4%	-21%	-15%	-9%	-5%	0%	13%	22%
2003	INTEL		149	12%	-3%	-1%	8%	11%	16%	23%	41%
2004	INTEL		123	0%	-10%	-8%	-4%	-1%	3%	9%	26%
2005	INTEL		130	10%	-5%	-3%	3%	9%	16%	25%	38%
2006	INTEL		100	10%	-7%	-3%	1%	8%	16%	24%	49%
2007	INTEL		71	12%	1%	3%	7%	10%	19%	24%	33%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		60	2%	-8%	-5%	-1%	2%	4%	9%	22%
2009	INTEL		62	12%	-1%	1%	7%	10%	18%	24%	30%
2010	INTEL		48	8%	-3%	-1%	4%	6%	10%	21%	23%
2002	INTEL		242	-7%	-31%	-21%	-13%	-6%	-2%	6%	34%
2003	INTEL		210	11%	-7%	-4%	5%	9%	17%	27%	42%
2004	INTEL		207	-4%	-27%	-13%	-7%	-5%	-1%	7%	32%
2005	INTEL		221	7%	-11%	-3%	3%	5%	11%	17%	25%
2006	INTEL		229	5%	-19%	-6%	1%	4%	9%	20%	35%
2007	INTEL		185	9%	-10%	2%	6%	8%	13%	19%	27%
2008	INTEL		161	4%	-11%	-5%	0%	4%	8%	15%	29%
2009	INTEL		158	6%	-7%	-4%	1%	6%	11%	18%	24%
2010	INTEL		144	7%	-7%	-2%	4%	5%	10%	20%	30%
2002	INTEL		159	-8%	-38%	-26%	-16%	-7%	-3%	8%	52%
2003	INTEL		180	11%	-23%	-5%	6%	11%	17%	26%	98%
2004	INTEL		183	-3%	-17%	-12%	-7%	-4%	0%	7%	19%
2005	INTEL		177	7%	-9%	-3%	3%	5%	10%	16%	54%
2006	INTEL		194	4%	-11%	-6%	-1%	2%	8%	20%	42%
2007	INTEL		176	11%	-19%	4%	8%	11%	15%	21%	28%
2008	INTEL		172	5%	-7%	-4%	1%	5%	9%	14%	20%
2009	INTEL		166	5%	-5%	-3%	1%	5%	9%	15%	25%
2010	INTEL		170	7%	-6%	0%	4%	5%	9%	16%	31%
2002	INTEL		43	-8%	-43%	-36%	-14%	-7%	-3%	4%	29%
2003	INTEL		41	11%	-10%	-7%	7%	12%	17%	28%	30%
2004	INTEL		41	-6%	-46%	-16%	-10%	-5%	-3%	9%	11%
2005	INTEL		33	8%	-1%	0%	5%	7%	11%	19%	29%
2006	INTEL		49	0%	-25%	-22%	-4%	0%	6%	16%	31%
2007	INTEL		51	12%	4%	6%	9%	13%	15%	19%	21%
2008	INTEL		71	7%	-12%	-3%	2%	6%	13%	19%	29%
2009	INTEL		64	4%	-11%	-6%	0%	4%	8%	16%	24%
2010	INTEL		66	5%	-3%	1%	3%	5%	7%	13%	20%
2004	INTEL		75	-2%	-19%	-16%	-6%	-2%	3%	12%	17%
2005	INTEL		103	9%	-6%	-1%	3%	8%	15%	19%	24%
2006	INTEL		76	9%	-6%	-4%	2%	8%	16%	21%	26%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2007	INTEL		34	14%	1%	2%	7%	16%	20%	25%	29%
2004	INTEL		60	0%	-10%	-8%	-3%	-1%	2%	13%	21%
2005	INTEL		118	8%	-6%	-2%	3%	7%	14%	22%	31%
2006	INTEL		132	7%	-8%	-3%	1%	5%	12%	21%	28%
2007	INTEL		91	10%	-2%	2%	6%	8%	12%	22%	27%
2008	INTEL		74	0%	-9%	-5%	-2%	0%	3%	6%	9%
2009	INTEL		60	10%	2%	2%	7%	9%	12%	25%	28%
2010	INTEL		56	9%	-2%	-1%	3%	4%	15%	24%	30%
2004	INTEL		65	-4%	-13%	-11%	-6%	-4%	0%	6%	9%
2005	INTEL		127	9%	-7%	0%	3%	7%	11%	28%	34%
2006	INTEL		124	4%	-18%	-7%	1%	3%	6%	15%	21%
2007	INTEL		103	9%	-4%	2%	6%	7%	12%	19%	27%
2008	INTEL		95	3%	-11%	-5%	0%	4%	6%	9%	15%
2009	INTEL		77	6%	-12%	-6%	2%	6%	10%	16%	23%
2010	INTEL		62	5%	-5%	-3%	3%	4%	9%	16%	17%
2004	INTEL		33	-2%	-14%	-13%	-8%	-3%	3%	12%	13%
2005	INTEL		45	9%	-4%	-1%	4%	8%	12%	23%	31%
2006	INTEL		57	3%	-27%	-6%	-1%	3%	6%	16%	22%
2007	INTEL		60	10%	-14%	0%	6%	10%	13%	18%	21%
2008	INTEL		64	4%	-47%	-6%	2%	5%	8%	12%	15%
2009	INTEL		59	7%	-5%	-3%	2%	6%	10%	16%	23%
2010	INTEL		63	6%	-4%	0%	4%	5%	7%	13%	17%
2005	INTEL		33	10%	-4%	-2%	5%	8%	16%	28%	28%
2006	INTEL		34	4%	-11%	-9%	-1%	2%	9%	22%	25%
2007	INTEL		25	9%	-2%	-2%	5%	9%	14%	22%	26%
2009	INTEL		26	8%	-2%	-1%	5%	7%	11%	18%	22%
2010	INTEL		25	4%	-4%	-2%	3%	4%	6%	10%	14%
2005	INTEL		56	10%	-6%	-2%	5%	7%	13%	31%	39%
2006	INTEL		59	4%	-9%	-5%	-1%	2%	9%	17%	27%
2007	INTEL		60	12%	0%	5%	8%	11%	17%	23%	23%
2008	INTEL		55	4%	-22%	-5%	1%	4%	7%	12%	14%
2009	INTEL		57	9%	-1%	-1%	4%	9%	13%	20%	27%
2010	INTEL		52	7%	-3%	-2%	4%	5%	10%	16%	17%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2007	INTEL		28	12%	-5%	-1%	9%	13%	16%	20%	26%
2008	INTEL		36	5%	-14%	-7%	1%	4%	10%	16%	17%
2009	INTEL		37	6%	-9%	-7%	3%	5%	10%	15%	22%
2010	INTEL		51	7%	-4%	-2%	4%	7%	10%	21%	24%
2001	INTEL		34	2%	-14%	-11%	-9%	2%	10%	27%	44%
2001	INTEL		125	0%	-19%	-14%	-9%	-3%	7%	26%	45%
2002	INTEL		117	-4%	-23%	-19%	-9%	-4%	2%	14%	22%
2003	INTEL		93	15%	-6%	-2%	8%	13%	20%	29%	57%
2004	INTEL		75	1%	-18%	-11%	-5%	-1%	4%	22%	29%
2005	INTEL		77	11%	-5%	-1%	5%	10%	16%	24%	27%
2006	INTEL		41	9%	-7%	-6%	3%	7%	16%	32%	35%
2010	INTEL		26	13%	0%	3%	6%	10%	21%	28%	30%
2001	INTEL		126	-5%	-26%	-20%	-13%	-9%	1%	18%	37%
2002	INTEL		141	-7%	-35%	-22%	-13%	-7%	-1%	6%	18%
2003	INTEL		141	10%	-10%	-4%	5%	10%	16%	23%	32%
2004	INTEL		147	-2%	-18%	-12%	-5%	-3%	2%	8%	20%
2005	INTEL		106	8%	-10%	-1%	3%	7%	11%	21%	35%
2006	INTEL		57	7%	-9%	-3%	3%	6%	11%	19%	25%
2007	INTEL		42	12%	-3%	4%	7%	11%	16%	25%	34%
2008	INTEL		30	3%	-11%	-2%	0%	2%	6%	12%	12%
2009	INTEL		31	7%	-4%	-1%	2%	7%	8%	21%	24%
2010	INTEL		32	9%	0%	1%	4%	6%	11%	21%	50%
2001	INTEL		204	-6%	-44%	-25%	-13%	-9%	0%	22%	59%
2002	INTEL		209	-10%	-40%	-37%	-17%	-10%	-4%	8%	64%
2003	INTEL		215	12%	-20%	-13%	7%	11%	18%	30%	98%
2004	INTEL		227	-3%	-31%	-15%	-8%	-4%	1%	8%	46%
2005	INTEL		180	11%	-10%	-1%	5%	10%	16%	27%	43%
2006	INTEL		78	6%	-7%	-4%	-1%	4%	11%	22%	30%
2007	INTEL		51	14%	5%	6%	10%	13%	17%	26%	28%
2008	INTEL		52	4%	-10%	-5%	-1%	3%	7%	14%	15%
2009	INTEL		50	8%	-3%	-1%	3%	8%	11%	18%	24%
2010	INTEL		43	8%	-6%	-2%	2%	6%	14%	21%	31%
2001	INTEL		170	-6%	-46%	-28%	-15%	-11%	0%	40%	59%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2002	INTEL		200	-11%	-64%	-38%	-18%	-11%	-3%	9%	47%
2003	INTEL		189	13%	-19%	-6%	8%	12%	17%	26%	100%
2004	INTEL		182	-4%	-23%	-14%	-8%	-5%	-1%	10%	52%
2005	INTEL		93	10%	-11%	-1%	6%	10%	14%	19%	49%
2006	INTEL		46	2%	-12%	-7%	-3%	0%	6%	14%	25%
2007	INTEL		31	13%	-1%	6%	10%	14%	16%	22%	32%
2008	INTEL		34	6%	-9%	-6%	2%	6%	10%	15%	21%
2009	INTEL		36	6%	-7%	-1%	2%	6%	8%	16%	30%
2010	INTEL		35	6%	0%	0%	2%	5%	7%	15%	21%
2001	INTEL		83	-9%	-47%	-40%	-14%	-10%	-2%	8%	40%
2002	INTEL		101	-12%	-55%	-43%	-20%	-12%	-6%	19%	38%
2003	INTEL		112	14%	-30%	-21%	10%	16%	24%	30%	79%
2004	INTEL		117	-6%	-40%	-17%	-9%	-5%	-1%	6%	14%
2005	INTEL		44	16%	1%	2%	8%	13%	21%	54%	64%
2001	INTEL		46	-9%	-56%	-33%	-15%	-12%	-5%	18%	85%
2002	INTEL		29	-9%	-58%	-52%	-21%	-15%	-7%	81%	82%
2001	INTEL		143	1%	-22%	-11%	-7%	1%	7%	16%	29%
2002	INTEL		128	-3%	-21%	-18%	-8%	-4%	4%	11%	68%
2003	INTEL		95	13%	-15%	-6%	8%	15%	19%	26%	45%
2004	INTEL		80	2%	-12%	-9%	-2%	1%	7%	17%	21%
2005	INTEL		156	17%	-9%	4%	11%	15%	24%	30%	42%
2006	INTEL		174	16%	-6%	1%	12%	16%	22%	29%	34%
2007	INTEL		123	18%	1%	6%	12%	18%	23%	31%	41%
2008	INTEL		103	4%	-7%	-3%	0%	4%	6%	16%	19%
2009	INTEL		125	19%	4%	8%	14%	20%	23%	27%	35%
2010	INTEL		84	18%	-1%	2%	12%	19%	24%	30%	42%
2001	INTEL		702	1%	-32%	-14%	-10%	-4%	10%	25%	73%
2002	INTEL		683	-3%	-27%	-17%	-9%	-4%	2%	12%	35%
2003	INTEL		622	13%	-13%	-2%	7%	12%	18%	26%	42%
2004	INTEL		559	1%	-16%	-10%	-4%	-1%	5%	12%	31%
2005	INTEL		681	14%	-7%	1%	9%	13%	21%	30%	43%
2006	INTEL		728	11%	-9%	-2%	5%	10%	16%	26%	39%
2007	INTEL		739	13%	-11%	3%	7%	11%	19%	27%	43%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		722	2%	-11%	-5%	-2%	1%	5%	17%	27%
2009	INTEL		818	16%	-13%	5%	11%	16%	21%	27%	50%
2010	INTEL		801	15%	-2%	2%	7%	15%	22%	34%	46%
2001	INTEL		666	-5%	-38%	-19%	-12%	-8%	1%	15%	67%
2002	INTEL		738	-7%	-49%	-22%	-13%	-7%	-1%	8%	46%
2003	INTEL		815	11%	-21%	-5%	6%	10%	16%	25%	87%
2004	INTEL		839	-3%	-19%	-11%	-7%	-4%	0%	7%	40%
2005	INTEL		958	11%	-10%	-2%	6%	10%	15%	23%	38%
2006	INTEL		898	8%	-19%	-3%	3%	7%	12%	20%	43%
2007	INTEL		839	11%	-7%	1%	6%	10%	14%	21%	44%
2008	INTEL		859	3%	-13%	-5%	0%	3%	6%	12%	30%
2009	INTEL		884	8%	-7%	-1%	4%	8%	11%	18%	41%
2010	INTEL		956	8%	-8%	0%	4%	7%	11%	17%	48%
2001	INTEL		760	-5%	-56%	-24%	-13%	-8%	1%	24%	75%
2002	INTEL		832	-8%	-49%	-35%	-14%	-7%	-2%	10%	45%
2003	INTEL		913	12%	-24%	-12%	7%	11%	18%	28%	105%
2004	INTEL		945	-3%	-35%	-13%	-7%	-3%	1%	9%	47%
2005	INTEL		1,113	12%	-10%	-1%	7%	11%	17%	28%	75%
2006	INTEL		1,157	6%	-25%	-5%	1%	5%	10%	20%	69%
2007	INTEL		1,233	13%	-18%	4%	9%	12%	16%	25%	65%
2008	INTEL		1,226	4%	-15%	-5%	0%	4%	8%	14%	27%
2009	INTEL		1,254	8%	-15%	-1%	4%	8%	11%	19%	39%
2010	INTEL		1,298	8%	-13%	1%	4%	7%	11%	19%	42%
2001	INTEL		612	-6%	-53%	-28%	-15%	-10%	0%	32%	76%
2002	INTEL		669	-11%	-58%	-41%	-19%	-10%	-4%	10%	69%
2003	INTEL		730	13%	-35%	-11%	8%	13%	20%	31%	125%
2004	INTEL		776	-4%	-41%	-15%	-8%	-5%	0%	9%	55%
2005	INTEL		851	12%	-21%	0%	7%	11%	16%	26%	83%
2006	INTEL		889	4%	-49%	-8%	-1%	2%	8%	18%	80%
2007	INTEL		925	14%	-20%	3%	10%	13%	17%	27%	87%
2008	INTEL		965	5%	-24%	-7%	1%	5%	10%	17%	41%
2009	INTEL		967	6%	-20%	-3%	1%	6%	10%	19%	44%
2010	INTEL		1,067	8%	-98%	0%	4%	7%	11%	18%	49%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2001	INTEL		355	-5%	-48%	-33%	-15%	-9%	0%	42%	119%
2002	INTEL		387	-11%	-50%	-42%	-20%	-12%	-5%	30%	95%
2003	INTEL		445	15%	-35%	-20%	9%	15%	22%	34%	158%
2004	INTEL		459	-4%	-45%	-16%	-8%	-4%	1%	8%	71%
2005	INTEL		464	15%	-32%	2%	8%	13%	18%	41%	101%
2006	INTEL		524	2%	-32%	-14%	-4%	0%	5%	27%	94%
2007	INTEL		566	16%	-29%	-3%	11%	15%	20%	33%	87%
2008	INTEL		612	9%	-25%	-6%	4%	8%	14%	22%	61%
2009	INTEL		616	3%	-24%	-9%	-2%	2%	8%	17%	51%
2010	INTEL		641	11%	-10%	2%	8%	11%	14%	23%	52%
2005	INTEL		31	15%	-5%	-2%	5%	12%	26%	37%	48%
2005	INTEL		48	14%	-3%	2%	8%	12%	19%	37%	47%
2006	INTEL		52	3%	-12%	-10%	-2%	2%	9%	17%	20%
2007	INTEL		45	9%	-4%	-4%	6%	9%	14%	17%	18%
2008	INTEL		51	4%	-4%	-4%	-1%	4%	8%	14%	16%
2009	INTEL		38	7%	-9%	-3%	2%	7%	11%	23%	26%
2010	INTEL		36	11%	-3%	-1%	3%	10%	17%	32%	35%
2004	INTEL		35	0%	-10%	-10%	-5%	-2%	4%	19%	24%
2005	INTEL		96	13%	-7%	5%	9%	13%	16%	22%	61%
2006	INTEL		98	4%	-12%	-4%	0%	4%	8%	15%	32%
2007	INTEL		85	12%	-2%	1%	7%	10%	15%	24%	53%
2008	INTEL		81	4%	-8%	-4%	0%	4%	8%	11%	17%
2009	INTEL		68	5%	-5%	-4%	2%	4%	9%	15%	17%
2010	INTEL		75	8%	-1%	1%	4%	6%	10%	22%	30%
2005	INTEL		39	15%	5%	6%	8%	11%	16%	44%	67%
2006	INTEL		39	1%	-23%	-19%	-3%	0%	5%	45%	52%
2007	INTEL		46	14%	-17%	3%	10%	15%	18%	23%	50%
2008	INTEL		55	6%	-15%	-3%	2%	6%	10%	13%	17%
2009	INTEL		51	3%	-14%	-3%	-1%	3%	6%	11%	11%
2010	INTEL		56	10%	1%	2%	4%	6%	13%	29%	40%
2008	INTEL		28	9%	-5%	-4%	7%	9%	13%	18%	21%
2010	INTEL		26	13%	5%	5%	9%	11%	15%	24%	36%
2001	INTEL		35	-3%	-24%	-21%	-12%	-9%	5%	27%	41%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2002	INTEL		30	-4%	-26%	-16%	-13%	-4%	4%	11%	13%
2001	INTEL		33	-12%	-26%	-26%	-16%	-12%	-10%	0%	1%
2002	INTEL		34	-7%	-24%	-20%	-13%	-7%	0%	3%	5%
2003	INTEL		30	8%	-21%	-19%	6%	9%	17%	21%	27%
2004	INTEL		27	2%	-10%	-8%	-1%	0%	7%	14%	16%
2005	INTEL		34	10%	-12%	-5%	2%	9%	17%	28%	46%
2006	INTEL		34	3%	-12%	-8%	-4%	-2%	8%	44%	59%
2007	INTEL		34	4%	-54%	-54%	-2%	8%	12%	25%	25%
2005	INTEL		32	10%	-8%	0%	6%	10%	14%	20%	36%
2006	INTEL		29	2%	-8%	-5%	-2%	2%	6%	13%	18%
2004	INTEL		27	-1%	-10%	-9%	-6%	-1%	0%	12%	35%
2005	INTEL		38	10%	-1%	0%	6%	10%	12%	19%	39%
2006	INTEL		45	2%	-9%	-6%	-2%	2%	4%	10%	16%
2007	INTEL		44	11%	4%	5%	7%	10%	14%	20%	20%
2008	INTEL		40	5%	-10%	-5%	1%	5%	9%	16%	26%
2009	INTEL		32	6%	-1%	-1%	0%	6%	10%	17%	17%
2010	INTEL		38	7%	-3%	-2%	4%	7%	10%	19%	19%
2002	INTEL		25	-4%	-19%	-19%	-8%	-5%	1%	6%	9%
2003	INTEL		33	13%	-6%	-3%	8%	11%	19%	27%	30%
2004	INTEL		31	-4%	-14%	-13%	-8%	-5%	-1%	14%	20%
2001	INTEL		32	-5%	-24%	-23%	-12%	-9%	0%	12%	61%
2002	INTEL		27	-11%	-42%	-42%	-16%	-10%	-4%	5%	6%
2003	INTEL		31	12%	-4%	0%	7%	10%	15%	27%	40%
2004	INTEL		27	-4%	-15%	-13%	-8%	-3%	0%	4%	7%
2008	INTEL		25	5%	-9%	-4%	2%	5%	8%	13%	14%
2009	INTEL		25	5%	-4%	-3%	2%	3%	9%	14%	16%
2002	INTEL		25	-7%	-34%	-27%	-15%	-6%	-2%	10%	21%
2002	INTEL		36	-17%	-39%	-38%	-32%	-15%	-6%	5%	41%
2003	INTEL		36	11%	-19%	-17%	-4%	10%	22%	35%	89%
2004	INTEL		32	-2%	-31%	-14%	-8%	-4%	2%	11%	38%
2003	INTEL		25	15%	-18%	-17%	-8%	10%	20%	100%	109%
2004	INTEL		29	1%	-31%	-30%	-8%	-4%	10%	25%	54%
2001	INTEL		341	-5%	-62%	-46%	-17%	-11%	1%	67%	150%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2002	INTEL		341	-11%	-65%	-52%	-23%	-13%	-6%	52%	100%
2003	INTEL		387	30%	-41%	-31%	13%	19%	30%	145%	345%
2004	INTEL		392	-10%	-60%	-50%	-13%	-5%	-1%	8%	86%
2005	INTEL		368	21%	-8%	3%	10%	13%	22%	71%	86%
2006	INTEL		374	2%	-38%	-28%	-9%	-3%	5%	59%	105%
2007	INTEL		380	19%	-29%	-22%	12%	18%	24%	73%	97%
2008	INTEL		369	11%	-31%	-17%	3%	11%	18%	32%	74%
2009	INTEL		344	0%	-30%	-15%	-6%	-1%	4%	15%	89%
2010	INTEL		358	14%	-5%	4%	11%	13%	17%	26%	77%
2001	INTEL		119	-5%	-61%	-44%	-22%	-14%	2%	76%	118%
2002	INTEL		129	-10%	-67%	-58%	-26%	-14%	-5%	58%	113%
2003	INTEL		130	36%	-50%	-39%	13%	22%	35%	158%	259%
2004	INTEL		133	-9%	-53%	-51%	-13%	-4%	1%	13%	116%
2005	INTEL		143	31%	-4%	4%	13%	19%	31%	86%	260%
2006	INTEL		133	3%	-32%	-28%	-9%	-1%	11%	52%	78%
2007	INTEL		144	25%	-27%	-17%	16%	23%	35%	84%	109%
2008	INTEL		145	14%	-31%	-21%	3%	15%	27%	47%	64%
2009	INTEL		147	-4%	-34%	-23%	-13%	-7%	3%	25%	67%
2010	INTEL		143	13%	-11%	0%	9%	11%	17%	27%	97%
2003	INTEL		28	52%	-42%	-39%	20%	28%	109%	175%	183%
2004	INTEL		25	-12%	-57%	-57%	-23%	-6%	2%	19%	19%
2005	INTEL		26	53%	12%	15%	18%	24%	77%	113%	241%
2006	INTEL		33	9%	-41%	-37%	-22%	-7%	5%	81%	239%
2007	INTEL		31	28%	-21%	-18%	11%	33%	42%	91%	97%
2008	INTEL		26	18%	-18%	-14%	11%	17%	30%	40%	62%
2009	INTEL		25	-6%	-25%	-24%	-18%	-6%	0%	13%	15%
2005	INTEL		32	14%	0%	2%	10%	14%	17%	21%	47%
2006	INTEL		26	9%	-2%	-2%	3%	9%	14%	22%	27%
2010	INTEL		36	10%	-2%	0%	7%	9%	17%	19%	20%
2001	INTEL		207	-3%	-49%	-41%	-13%	-9%	4%	44%	80%
2002	INTEL		201	-6%	-41%	-35%	-14%	-4%	2%	15%	57%
2003	INTEL		193	12%	-27%	-8%	8%	12%	18%	28%	44%
2004	INTEL		193	-2%	-31%	-11%	-6%	-3%	2%	9%	13%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		269	16%	-6%	5%	10%	15%	20%	31%	73%
2006	INTEL		208	9%	-11%	-4%	2%	7%	12%	25%	64%
2007	INTEL		181	16%	-13%	6%	10%	14%	20%	30%	70%
2008	INTEL		139	3%	-18%	-6%	0%	3%	7%	13%	16%
2009	INTEL		168	9%	-6%	0%	5%	9%	13%	19%	24%
2010	INTEL		158	9%	-5%	1%	5%	8%	13%	20%	26%
2001	INTEL		411	-6%	-52%	-23%	-15%	-11%	0%	23%	85%
2002	INTEL		425	-9%	-52%	-39%	-15%	-7%	-2%	9%	61%
2003	INTEL		468	14%	-32%	-5%	9%	14%	20%	32%	91%
2004	INTEL		462	-4%	-43%	-13%	-7%	-4%	-1%	7%	51%
2005	INTEL		545	15%	-13%	2%	8%	12%	18%	36%	79%
2006	INTEL		450	3%	-27%	-11%	-1%	2%	8%	18%	87%
2007	INTEL		394	15%	-21%	1%	11%	14%	19%	30%	65%
2008	INTEL		399	5%	-21%	-7%	2%	6%	10%	16%	41%
2009	INTEL		413	5%	-17%	-5%	1%	5%	10%	18%	33%
2010	INTEL		451	8%	-10%	0%	4%	6%	12%	19%	54%
2001	INTEL		521	-6%	-48%	-28%	-15%	-10%	0%	30%	99%
2002	INTEL		527	-10%	-59%	-42%	-19%	-11%	-4%	26%	73%
2003	INTEL		549	17%	-32%	-19%	10%	17%	23%	40%	169%
2004	INTEL		553	-5%	-43%	-15%	-9%	-5%	-1%	8%	63%
2005	INTEL		645	15%	-26%	1%	7%	11%	16%	52%	92%
2006	INTEL		564	2%	-41%	-19%	-5%	-1%	5%	36%	115%
2007	INTEL		534	17%	-25%	-9%	12%	15%	20%	40%	104%
2008	INTEL		532	8%	-23%	-8%	2%	8%	14%	23%	46%
2009	INTEL		526	3%	-16%	-9%	-2%	2%	7%	15%	46%
2010	INTEL		559	11%	-73%	3%	8%	10%	14%	23%	57%
2005	INTEL		82	24%	-2%	3%	9%	15%	25%	78%	107%
2006	INTEL		93	4%	-32%	-28%	-7%	-1%	6%	60%	77%
2007	INTEL		107	18%	-44%	-21%	11%	18%	26%	72%	88%
2008	INTEL		90	9%	-29%	-21%	5%	12%	19%	28%	34%
2009	INTEL		85	1%	-20%	-12%	-5%	-1%	6%	17%	26%
2010	INTEL		95	13%	-5%	5%	9%	13%	17%	24%	37%
2005	INTEL		27	38%	7%	8%	17%	26%	68%	85%	96%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	INTEL		31	7%	-35%	-35%	-9%	-1%	21%	65%	82%
2007	INTEL		32	38%	-16%	-8%	17%	29%	36%	127%	141%
2008	INTEL		27	11%	-23%	-23%	-7%	9%	21%	47%	64%
2009	INTEL		26	4%	-23%	-20%	-12%	2%	17%	31%	54%
2005	INTEL		49	17%	-9%	5%	12%	16%	22%	27%	59%
2006	INTEL		37	8%	-2%	-2%	3%	7%	14%	18%	22%
2007	INTEL		42	15%	4%	6%	11%	14%	18%	26%	27%
2008	INTEL		40	5%	-5%	-2%	1%	6%	8%	12%	14%
2009	INTEL		42	7%	-2%	-1%	2%	6%	10%	17%	22%
2010	INTEL		40	10%	0%	1%	6%	10%	14%	22%	24%
2005	INTEL		125	17%	-5%	3%	9%	14%	18%	55%	74%
2006	INTEL		117	8%	-21%	-13%	-1%	4%	11%	51%	63%
2007	INTEL		126	16%	-11%	2%	13%	16%	20%	28%	49%
2008	INTEL		120	5%	-19%	-6%	2%	5%	10%	16%	31%
2009	INTEL		123	6%	-8%	-3%	2%	6%	10%	17%	25%
2010	INTEL		119	9%	-2%	1%	5%	8%	12%	21%	44%
2004	INTEL		34	-6%	-41%	-38%	-9%	-5%	-1%	16%	16%
2005	INTEL		149	14%	-12%	2%	8%	12%	16%	38%	82%
2006	INTEL		151	5%	-27%	-17%	-2%	2%	9%	41%	68%
2007	INTEL		163	18%	-25%	-13%	14%	19%	23%	59%	85%
2008	INTEL		162	9%	-24%	-7%	5%	10%	14%	21%	30%
2009	INTEL		155	2%	-15%	-8%	-2%	1%	6%	14%	34%
2010	INTEL		184	13%	-2%	5%	9%	11%	16%	28%	75%
2001	INTEL		112	1%	-17%	-13%	-7%	0%	9%	24%	34%
2001	INTEL		113	-9%	-24%	-22%	-14%	-11%	-4%	7%	9%
2001	INTEL		88	-3%	-26%	-24%	-13%	-5%	4%	32%	52%
2001	INTEL		33	-18%	-48%	-45%	-21%	-18%	-13%	-1%	9%
2005	INTEL		31	16%	2%	6%	12%	15%	20%	37%	43%
2006	INTEL		30	4%	-12%	-7%	-1%	3%	9%	18%	23%
2005	INTEL		59	13%	-5%	1%	5%	9%	14%	37%	89%
2006	INTEL		68	3%	-18%	-10%	-3%	1%	6%	29%	39%
2007	INTEL		71	13%	-20%	-9%	7%	13%	18%	26%	39%
2008	INTEL		53	7%	-6%	-4%	2%	6%	13%	20%	49%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		52	5%	-8%	-5%	-1%	4%	9%	17%	22%
2010	INTEL		47	5%	-4%	-3%	2%	4%	6%	14%	18%
2005	INTEL		32	16%	-1%	3%	9%	11%	17%	54%	88%
2006	INTEL		36	0%	-20%	-13%	-7%	-1%	3%	14%	68%
2007	INTEL		37	18%	-1%	5%	11%	16%	22%	50%	61%
2008	INTEL		49	9%	-17%	-3%	1%	9%	15%	22%	38%
2009	INTEL		46	3%	-11%	-8%	-1%	3%	9%	15%	20%
2010	INTEL		50	9%	-1%	2%	7%	9%	12%	17%	19%
2006	INTEL		26	8%	-1%	-1%	1%	7%	14%	19%	22%
2006	INTEL		29	4%	-5%	-5%	-1%	3%	8%	17%	33%
2007	INTEL		29	12%	-1%	7%	10%	11%	14%	23%	28%
2008	INTEL		30	5%	-8%	-6%	0%	6%	10%	23%	24%
2009	INTEL		31	8%	-5%	0%	3%	7%	13%	18%	23%
2010	INTEL		33	8%	0%	1%	4%	7%	10%	18%	28%
2001	INTEL		35	28%	-16%	-6%	7%	30%	41%	66%	99%
2002	INTEL		28	-1%	-25%	-22%	-12%	-5%	9%	23%	38%
2003	INTEL		27	48%	19%	23%	28%	34%	42%	123%	123%
2004	INTEL		25	18%	-1%	-1%	2%	6%	13%	89%	92%
2005	INTEL		35	40%	7%	14%	23%	25%	30%	147%	148%
2006	INTEL		28	4%	-22%	-20%	-16%	-9%	8%	91%	102%
2001	INTEL		58	25%	-69%	-13%	18%	28%	34%	52%	85%
2002	INTEL		46	-1%	-17%	-14%	-10%	-5%	-3%	33%	68%
2003	INTEL		38	25%	-12%	-9%	23%	28%	29%	42%	42%
2004	INTEL		47	5%	-2%	-1%	2%	4%	7%	12%	44%
2005	INTEL		50	33%	2%	19%	21%	22%	25%	124%	136%
2006	INTEL		46	-15%	-24%	-23%	-19%	-18%	-14%	-10%	62%
2007	INTEL		64	52%	13%	29%	32%	36%	46%	130%	175%
2008	INTEL		46	0%	-13%	-10%	-5%	-3%	2%	6%	82%
2009	INTEL		47	28%	16%	17%	20%	22%	25%	86%	132%
2010	INTEL		46	11%	6%	7%	8%	8%	10%	13%	100%
2001	INTEL		132	0%	-14%	-12%	-7%	-1%	5%	16%	27%
2002	INTEL		80	0%	-14%	-14%	-7%	-1%	4%	13%	21%
2003	INTEL		40	13%	-4%	-4%	7%	14%	19%	24%	31%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2004	INTEL		56	2%	-9%	-8%	-2%	1%	6%	22%	26%
2005	INTEL		84	15%	-5%	0%	9%	14%	22%	30%	37%
2006	INTEL		59	9%	-5%	-3%	1%	10%	16%	21%	32%
2007	INTEL		28	15%	2%	3%	7%	16%	23%	27%	30%
2008	INTEL		26	1%	-5%	-5%	-2%	0%	3%	8%	10%
2001	INTEL		233	0%	-27%	-22%	-9%	-5%	8%	27%	69%
2002	INTEL		185	-1%	-25%	-16%	-7%	-1%	4%	16%	28%
2003	INTEL		161	10%	-12%	-2%	6%	9%	15%	24%	30%
2004	INTEL		156	1%	-13%	-9%	-3%	-1%	5%	22%	32%
2005	INTEL		149	10%	-4%	-1%	4%	8%	16%	25%	32%
2006	INTEL		141	7%	-10%	-3%	1%	4%	12%	22%	38%
2007	INTEL		105	14%	-13%	1%	8%	11%	21%	28%	35%
2008	INTEL		94	1%	-9%	-5%	-2%	0%	4%	11%	23%
2009	INTEL		89	12%	1%	4%	8%	11%	17%	23%	28%
2010	INTEL		80	12%	2%	2%	4%	8%	19%	29%	39%
2001	INTEL		256	-7%	-37%	-28%	-14%	-9%	1%	14%	50%
2002	INTEL		219	-8%	-41%	-27%	-15%	-7%	-1%	7%	32%
2003	INTEL		204	11%	-24%	-10%	6%	10%	17%	23%	91%
2004	INTEL		199	-2%	-29%	-12%	-5%	-2%	1%	11%	41%
2005	INTEL		184	10%	-9%	-1%	4%	9%	15%	26%	35%
2006	INTEL		174	5%	-8%	-3%	0%	3%	9%	17%	24%
2007	INTEL		131	11%	-3%	1%	7%	11%	15%	23%	41%
2008	INTEL		123	3%	-12%	-4%	0%	3%	6%	12%	23%
2009	INTEL		112	8%	-5%	-2%	4%	8%	13%	20%	25%
2010	INTEL		90	7%	-5%	-2%	3%	5%	12%	19%	29%
2001	INTEL		259	-7%	-47%	-36%	-18%	-12%	1%	31%	71%
2002	INTEL		229	-9%	-43%	-37%	-16%	-9%	-2%	13%	69%
2003	INTEL		181	13%	-26%	-9%	7%	11%	19%	31%	101%
2004	INTEL		189	-1%	-29%	-12%	-6%	-3%	2%	13%	49%
2005	INTEL		193	11%	-19%	0%	6%	9%	16%	26%	41%
2006	INTEL		194	5%	-11%	-6%	-1%	2%	10%	18%	57%
2007	INTEL		182	14%	-1%	5%	9%	12%	17%	27%	60%
2008	INTEL		162	4%	-15%	-6%	0%	3%	8%	13%	30%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		157	9%	-5%	-1%	5%	8%	12%	21%	27%
2010	INTEL		169	8%	-19%	1%	5%	7%	12%	18%	34%
2001	INTEL		164	-7%	-52%	-29%	-18%	-12%	0%	41%	57%
2002	INTEL		174	-12%	-54%	-41%	-20%	-12%	-5%	9%	73%
2003	INTEL		142	15%	-28%	-8%	9%	13%	22%	34%	131%
2004	INTEL		157	-3%	-37%	-17%	-9%	-5%	-1%	13%	62%
2005	INTEL		134	14%	-6%	1%	9%	12%	17%	33%	42%
2006	INTEL		134	2%	-17%	-10%	-3%	0%	6%	15%	37%
2007	INTEL		129	11%	-18%	0%	9%	12%	15%	21%	46%
2008	INTEL		128	5%	-15%	-5%	0%	5%	9%	16%	33%
2009	INTEL		136	6%	-40%	-4%	1%	6%	10%	17%	71%
2010	INTEL		137	8%	-4%	0%	4%	6%	9%	20%	46%
2001	INTEL		70	-14%	-47%	-40%	-20%	-14%	-9%	16%	40%
2002	INTEL		66	-11%	-56%	-39%	-19%	-10%	-4%	11%	79%
2003	INTEL		63	20%	-27%	-19%	9%	14%	23%	133%	174%
2004	INTEL		73	-7%	-43%	-19%	-12%	-6%	-2%	6%	16%
2005	INTEL		69	18%	-11%	-1%	9%	13%	23%	47%	61%
2006	INTEL		68	0%	-29%	-17%	-5%	-3%	4%	32%	57%
2007	INTEL		69	14%	-18%	-13%	9%	14%	18%	34%	49%
2008	INTEL		63	9%	-16%	-6%	0%	10%	15%	26%	48%
2009	INTEL		70	3%	-13%	-10%	-2%	2%	8%	17%	23%
2010	INTEL		80	11%	0%	3%	8%	10%	13%	21%	26%
2001	INTEL		95	-2%	-23%	-13%	-10%	-3%	5%	16%	22%
2002	INTEL		71	-2%	-20%	-13%	-7%	-3%	4%	11%	21%
2003	INTEL		50	13%	0%	5%	9%	13%	18%	23%	28%
2004	INTEL		31	4%	-7%	-6%	-1%	4%	6%	16%	26%
2005	INTEL		49	10%	-4%	-1%	3%	10%	15%	21%	25%
2006	INTEL		51	11%	-2%	-2%	4%	11%	16%	24%	28%
2001	INTEL		122	-2%	-18%	-15%	-11%	-4%	6%	16%	44%
2002	INTEL		107	-3%	-23%	-17%	-9%	-3%	3%	15%	22%
2003	INTEL		122	12%	-10%	0%	8%	10%	16%	24%	32%
2004	INTEL		133	-1%	-13%	-9%	-5%	-2%	4%	9%	23%
2005	INTEL		122	8%	-4%	-3%	3%	7%	11%	22%	29%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	INTEL		103	7%	-9%	-4%	1%	4%	13%	21%	25%
2007	INTEL		70	13%	1%	6%	8%	11%	18%	26%	28%
2008	INTEL		56	1%	-9%	-6%	-1%	1%	3%	8%	10%
2009	INTEL		44	13%	1%	5%	7%	11%	18%	24%	33%
2010	INTEL		43	12%	-6%	-2%	4%	10%	19%	28%	37%
2001	INTEL		108	-6%	-26%	-22%	-15%	-10%	3%	11%	59%
2002	INTEL		97	-5%	-31%	-19%	-11%	-6%	-2%	11%	35%
2003	INTEL		101	12%	-15%	-4%	7%	11%	17%	26%	44%
2004	INTEL		100	-5%	-26%	-15%	-7%	-5%	-1%	8%	11%
2005	INTEL		95	8%	-7%	0%	3%	8%	12%	19%	34%
2006	INTEL		93	4%	-15%	-6%	0%	4%	9%	16%	20%
2007	INTEL		85	11%	-4%	2%	6%	9%	15%	24%	45%
2008	INTEL		66	3%	-12%	-3%	0%	2%	6%	11%	13%
2009	INTEL		54	6%	-7%	-2%	3%	5%	8%	14%	18%
2010	INTEL		57	5%	-6%	-3%	2%	4%	8%	16%	21%
2001	INTEL		35	-7%	-19%	-18%	-13%	-8%	-2%	6%	13%
2002	INTEL		38	-6%	-38%	-37%	-14%	-6%	-2%	26%	37%
2003	INTEL		57	12%	-16%	-2%	8%	13%	17%	25%	31%
2004	INTEL		53	-3%	-14%	-13%	-7%	-4%	1%	13%	28%
2005	INTEL		53	10%	-2%	0%	4%	8%	14%	27%	32%
2006	INTEL		49	4%	-8%	-6%	-1%	2%	7%	16%	33%
2007	INTEL		53	14%	-1%	5%	8%	13%	16%	26%	60%
2008	INTEL		55	6%	-9%	-5%	2%	7%	10%	13%	32%
2009	INTEL		50	5%	-7%	-4%	0%	5%	10%	15%	17%
2010	INTEL		53	7%	-11%	1%	4%	6%	9%	14%	37%
2001	INTEL		51	-5%	-54%	-22%	-16%	-11%	-4%	67%	69%
2002	INTEL		65	-21%	-57%	-53%	-28%	-16%	-12%	-2%	48%
2003	INTEL		65	34%	-27%	1%	13%	21%	31%	140%	162%
2004	INTEL		62	-12%	-57%	-53%	-15%	-7%	-4%	4%	22%
2005	INTEL		80	18%	-1%	4%	9%	12%	18%	62%	71%
2006	INTEL		74	-1%	-33%	-30%	-13%	-5%	0%	60%	96%
2007	INTEL		78	18%	-27%	-22%	11%	16%	24%	79%	92%
2008	INTEL		62	11%	-26%	-24%	2%	12%	19%	32%	34%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		60	0%	-17%	-14%	-10%	-3%	6%	17%	111%
2010	INTEL		68	12%	-13%	2%	10%	12%	15%	23%	29%
2005	INTEL		31	31%	5%	8%	11%	17%	57%	82%	88%
2008	INTEL		26	21%	-23%	-17%	5%	21%	37%	54%	55%
2009	INTEL		26	-11%	-32%	-27%	-21%	-10%	-4%	7%	14%
2001	INTEL		148	-3%	-50%	-37%	-13%	-8%	1%	41%	77%
2002	INTEL		137	-8%	-43%	-35%	-15%	-6%	1%	13%	38%
2003	INTEL		104	13%	-29%	-3%	8%	11%	21%	29%	77%
2004	INTEL		96	-3%	-36%	-11%	-6%	-3%	1%	10%	12%
2005	INTEL		147	13%	-2%	4%	8%	13%	18%	26%	47%
2006	INTEL		82	7%	-6%	-5%	0%	6%	12%	22%	59%
2007	INTEL		52	14%	4%	5%	9%	15%	18%	23%	24%
2008	INTEL		46	5%	-5%	-3%	0%	5%	8%	14%	17%
2009	INTEL		48	8%	-3%	-1%	4%	7%	12%	19%	21%
2010	INTEL		41	10%	0%	2%	4%	9%	16%	24%	31%
2001	INTEL		203	-5%	-48%	-25%	-14%	-10%	4%	32%	53%
2002	INTEL		226	-11%	-49%	-42%	-18%	-10%	-4%	10%	60%
2003	INTEL		199	14%	-34%	-15%	8%	13%	20%	36%	102%
2004	INTEL		176	-5%	-20%	-14%	-8%	-5%	-1%	7%	25%
2005	INTEL		250	13%	-6%	3%	7%	11%	16%	26%	74%
2006	INTEL		171	4%	-17%	-7%	-2%	1%	6%	25%	62%
2007	INTEL		146	13%	-10%	1%	9%	12%	15%	29%	71%
2008	INTEL		123	5%	-23%	-8%	0%	5%	10%	16%	24%
2009	INTEL		129	5%	-12%	-5%	0%	4%	10%	15%	28%
2010	INTEL		136	7%	-9%	0%	3%	6%	9%	20%	34%
2001	INTEL		123	-5%	-47%	-31%	-15%	-11%	0%	39%	105%
2002	INTEL		140	-12%	-50%	-40%	-22%	-13%	-6%	26%	58%
2003	INTEL		155	16%	-34%	-17%	11%	16%	22%	38%	142%
2004	INTEL		138	-5%	-21%	-15%	-7%	-5%	-2%	6%	12%
2005	INTEL		174	13%	-5%	1%	6%	10%	14%	58%	78%
2006	INTEL		167	2%	-27%	-11%	-5%	-1%	4%	47%	80%
2007	INTEL		161	16%	-24%	-11%	9%	14%	18%	53%	92%
2008	INTEL		149	7%	-20%	-12%	1%	8%	13%	22%	39%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		143	3%	-15%	-8%	-2%	3%	7%	14%	22%
2010	INTEL		159	11%	-2%	4%	8%	10%	13%	20%	34%
2001	INTEL		33	-16%	-51%	-42%	-27%	-20%	-7%	11%	90%
2002	INTEL		38	-14%	-70%	-57%	-26%	-19%	-9%	78%	110%
2003	INTEL		39	42%	-35%	-33%	13%	23%	40%	145%	182%
2004	INTEL		37	-13%	-55%	-55%	-15%	-6%	-1%	17%	17%
2005	INTEL		37	28%	-6%	3%	17%	22%	29%	93%	128%
2006	INTEL		41	7%	-37%	-32%	-10%	-5%	10%	87%	94%
2007	INTEL		39	37%	-20%	-18%	19%	32%	60%	93%	96%
2008	INTEL		36	12%	-32%	-23%	1%	16%	21%	40%	65%
2009	INTEL		42	-5%	-34%	-26%	-14%	-8%	-2%	33%	44%
2010	INTEL		44	12%	-15%	-14%	5%	12%	17%	41%	53%
2001	INTEL		46	1%	-12%	-11%	-8%	-2%	4%	23%	62%
2002	INTEL		36	-4%	-27%	-25%	-13%	-3%	2%	13%	16%
2003	INTEL		28	11%	-1%	-1%	6%	9%	16%	22%	22%
2004	INTEL		26	3%	-8%	-6%	-1%	0%	7%	16%	16%
2005	INTEL		81	4%	-7%	-5%	0%	3%	7%	17%	23%
2006	INTEL		77	7%	-6%	-5%	1%	4%	15%	22%	49%
2007	INTEL		36	14%	-3%	-1%	7%	14%	21%	32%	35%
2002	INTEL		25	0%	-13%	-10%	-4%	0%	5%	9%	12%
2003	INTEL		35	17%	1%	4%	9%	18%	22%	34%	37%
2004	INTEL		33	1%	-10%	-7%	-3%	-1%	5%	13%	14%
2005	INTEL		76	6%	-7%	-4%	1%	5%	10%	18%	21%
2006	INTEL		77	5%	-6%	-4%	1%	3%	8%	20%	23%
2007	INTEL		77	13%	0%	3%	7%	12%	17%	28%	31%
2008	INTEL		61	1%	-8%	-6%	-2%	1%	4%	8%	9%
2009	INTEL		61	10%	-1%	0%	5%	9%	12%	27%	31%
2010	INTEL		48	9%	-3%	-2%	4%	5%	15%	22%	27%
2004	INTEL		25	-5%	-19%	-11%	-8%	-5%	-2%	6%	8%
2005	INTEL		45	7%	-2%	-1%	3%	7%	10%	15%	21%
2006	INTEL		59	4%	-14%	-5%	0%	3%	10%	19%	23%
2007	INTEL		71	9%	-4%	2%	5%	8%	12%	18%	28%
2008	INTEL		70	3%	-4%	-3%	-1%	2%	7%	13%	19%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		60	5%	-6%	-5%	2%	5%	8%	11%	17%
2010	INTEL		54	5%	-5%	-3%	3%	4%	9%	13%	18%
2007	INTEL		28	9%	-2%	3%	7%	9%	11%	14%	25%
2008	INTEL		35	4%	-5%	-4%	1%	4%	7%	12%	13%
2009	INTEL		25	4%	-4%	-3%	0%	4%	8%	14%	16%
2001	INTEL		26	-11%	-50%	-23%	-17%	-14%	-8%	12%	39%
2002	INTEL		37	-8%	-30%	-29%	-14%	-8%	-4%	10%	46%
2003	INTEL		54	11%	-25%	-4%	9%	11%	17%	21%	27%
2004	INTEL		55	-5%	-34%	-13%	-8%	-5%	-2%	4%	9%
2005	INTEL		49	8%	-10%	-2%	3%	6%	12%	24%	51%
2001	INTEL		32	0%	-12%	-11%	-9%	-3%	8%	18%	46%
2001	INTEL		56	1%	-25%	-17%	-9%	-2%	9%	26%	48%
2002	INTEL		52	-3%	-26%	-16%	-9%	-4%	0%	13%	31%
2003	INTEL		32	13%	0%	1%	8%	10%	20%	25%	31%
2004	INTEL		29	4%	-10%	-9%	-4%	1%	9%	32%	36%
2005	INTEL		30	10%	-4%	-3%	3%	9%	18%	26%	28%
2006	INTEL		31	5%	-7%	-5%	1%	2%	9%	26%	28%
2007	INTEL		28	13%	6%	6%	7%	11%	19%	28%	29%
2008	INTEL		27	1%	-5%	-5%	-1%	2%	3%	8%	8%
2001	INTEL		56	-8%	-40%	-30%	-15%	-10%	-1%	12%	68%
2002	INTEL		56	-4%	-29%	-21%	-13%	-3%	3%	14%	19%
2003	INTEL		57	13%	-5%	-4%	8%	10%	17%	26%	83%
2004	INTEL		56	-4%	-30%	-17%	-8%	-4%	0%	8%	10%
2005	INTEL		53	9%	-6%	-5%	3%	7%	14%	29%	32%
2006	INTEL		50	4%	-6%	-4%	0%	2%	7%	11%	39%
2007	INTEL		54	9%	2%	4%	6%	9%	13%	16%	25%
2008	INTEL		54	4%	-11%	-8%	-1%	4%	8%	12%	21%
2009	INTEL		44	5%	-11%	-4%	1%	5%	8%	18%	22%
2010	INTEL		45	6%	-3%	-2%	4%	4%	8%	15%	17%
2001	INTEL		34	-5%	-25%	-21%	-12%	-10%	0%	39%	42%
2002	INTEL		39	-8%	-47%	-44%	-14%	-5%	2%	11%	16%
2003	INTEL		37	13%	0%	1%	8%	13%	16%	26%	27%
2004	INTEL		40	-2%	-12%	-12%	-6%	-4%	0%	9%	40%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		27	9%	-2%	0%	5%	8%	13%	17%	21%
2006	INTEL		32	4%	-5%	-4%	-3%	3%	7%	17%	40%
2007	INTEL		27	12%	1%	5%	10%	12%	16%	20%	23%
2008	INTEL		31	4%	-7%	-6%	-1%	7%	8%	14%	14%
2009	INTEL		28	4%	-5%	-5%	1%	3%	7%	15%	17%
2010	INTEL		33	6%	1%	2%	4%	6%	8%	15%	16%
2001	INTEL		77	6%	-3%	2%	4%	6%	7%	10%	18%
2002	INTEL		73	7%	-18%	0%	2%	7%	10%	19%	23%
2003	INTEL		38	12%	4%	4%	8%	12%	16%	20%	22%
2005	INTEL		37	16%	0%	0%	10%	17%	21%	28%	38%
2006	INTEL		34	25%	5%	13%	19%	26%	30%	37%	41%
2001	INTEL		166	6%	-13%	3%	4%	6%	7%	11%	54%
2002	INTEL		152	3%	-11%	1%	2%	2%	3%	9%	14%
2003	INTEL		161	11%	-3%	4%	7%	10%	13%	20%	30%
2004	INTEL		141	2%	-3%	-2%	0%	1%	3%	9%	13%
2005	INTEL		112	12%	0%	0%	8%	11%	17%	24%	48%
2006	INTEL		81	17%	-3%	-2%	12%	16%	23%	31%	47%
2007	INTEL		72	14%	1%	5%	9%	14%	20%	27%	28%
2008	INTEL		77	0%	-5%	-5%	-3%	-2%	-2%	12%	12%
2009	INTEL		75	14%	4%	7%	10%	12%	19%	24%	26%
2010	INTEL		62	7%	-4%	2%	5%	6%	8%	18%	31%
2001	INTEL		204	15%	-11%	2%	5%	6%	9%	72%	83%
2002	INTEL		211	8%	-17%	1%	2%	2%	3%	41%	47%
2003	INTEL		205	13%	-1%	5%	8%	9%	12%	39%	49%
2004	INTEL		212	4%	-17%	-2%	0%	1%	4%	20%	80%
2005	INTEL		222	12%	-6%	3%	6%	9%	15%	35%	48%
2006	INTEL		213	13%	-3%	-2%	9%	12%	17%	33%	39%
2007	INTEL		203	16%	3%	4%	10%	13%	18%	40%	48%
2008	INTEL		194	-2%	-9%	-5%	-3%	-3%	-2%	6%	12%
2009	INTEL		188	12%	2%	6%	10%	11%	12%	23%	25%
2010	INTEL		186	7%	2%	3%	5%	5%	7%	17%	26%
2001	INTEL		187	-6%	-17%	-15%	-8%	-6%	-3%	0%	10%
2002	INTEL		216	-7%	-36%	-30%	-10%	-3%	0%	3%	13%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2003	INTEL		249	7%	-12%	-7%	5%	8%	10%	17%	47%
2004	INTEL		261	-3%	-21%	-11%	-4%	-3%	-1%	4%	24%
2005	INTEL		287	7%	-5%	-1%	3%	6%	9%	15%	32%
2006	INTEL		282	6%	-10%	-3%	2%	5%	8%	18%	45%
2007	INTEL		302	10%	0%	4%	7%	9%	12%	20%	56%
2008	INTEL		319	-1%	-12%	-10%	-3%	0%	2%	5%	18%
2009	INTEL		307	8%	-3%	2%	5%	8%	10%	13%	33%
2010	INTEL		317	5%	-2%	2%	4%	5%	6%	10%	14%
2007	INTEL		29	13%	2%	4%	9%	11%	14%	23%	60%
2008	INTEL		25	4%	-3%	-3%	1%	4%	8%	11%	14%
2001	INTEL		27	4%	-9%	-8%	-6%	1%	10%	21%	36%
2001	INTEL		81	0%	-15%	-12%	-9%	-5%	7%	26%	40%
2002	INTEL		67	-2%	-24%	-20%	-8%	-2%	5%	13%	35%
2003	INTEL		57	14%	-2%	-1%	9%	14%	21%	27%	30%
2004	INTEL		51	2%	-10%	-5%	-1%	1%	6%	10%	12%
2005	INTEL		27	15%	2%	3%	10%	15%	22%	25%	38%
2001	INTEL		89	-3%	-22%	-17%	-12%	-6%	2%	19%	64%
2002	INTEL		70	-3%	-27%	-21%	-9%	-4%	2%	14%	37%
2003	INTEL		63	12%	-7%	1%	7%	11%	16%	23%	69%
2004	INTEL		79	-4%	-30%	-14%	-9%	-5%	-1%	7%	42%
2005	INTEL		68	10%	-9%	-3%	6%	10%	13%	24%	28%
2006	INTEL		51	5%	-4%	-2%	1%	5%	9%	13%	21%
2007	INTEL		38	11%	-3%	0%	6%	11%	15%	23%	32%
2008	INTEL		35	2%	-10%	-5%	0%	1%	3%	9%	14%
2009	INTEL		32	8%	-1%	0%	5%	7%	11%	15%	29%
2010	INTEL		25	7%	-10%	-8%	4%	7%	12%	18%	18%
2001	INTEL		59	-10%	-43%	-42%	-18%	-12%	-3%	15%	48%
2002	INTEL		68	-6%	-43%	-32%	-13%	-6%	3%	14%	43%
2003	INTEL		70	13%	-22%	-1%	6%	12%	19%	25%	79%
2004	INTEL		83	-3%	-27%	-12%	-6%	-4%	1%	8%	20%
2005	INTEL		63	14%	-4%	-1%	7%	12%	17%	36%	51%
2006	INTEL		60	6%	-14%	-7%	-1%	3%	11%	31%	83%
2007	INTEL		54	11%	-8%	2%	8%	10%	15%	22%	32%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		46	3%	-5%	-3%	0%	2%	6%	9%	13%
2009	INTEL		40	7%	-5%	-4%	3%	6%	10%	16%	17%
2010	INTEL		43	8%	1%	2%	4%	6%	10%	17%	21%
2001	INTEL		30	-5%	-51%	-44%	-14%	-11%	0%	55%	68%
2002	INTEL		27	-10%	-40%	-36%	-15%	-8%	-5%	8%	20%
2003	INTEL		27	9%	-22%	-17%	5%	13%	19%	28%	32%
2004	INTEL		32	-1%	-15%	-12%	-7%	-3%	2%	11%	41%
2005	INTEL		29	12%	-1%	1%	9%	10%	15%	26%	28%
2006	INTEL		28	1%	-6%	-5%	-3%	0%	4%	12%	19%
2007	INTEL		25	12%	-4%	5%	9%	11%	17%	22%	22%
2005	INTEL		25	13%	6%	6%	10%	12%	14%	19%	21%
2010	INTEL		27	6%	-4%	0%	3%	5%	11%	13%	13%
2005	INTEL		38	8%	2%	3%	3%	9%	12%	16%	16%
2004	INTEL		38	5%	-3%	-3%	1%	2%	8%	24%	24%
2005	INTEL		125	7%	0%	2%	3%	4%	12%	16%	17%
2006	INTEL		94	4%	-3%	0%	1%	1%	6%	16%	19%
2007	INTEL		68	10%	4%	6%	7%	8%	11%	21%	24%
2008	INTEL		61	-2%	-5%	-4%	-3%	-2%	-2%	5%	7%
2009	INTEL		116	13%	5%	8%	11%	11%	14%	21%	24%
2010	INTEL		98	10%	1%	3%	7%	8%	13%	18%	29%
2004	INTEL		66	2%	-14%	-1%	0%	1%	3%	10%	11%
2005	INTEL		144	6%	0%	3%	3%	4%	8%	17%	18%
2006	INTEL		164	4%	-4%	0%	0%	2%	7%	16%	27%
2007	INTEL		125	10%	3%	5%	7%	9%	10%	20%	42%
2008	INTEL		121	-2%	-11%	-5%	-3%	-3%	-2%	-1%	24%
2009	INTEL		177	11%	-2%	9%	10%	11%	11%	14%	21%
2010	INTEL		188	6%	1%	3%	5%	6%	7%	13%	16%
2004	INTEL		27	3%	-2%	-1%	0%	0%	3%	16%	17%
2005	INTEL		49	7%	2%	2%	3%	5%	6%	37%	37%
2006	INTEL		50	2%	0%	0%	1%	2%	3%	6%	16%
2007	INTEL		57	9%	4%	5%	7%	7%	9%	19%	23%
2008	INTEL		59	-5%	-62%	-6%	-3%	-3%	-2%	-1%	-1%
2009	INTEL		43	11%	6%	9%	10%	11%	11%	14%	15%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2010	INTEL		49	7%	3%	3%	5%	7%	9%	13%	13%
2001	INTEL		78	0%	-24%	-11%	-8%	-2%	8%	13%	68%
2002	INTEL		60	-3%	-22%	-15%	-7%	-3%	2%	9%	18%
2003	INTEL		45	21%	-1%	1%	15%	23%	28%	33%	34%
2004	INTEL		53	0%	-12%	-9%	-7%	-1%	6%	14%	20%
2005	INTEL		84	11%	-8%	-1%	6%	12%	17%	23%	27%
2006	INTEL		62	5%	-13%	-6%	-2%	3%	14%	18%	25%
2007	INTEL		39	13%	3%	3%	7%	11%	20%	25%	26%
2008	INTEL		41	2%	-6%	-5%	-1%	3%	6%	10%	11%
2009	INTEL		27	12%	-1%	4%	6%	11%	18%	21%	24%
2001	INTEL		148	-2%	-18%	-16%	-11%	-6%	5%	19%	46%
2002	INTEL		147	-3%	-28%	-16%	-10%	-4%	1%	11%	22%
2003	INTEL		147	23%	-3%	8%	18%	24%	30%	39%	45%
2004	INTEL		129	1%	-12%	-8%	-2%	0%	5%	11%	32%
2005	INTEL		204	9%	-5%	-2%	3%	7%	16%	24%	34%
2006	INTEL		176	7%	-9%	-5%	1%	4%	14%	22%	31%
2007	INTEL		100	11%	-9%	3%	6%	9%	15%	24%	32%
2008	INTEL		106	0%	-10%	-8%	-3%	0%	3%	9%	13%
2009	INTEL		93	11%	-6%	2%	6%	10%	15%	26%	36%
2010	INTEL		75	7%	-3%	0%	4%	5%	9%	21%	22%
2001	INTEL		60	-10%	-24%	-21%	-14%	-11%	-6%	5%	9%
2002	INTEL		87	-10%	-28%	-21%	-15%	-10%	-4%	2%	4%
2003	INTEL		133	22%	-1%	5%	16%	22%	27%	39%	46%
2004	INTEL		154	-3%	-21%	-13%	-6%	-4%	-1%	7%	40%
2005	INTEL		216	8%	-7%	-3%	3%	7%	11%	22%	34%
2006	INTEL		192	4%	-9%	-3%	0%	2%	7%	15%	29%
2007	INTEL		178	8%	-14%	-1%	6%	8%	12%	17%	26%
2008	INTEL		160	4%	-12%	-4%	0%	4%	7%	12%	30%
2009	INTEL		133	5%	-10%	-5%	1%	4%	8%	16%	26%
2010	INTEL		126	6%	-7%	-2%	3%	5%	8%	16%	19%
2005	INTEL		26	10%	1%	1%	6%	9%	16%	26%	26%
2006	INTEL		44	3%	-19%	-12%	-1%	4%	8%	13%	15%
2007	INTEL		52	10%	2%	4%	7%	9%	13%	18%	19%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		59	4%	-8%	-5%	0%	4%	7%	11%	29%
2009	INTEL		53	5%	-3%	-1%	1%	4%	7%	13%	39%
2010	INTEL		56	6%	-1%	1%	3%	4%	8%	13%	15%
2003	INTEL		26	11%	-14%	-11%	5%	12%	17%	27%	68%
2001	INTEL		34	-6%	-24%	-20%	-14%	-10%	2%	10%	58%
2003	INTEL		28	10%	-16%	-10%	6%	8%	16%	35%	35%
2004	INTEL		26	-5%	-17%	-11%	-8%	-4%	-2%	4%	8%
2001	INTEL		42	2%	-15%	-12%	-7%	-1%	8%	19%	24%
2002	INTEL		35	1%	-20%	-11%	-7%	0%	8%	17%	26%
2001	INTEL		155	-1%	-19%	-14%	-10%	-6%	7%	26%	33%
2002	INTEL		128	-1%	-16%	-14%	-7%	-3%	2%	16%	26%
2003	INTEL		92	13%	-8%	-1%	8%	12%	19%	26%	36%
2004	INTEL		74	2%	-9%	-8%	-3%	1%	6%	13%	15%
2005	INTEL		69	13%	-6%	-4%	8%	12%	20%	26%	32%
2006	INTEL		56	9%	-5%	-3%	1%	6%	15%	29%	33%
2007	INTEL		47	14%	-2%	6%	8%	12%	20%	26%	29%
2008	INTEL		42	2%	-10%	-7%	-2%	1%	3%	22%	24%
2009	INTEL		41	14%	-1%	3%	9%	11%	19%	27%	29%
2010	INTEL		41	12%	1%	2%	4%	9%	18%	29%	33%
2001	INTEL		192	-10%	-39%	-24%	-19%	-13%	-5%	9%	50%
2002	INTEL		166	-8%	-36%	-19%	-15%	-8%	-2%	7%	16%
2003	INTEL		118	12%	-9%	-3%	6%	11%	17%	27%	63%
2004	INTEL		84	-2%	-17%	-13%	-6%	-2%	0%	9%	30%
2005	INTEL		77	10%	-2%	1%	6%	9%	14%	26%	31%
2006	INTEL		75	3%	-11%	-9%	-1%	2%	7%	19%	21%
2007	INTEL		67	10%	-11%	2%	6%	9%	14%	23%	44%
2008	INTEL		68	3%	-11%	-4%	-1%	3%	7%	13%	25%
2009	INTEL		62	6%	-3%	-1%	3%	6%	8%	15%	22%
2010	INTEL		62	8%	-3%	1%	4%	5%	11%	21%	31%
2001	INTEL		127	-8%	-45%	-25%	-15%	-11%	0%	16%	40%
2002	INTEL		123	-11%	-45%	-30%	-18%	-9%	-4%	5%	11%
2003	INTEL		103	11%	-18%	-5%	7%	10%	16%	24%	42%
2004	INTEL		96	-5%	-28%	-13%	-9%	-4%	-1%	8%	12%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		88	12%	-3%	3%	7%	9%	18%	27%	38%
2006	INTEL		81	4%	-14%	-7%	-1%	4%	9%	17%	33%
2007	INTEL		66	14%	2%	4%	9%	12%	17%	29%	34%
2008	INTEL		65	5%	-5%	-4%	0%	3%	7%	25%	27%
2009	INTEL		63	7%	-3%	-2%	2%	6%	11%	20%	35%
2010	INTEL		63	9%	-3%	2%	5%	6%	11%	20%	26%
2001	INTEL		110	-11%	-42%	-28%	-18%	-13%	-6%	12%	39%
2002	INTEL		101	-12%	-49%	-42%	-17%	-10%	-5%	5%	31%
2003	INTEL		87	12%	-20%	-8%	1%	12%	21%	33%	78%
2004	INTEL		65	-4%	-37%	-15%	-8%	-4%	0%	8%	16%
2005	INTEL		48	11%	-3%	-2%	6%	10%	14%	19%	63%
2006	INTEL		49	2%	-16%	-9%	-4%	1%	7%	13%	28%
2007	INTEL		27	15%	-6%	5%	12%	15%	17%	22%	31%
2008	INTEL		30	9%	-3%	-1%	4%	8%	12%	23%	32%
2009	INTEL		26	5%	-8%	-5%	2%	5%	9%	12%	14%
2010	INTEL		30	9%	-2%	1%	5%	7%	10%	28%	37%
2001	INTEL		30	-1%	-18%	-17%	-14%	-2%	3%	28%	50%
2002	INTEL		27	-16%	-62%	-40%	-33%	-21%	-10%	22%	83%
2001	INTEL		27	0%	-17%	-17%	-8%	-3%	6%	12%	27%
2001	INTEL		115	-3%	-23%	-14%	-9%	-6%	1%	17%	44%
2002	INTEL		91	-3%	-19%	-17%	-8%	-4%	0%	14%	40%
2003	INTEL		58	10%	-8%	-5%	4%	9%	14%	25%	26%
2004	INTEL		43	0%	-8%	-8%	-5%	-1%	4%	8%	8%
2005	INTEL		35	8%	0%	1%	3%	5%	12%	21%	25%
2006	INTEL		35	1%	-13%	-6%	0%	1%	4%	8%	9%
2007	INTEL		28	12%	3%	3%	6%	10%	15%	25%	33%
2008	INTEL		29	0%	-8%	-7%	-3%	-1%	3%	8%	9%
2009	INTEL		28	12%	-1%	5%	7%	9%	14%	24%	32%
2010	INTEL		26	6%	-2%	-1%	4%	4%	6%	21%	21%
2001	INTEL		83	-8%	-21%	-19%	-15%	-12%	-2%	8%	18%
2002	INTEL		70	-4%	-26%	-22%	-11%	-4%	3%	14%	19%
2003	INTEL		54	10%	-12%	-1%	6%	10%	16%	22%	24%
2004	INTEL		61	-4%	-21%	-12%	-7%	-5%	0%	5%	12%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		57	7%	-7%	-2%	3%	6%	11%	16%	18%
2006	INTEL		64	3%	-10%	-9%	0%	2%	8%	15%	21%
2007	INTEL		49	9%	-4%	4%	7%	8%	12%	20%	26%
2008	INTEL		42	2%	-8%	-5%	-1%	1%	5%	11%	12%
2009	INTEL		40	7%	-12%	-4%	2%	7%	11%	17%	21%
2010	INTEL		43	6%	-5%	0%	3%	5%	9%	16%	28%
2001	INTEL		67	-7%	-45%	-31%	-16%	-12%	2%	26%	35%
2002	INTEL		63	-9%	-48%	-35%	-17%	-6%	-1%	9%	16%
2003	INTEL		60	12%	-6%	-5%	7%	11%	18%	26%	31%
2004	INTEL		56	-3%	-20%	-11%	-7%	-4%	-1%	8%	9%
2005	INTEL		46	6%	-7%	-5%	4%	5%	10%	17%	20%
2006	INTEL		43	1%	-9%	-8%	-4%	-1%	6%	14%	15%
2007	INTEL		46	10%	-1%	1%	8%	10%	13%	19%	21%
2008	INTEL		47	7%	-4%	-1%	3%	6%	10%	18%	20%
2009	INTEL		43	4%	-6%	-4%	1%	3%	6%	14%	17%
2010	INTEL		41	6%	-2%	-1%	4%	4%	8%	15%	18%
2001	INTEL		29	-10%	-40%	-19%	-15%	-13%	-4%	6%	10%
2002	INTEL		28	-10%	-32%	-29%	-15%	-8%	-5%	4%	21%
2003	INTEL		28	9%	-23%	-7%	7%	10%	13%	28%	30%
2004	INTEL		25	-6%	-16%	-14%	-11%	-6%	-3%	2%	11%
2010	INTEL		27	5%	-5%	0%	2%	4%	7%	11%	11%
2002	INTEL		28	5%	-11%	-10%	-1%	5%	13%	15%	16%
2003	INTEL		35	13%	-5%	-3%	7%	14%	19%	25%	31%
2004	INTEL		36	2%	-8%	-6%	-3%	-1%	5%	29%	30%
2005	INTEL		63	14%	-3%	3%	8%	16%	20%	27%	33%
2006	INTEL		37	8%	-7%	-3%	2%	6%	10%	28%	39%
2007	INTEL		30	10%	2%	4%	6%	8%	11%	21%	26%
2008	INTEL		29	1%	-4%	-3%	-1%	1%	4%	9%	15%
2009	INTEL		28	13%	2%	6%	9%	10%	15%	30%	36%
2001	INTEL		34	-4%	-20%	-16%	-12%	-8%	0%	17%	41%
2002	INTEL		39	-1%	-18%	-16%	-11%	-4%	2%	54%	59%
2003	INTEL		54	11%	-6%	-3%	7%	10%	17%	24%	33%
2004	INTEL		59	-3%	-23%	-15%	-5%	-4%	0%	6%	15%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		53	8%	-4%	0%	2%	6%	12%	30%	32%
2006	INTEL		40	9%	-9%	0%	4%	8%	11%	22%	25%
2007	INTEL		31	8%	-2%	-1%	3%	9%	12%	16%	17%
2008	INTEL		27	5%	-7%	-4%	1%	5%	11%	14%	20%
2009	INTEL		27	5%	-6%	-5%	0%	4%	8%	15%	16%
2010	INTEL		30	7%	0%	0%	4%	4%	10%	16%	18%
2001	INTEL		47	-11%	-43%	-39%	-16%	-12%	-5%	6%	36%
2002	INTEL		62	-11%	-39%	-38%	-16%	-8%	-4%	8%	21%
2003	INTEL		98	15%	-20%	-15%	4%	12%	21%	79%	83%
2004	INTEL		123	-4%	-45%	-27%	-12%	-4%	1%	31%	46%
2005	INTEL		152	10%	-6%	-2%	5%	8%	14%	31%	39%
2006	INTEL		161	7%	-13%	-4%	2%	7%	11%	18%	20%
2007	INTEL		139	11%	-1%	4%	7%	10%	15%	22%	28%
2008	INTEL		121	4%	-11%	-5%	0%	4%	7%	16%	25%
2009	INTEL		124	10%	-4%	0%	6%	10%	14%	19%	27%
2010	INTEL		137	9%	-4%	3%	5%	9%	13%	17%	28%
2001	INTEL		46	-7%	-50%	-45%	-15%	-11%	5%	18%	45%
2002	INTEL		36	-6%	-39%	-29%	-16%	-8%	-2%	34%	59%
2003	INTEL		46	11%	-26%	-21%	8%	12%	18%	31%	33%
2004	INTEL		56	-6%	-17%	-14%	-11%	-6%	-3%	4%	5%
2005	INTEL		53	11%	-4%	2%	5%	9%	12%	38%	45%
2006	INTEL		44	4%	-14%	-8%	-1%	2%	7%	16%	44%
2007	INTEL		46	13%	-17%	5%	9%	11%	16%	44%	49%
2008	INTEL		45	5%	-22%	-6%	1%	5%	9%	20%	24%
2009	INTEL		45	5%	-12%	-5%	2%	7%	9%	16%	16%
2010	INTEL		61	7%	-2%	0%	4%	6%	11%	16%	20%
2008	INTEL		26	5%	-9%	-3%	1%	3%	7%	22%	25%
2009	INTEL		29	13%	-1%	4%	10%	12%	15%	22%	39%
2010	INTEL		35	11%	-2%	1%	5%	7%	19%	28%	31%
2005	INTEL		39	8%	-9%	-4%	5%	7%	11%	21%	25%
2006	INTEL		34	5%	-9%	-9%	1%	2%	9%	19%	20%
2007	INTEL		32	11%	0%	1%	6%	8%	14%	28%	34%
2008	INTEL		29	1%	-12%	-10%	-1%	0%	5%	18%	26%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		34	8%	-1%	0%	4%	8%	10%	18%	22%
2002	INTEL		26	-9%	-36%	-20%	-15%	-7%	-2%	3%	4%
2003	INTEL		29	7%	-16%	-14%	5%	8%	10%	18%	34%
2004	INTEL		26	-4%	-18%	-12%	-8%	-4%	1%	6%	8%
2005	INTEL		55	11%	-6%	-3%	4%	9%	19%	25%	32%
2006	INTEL		43	5%	-4%	-3%	0%	2%	9%	17%	18%
2007	INTEL		39	12%	2%	3%	8%	11%	15%	25%	25%
2008	INTEL		32	5%	-6%	-4%	1%	5%	8%	14%	26%
2009	INTEL		30	6%	-4%	-2%	4%	6%	8%	13%	17%
2010	INTEL		30	10%	1%	3%	4%	8%	15%	26%	26%
2005	INTEL		25	9%	-3%	-3%	5%	8%	14%	25%	25%
2006	INTEL		26	2%	-14%	-5%	-4%	3%	8%	11%	14%
2006	INTEL		25	-4%	-28%	-19%	-7%	-4%	1%	3%	12%
2007	INTEL		51	14%	-18%	5%	9%	14%	16%	25%	56%
2008	INTEL		62	7%	-26%	-18%	4%	8%	12%	21%	40%
2009	INTEL		50	5%	-9%	-8%	-2%	4%	9%	18%	47%
2010	INTEL		60	11%	-2%	1%	8%	10%	13%	23%	27%
2001	INTEL		69	-1%	-60%	-32%	-18%	-13%	5%	76%	104%
2002	INTEL		219	-15%	-65%	-53%	-27%	-16%	-7%	35%	88%
2003	INTEL		360	23%	-43%	-31%	12%	19%	27%	119%	181%
2004	INTEL		427	-6%	-55%	-46%	-10%	-4%	2%	18%	91%
2005	INTEL		485	21%	-6%	3%	10%	14%	22%	70%	186%
2006	INTEL		547	1%	-38%	-29%	-8%	-3%	5%	52%	92%
2007	INTEL		583	20%	-25%	-18%	13%	17%	24%	64%	116%
2008	INTEL		591	10%	-37%	-18%	3%	11%	18%	29%	60%
2009	INTEL		583	0%	-24%	-14%	-5%	0%	6%	14%	43%
2010	INTEL		582	14%	-4%	6%	11%	13%	17%	25%	69%
2001	INTEL		37	-12%	-59%	-33%	-23%	-18%	-2%	15%	76%
2002	INTEL		51	-7%	-66%	-49%	-23%	-12%	-2%	62%	79%
2004	INTEL		99	-6%	-59%	-51%	-9%	-3%	2%	25%	37%
2005	INTEL		115	31%	-4%	8%	14%	18%	37%	92%	147%
2006	INTEL		127	4%	-37%	-33%	-8%	0%	9%	65%	91%
2007	INTEL		145	22%	-24%	-16%	17%	22%	31%	53%	101%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		168	18%	-29%	-13%	6%	18%	29%	49%	68%
2009	INTEL		160	-5%	-33%	-25%	-13%	-7%	1%	18%	36%
2010	INTEL		178	13%	-6%	0%	9%	11%	15%	27%	68%
2001	INTEL		400	-1%	-26%	-12%	-9%	-3%	5%	13%	51%
2002	INTEL		316	-2%	-25%	-18%	-7%	-3%	4%	13%	39%
2003	INTEL		206	11%	-8%	-2%	6%	11%	17%	25%	42%
2004	INTEL		172	2%	-19%	-9%	-2%	1%	6%	13%	28%
2005	INTEL		164	12%	-4%	0%	6%	12%	17%	24%	42%
2006	INTEL		161	11%	-7%	-3%	4%	12%	17%	23%	39%
2007	INTEL		114	14%	-3%	1%	7%	16%	21%	27%	33%
2008	INTEL		114	2%	-9%	-6%	-2%	1%	6%	10%	18%
2009	INTEL		129	16%	2%	5%	10%	16%	22%	29%	30%
2010	INTEL		98	16%	0%	3%	6%	18%	21%	31%	38%
2001	INTEL		515	0%	-27%	-14%	-9%	-3%	6%	25%	74%
2002	INTEL		548	-4%	-29%	-16%	-9%	-5%	0%	12%	33%
2003	INTEL		554	11%	-9%	-2%	6%	10%	15%	23%	46%
2004	INTEL		577	-1%	-19%	-10%	-5%	-3%	3%	11%	33%
2005	INTEL		450	13%	-6%	0%	6%	12%	19%	26%	46%
2006	INTEL		355	7%	-11%	-5%	1%	5%	13%	21%	29%
2007	INTEL		314	11%	-5%	0%	6%	9%	14%	24%	34%
2008	INTEL		333	1%	-10%	-5%	-2%	0%	3%	8%	24%
2009	INTEL		342	13%	-4%	2%	7%	10%	19%	26%	34%
2010	INTEL		332	11%	-3%	2%	4%	6%	19%	28%	53%
2001	INTEL		397	-4%	-27%	-21%	-12%	-7%	2%	16%	61%
2002	INTEL		402	-7%	-40%	-23%	-13%	-7%	-2%	8%	64%
2003	INTEL		392	11%	-22%	-3%	7%	10%	16%	23%	63%
2004	INTEL		407	-2%	-29%	-14%	-7%	-4%	0%	9%	49%
2005	INTEL		312	13%	-7%	0%	7%	12%	18%	30%	39%
2006	INTEL		383	6%	-12%	-4%	1%	4%	9%	19%	33%
2007	INTEL		347	10%	-7%	2%	6%	9%	14%	20%	31%
2008	INTEL		305	4%	-16%	-5%	0%	3%	7%	13%	32%
2009	INTEL		322	7%	-8%	-3%	2%	7%	10%	19%	43%
2010	INTEL		328	8%	-8%	0%	4%	6%	11%	20%	43%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2001	INTEL		652	-9%	-52%	-26%	-18%	-11%	-2%	24%	58%
2002	INTEL		726	-12%	-50%	-37%	-21%	-11%	-3%	9%	76%
2003	INTEL		722	14%	-28%	-14%	6%	11%	19%	42%	103%
2004	INTEL		599	-3%	-36%	-22%	-11%	-5%	1%	42%	46%
2005	INTEL		301	13%	-8%	0%	7%	11%	18%	35%	60%
2006	INTEL		319	6%	-18%	-5%	1%	6%	11%	17%	40%
2007	INTEL		304	12%	0%	3%	8%	11%	15%	23%	53%
2008	INTEL		332	5%	-12%	-5%	0%	4%	8%	15%	35%
2009	INTEL		329	7%	-10%	-2%	2%	7%	11%	18%	42%
2010	INTEL		388	9%	-6%	0%	4%	7%	13%	24%	45%
2001	INTEL		255	-6%	-54%	-32%	-15%	-11%	1%	44%	77%
2002	INTEL		291	-10%	-47%	-42%	-16%	-10%	-4%	28%	71%
2003	INTEL		277	13%	-31%	-10%	8%	13%	21%	32%	114%
2004	INTEL		211	-3%	-49%	-15%	-8%	-5%	-1%	13%	56%
2005	INTEL		133	14%	-9%	-1%	8%	12%	17%	40%	56%
2006	INTEL		139	1%	-24%	-14%	-4%	1%	5%	13%	39%
2007	INTEL		103	12%	-13%	1%	9%	11%	17%	23%	28%
2008	INTEL		111	4%	-16%	-9%	0%	4%	9%	17%	37%
2009	INTEL		106	5%	-8%	-6%	0%	5%	9%	13%	25%
2010	INTEL		110	7%	-8%	-2%	3%	5%	9%	17%	39%
2001	INTEL		107	-3%	-41%	-32%	-16%	-10%	5%	58%	85%
2002	INTEL		105	-11%	-51%	-45%	-20%	-12%	-5%	27%	78%
2003	INTEL		97	18%	-24%	-14%	10%	15%	26%	35%	145%
2004	INTEL		83	-4%	-32%	-18%	-8%	-5%	1%	11%	68%
2005	INTEL		45	13%	-12%	-4%	7%	10%	15%	45%	63%
2006	INTEL		35	0%	-25%	-24%	-5%	-2%	6%	15%	43%
2007	INTEL		27	13%	-20%	-10%	11%	15%	18%	22%	23%
2008	INTEL		39	10%	-12%	-12%	2%	8%	14%	45%	48%
2009	INTEL		40	3%	-22%	-10%	-1%	2%	10%	25%	25%
2010	INTEL		31	9%	-1%	0%	5%	8%	10%	16%	53%
2005	INTEL		34	14%	-1%	1%	8%	16%	20%	26%	31%
2006	INTEL		47	13%	-3%	-2%	7%	13%	18%	26%	32%
2007	INTEL		38	13%	-2%	1%	7%	13%	21%	25%	26%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		25	-1%	-8%	-6%	-4%	-2%	0%	4%	6%
2009	INTEL		25	13%	3%	6%	9%	12%	19%	23%	24%
2005	INTEL		122	11%	-9%	1%	6%	10%	16%	25%	29%
2006	INTEL		142	7%	-9%	-5%	1%	6%	12%	21%	35%
2007	INTEL		144	11%	-1%	3%	6%	9%	14%	25%	29%
2008	INTEL		140	1%	-8%	-5%	-1%	2%	4%	8%	14%
2009	INTEL		130	13%	-1%	2%	7%	12%	18%	27%	42%
2010	INTEL		96	12%	-1%	2%	5%	9%	18%	25%	30%
2005	INTEL		128	10%	-9%	-4%	6%	10%	15%	23%	31%
2006	INTEL		157	5%	-9%	-4%	1%	4%	9%	17%	31%
2007	INTEL		175	9%	-15%	-1%	5%	8%	12%	22%	45%
2008	INTEL		153	4%	-10%	-4%	0%	4%	7%	14%	22%
2009	INTEL		155	7%	-7%	-4%	2%	6%	12%	19%	32%
2010	INTEL		161	7%	-11%	0%	4%	6%	11%	19%	24%
2004	INTEL		151	-5%	-48%	-29%	-15%	-4%	0%	36%	46%
2005	INTEL		560	12%	-16%	-4%	5%	10%	17%	35%	64%
2006	INTEL		640	6%	-14%	-5%	1%	6%	10%	18%	60%
2007	INTEL		651	14%	-5%	4%	9%	12%	17%	34%	60%
2008	INTEL		427	5%	-13%	-6%	0%	4%	8%	17%	55%
2009	INTEL		537	13%	-10%	0%	7%	13%	19%	23%	31%
2010	INTEL		513	10%	-6%	2%	5%	8%	14%	25%	39%
2004	INTEL		79	-3%	-39%	-17%	-8%	-5%	2%	8%	51%
2005	INTEL		176	14%	-9%	1%	7%	11%	17%	43%	68%
2006	INTEL		260	2%	-26%	-14%	-3%	0%	5%	19%	54%
2007	INTEL		291	14%	-26%	1%	10%	13%	17%	31%	64%
2008	INTEL		175	5%	-57%	-8%	1%	5%	10%	18%	53%
2009	INTEL		166	5%	-8%	-4%	0%	4%	8%	17%	29%
2010	INTEL		181	6%	-8%	-1%	4%	5%	8%	15%	34%
2005	INTEL		49	13%	-5%	2%	7%	9%	17%	32%	83%
2006	INTEL		73	0%	-29%	-27%	-8%	-1%	5%	28%	78%
2007	INTEL		79	17%	-33%	-16%	13%	16%	19%	37%	83%
2008	INTEL		40	8%	-17%	-12%	3%	8%	14%	24%	28%
2009	INTEL		37	3%	-23%	-13%	-4%	1%	8%	30%	43%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2010	INTEL		35	12%	3%	5%	7%	10%	16%	24%	24%
2001	INTEL		53	1%	-20%	-11%	-6%	-1%	7%	13%	27%
2002	INTEL		69	-2%	-24%	-17%	-9%	-3%	5%	13%	18%
2003	INTEL		62	14%	-8%	-5%	6%	14%	21%	39%	49%
2004	INTEL		75	3%	-17%	-10%	-2%	1%	8%	25%	29%
2005	INTEL		109	12%	-3%	3%	8%	11%	14%	26%	34%
2006	INTEL		93	12%	-6%	-1%	5%	12%	20%	26%	33%
2007	INTEL		66	15%	-1%	1%	8%	12%	22%	28%	31%
2008	INTEL		48	1%	-7%	-5%	-2%	1%	3%	10%	14%
2009	INTEL		48	15%	4%	4%	10%	14%	20%	26%	28%
2010	INTEL		45	16%	-1%	3%	7%	15%	25%	30%	31%
2001	INTEL		80	2%	-16%	-14%	-8%	-2%	9%	28%	40%
2002	INTEL		134	-3%	-29%	-21%	-9%	-3%	3%	13%	25%
2003	INTEL		159	13%	-12%	-2%	7%	11%	19%	26%	54%
2004	INTEL		173	5%	-23%	-8%	-2%	3%	8%	25%	38%
2005	INTEL		270	10%	-9%	0%	4%	8%	15%	24%	31%
2006	INTEL		265	7%	-9%	-6%	1%	6%	12%	23%	32%
2007	INTEL		245	13%	-1%	2%	7%	11%	19%	27%	34%
2008	INTEL		194	1%	-9%	-5%	-2%	1%	3%	8%	25%
2009	INTEL		211	13%	-10%	2%	8%	11%	18%	24%	38%
2010	INTEL		185	12%	-6%	2%	5%	9%	18%	29%	45%
2001	INTEL		77	-3%	-38%	-19%	-11%	-5%	3%	17%	44%
2002	INTEL		123	-5%	-35%	-22%	-9%	-5%	1%	10%	21%
2003	INTEL		163	11%	-12%	-4%	6%	10%	17%	25%	31%
2004	INTEL		174	0%	-20%	-11%	-4%	-1%	4%	12%	46%
2005	INTEL		222	7%	-9%	-5%	3%	7%	12%	20%	33%
2006	INTEL		215	4%	-12%	-7%	0%	4%	8%	14%	25%
2007	INTEL		214	11%	-11%	0%	7%	11%	15%	24%	42%
2008	INTEL		220	4%	-8%	-4%	1%	4%	6%	13%	27%
2009	INTEL		217	7%	-8%	-3%	3%	7%	11%	16%	33%
2010	INTEL		232	7%	-9%	-2%	4%	5%	9%	16%	50%
2001	INTEL		62	-6%	-50%	-24%	-13%	-6%	1%	15%	46%
2002	INTEL		97	-8%	-54%	-36%	-13%	-6%	0%	8%	27%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2003	INTEL		143	13%	-18%	-5%	8%	12%	18%	27%	39%
2004	INTEL		174	1%	-21%	-12%	-4%	0%	3%	14%	48%
2005	INTEL		246	9%	-11%	-2%	5%	8%	13%	21%	71%
2006	INTEL		242	3%	-11%	-6%	-2%	3%	7%	13%	41%
2007	INTEL		227	16%	0%	7%	11%	14%	19%	29%	64%
2008	INTEL		205	5%	-11%	-4%	1%	5%	8%	14%	26%
2009	INTEL		202	7%	-11%	-2%	2%	6%	9%	21%	40%
2010	INTEL		211	8%	-4%	1%	4%	6%	10%	17%	45%
2001	INTEL		42	-5%	-44%	-25%	-13%	-10%	2%	24%	56%
2002	INTEL		79	-12%	-46%	-43%	-16%	-11%	-6%	3%	49%
2003	INTEL		106	14%	-23%	-5%	8%	12%	21%	31%	37%
2004	INTEL		102	-4%	-18%	-15%	-8%	-4%	-1%	12%	15%
2005	INTEL		126	11%	-8%	-3%	6%	9%	14%	25%	68%
2006	INTEL		133	0%	-20%	-12%	-4%	-1%	3%	13%	46%
2007	INTEL		142	15%	-23%	1%	11%	14%	18%	29%	70%
2008	INTEL		150	6%	-16%	-6%	2%	7%	10%	16%	36%
2009	INTEL		142	5%	-11%	-4%	0%	4%	9%	16%	41%
2010	INTEL		153	7%	-6%	1%	3%	5%	10%	18%	43%
2002	INTEL		34	-7%	-53%	-51%	-18%	-11%	1%	56%	58%
2003	INTEL		36	24%	-31%	-26%	11%	18%	27%	155%	194%
2004	INTEL		51	-5%	-42%	-18%	-11%	-5%	1%	9%	19%
2005	INTEL		41	14%	-1%	1%	6%	9%	15%	58%	82%
2006	INTEL		49	-1%	-23%	-16%	-5%	-2%	2%	12%	40%
2007	INTEL		49	15%	-16%	-2%	13%	16%	20%	29%	33%
2008	INTEL		50	8%	-25%	-6%	4%	9%	14%	20%	26%
2009	INTEL		49	2%	-9%	-7%	-2%	1%	4%	15%	26%
2010	INTEL		58	11%	-21%	0%	8%	10%	14%	19%	88%
2001	INTEL		41	0%	-14%	-13%	-9%	-2%	4%	35%	46%
2001	INTEL		83	1%	-14%	-13%	-9%	-2%	8%	25%	48%
2002	INTEL		52	-3%	-19%	-16%	-9%	-4%	2%	14%	20%
2003	INTEL		42	12%	-2%	-1%	5%	11%	18%	32%	34%
2004	INTEL		39	2%	-7%	-5%	-2%	1%	3%	15%	23%
2005	INTEL		36	8%	-1%	0%	3%	6%	11%	25%	25%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	INTEL		34	3%	-9%	-1%	1%	2%	6%	9%	10%
2001	INTEL		89	-7%	-23%	-20%	-14%	-11%	-1%	9%	49%
2002	INTEL		67	-6%	-24%	-18%	-11%	-5%	-2%	5%	17%
2003	INTEL		53	8%	-13%	-10%	5%	9%	15%	19%	21%
2004	INTEL		44	-3%	-19%	-10%	-7%	-4%	2%	8%	9%
2005	INTEL		35	6%	-2%	-1%	1%	3%	11%	19%	33%
2006	INTEL		32	4%	-7%	-7%	-1%	3%	8%	16%	20%
2001	INTEL		87	-7%	-51%	-23%	-13%	-8%	-2%	10%	45%
2002	INTEL		64	-9%	-37%	-29%	-16%	-10%	-3%	7%	58%
2003	INTEL		38	17%	-18%	-11%	8%	12%	21%	96%	109%
2004	INTEL		32	-1%	-34%	-11%	-3%	-1%	4%	10%	13%
2005	INTEL		26	8%	-8%	-8%	3%	9%	12%	19%	22%
2001	INTEL		48	-8%	-54%	-21%	-15%	-9%	-2%	7%	57%
2002	INTEL		38	-8%	-26%	-23%	-14%	-9%	-4%	4%	38%
2003	INTEL		32	16%	-23%	-18%	8%	15%	22%	37%	89%
2003	INTEL		25	34%	-34%	-33%	13%	19%	30%	169%	175%
2005	INTEL		29	23%	8%	8%	10%	13%	28%	66%	66%
2008	INTEL		26	14%	-25%	-19%	6%	15%	24%	31%	51%
2009	INTEL		26	-2%	-17%	-14%	-9%	-1%	2%	14%	19%
2001	INTEL		53	-1%	-43%	-24%	-13%	-8%	7%	56%	71%
2002	INTEL		48	-7%	-49%	-45%	-20%	-14%	-2%	57%	96%
2003	INTEL		38	18%	-30%	-27%	3%	15%	21%	161%	161%
2004	INTEL		41	-6%	-39%	-17%	-12%	-5%	1%	11%	12%
2005	INTEL		54	23%	0%	2%	8%	14%	20%	85%	88%
2006	INTEL		27	2%	-24%	-24%	-4%	1%	2%	47%	47%
2008	INTEL		25	12%	-2%	0%	7%	9%	16%	23%	32%
2002	INTEL		27	-6%	-57%	-53%	-26%	-13%	-4%	72%	87%
2003	INTEL		56	38%	-45%	-44%	13%	19%	27%	149%	206%
2004	INTEL		55	-11%	-58%	-51%	-12%	-6%	-1%	7%	9%
2005	INTEL		75	17%	0%	5%	9%	12%	16%	61%	66%
2006	INTEL		74	0%	-40%	-19%	-8%	-4%	1%	43%	68%
2007	INTEL		101	19%	-25%	-17%	12%	17%	26%	73%	92%
2008	INTEL		88	9%	-25%	-17%	3%	10%	17%	26%	53%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		84	-1%	-26%	-13%	-5%	0%	6%	12%	23%
2010	INTEL		82	12%	-3%	5%	10%	11%	15%	21%	32%
2005	INTEL		46	14%	-3%	0%	7%	14%	21%	25%	28%
2006	INTEL		61	9%	-3%	0%	3%	6%	14%	23%	28%
2007	INTEL		53	14%	3%	5%	7%	11%	19%	27%	30%
2008	INTEL		46	0%	-5%	-4%	-2%	0%	2%	8%	13%
2009	INTEL		47	14%	-4%	1%	8%	13%	19%	31%	37%
2010	INTEL		36	10%	2%	3%	5%	9%	14%	22%	25%
2004	INTEL		50	-3%	-18%	-14%	-6%	-4%	-1%	11%	18%
2005	INTEL		140	11%	-2%	1%	7%	10%	15%	28%	35%
2006	INTEL		194	7%	-9%	-3%	2%	5%	12%	20%	42%
2007	INTEL		190	11%	-3%	3%	6%	11%	15%	21%	31%
2008	INTEL		154	4%	-12%	-7%	0%	4%	8%	14%	29%
2009	INTEL		143	7%	-7%	-2%	3%	6%	11%	18%	23%
2010	INTEL		133	7%	-5%	0%	4%	5%	9%	19%	35%
2001	INTEL		80	-8%	-54%	-25%	-16%	-11%	-3%	21%	61%
2002	INTEL		178	-11%	-45%	-33%	-17%	-10%	-4%	6%	10%
2003	INTEL		196	12%	-16%	-5%	7%	11%	18%	26%	89%
2004	INTEL		202	-1%	-17%	-12%	-6%	-3%	1%	13%	48%
2005	INTEL		328	12%	-9%	1%	7%	11%	16%	27%	57%
2006	INTEL		395	3%	-14%	-7%	-2%	2%	7%	17%	24%
2007	INTEL		406	12%	-5%	3%	8%	11%	16%	24%	60%
2008	INTEL		354	5%	-12%	-4%	0%	4%	7%	15%	29%
2009	INTEL		342	6%	-9%	-3%	2%	6%	10%	17%	30%
2010	INTEL		318	6%	-4%	0%	4%	5%	9%	16%	28%
2001	INTEL		57	-13%	-44%	-43%	-18%	-14%	-6%	10%	41%
2002	INTEL		169	-9%	-44%	-27%	-16%	-9%	-4%	5%	48%
2003	INTEL		229	14%	-28%	-6%	8%	13%	20%	32%	114%
2004	INTEL		237	-4%	-39%	-15%	-8%	-5%	0%	9%	78%
2005	INTEL		341	13%	-7%	1%	8%	11%	16%	27%	65%
2006	INTEL		418	2%	-26%	-10%	-3%	0%	6%	15%	56%
2007	INTEL		482	12%	-18%	2%	9%	11%	15%	24%	53%
2008	INTEL		468	6%	-17%	-5%	2%	6%	10%	18%	38%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTEL		441	4%	-30%	-6%	0%	4%	8%	15%	28%
2010	INTEL		441	7%	-73%	0%	4%	5%	9%	18%	57%
2001	INTEL		34	-10%	-46%	-43%	-18%	-8%	1%	23%	48%
2002	INTEL		68	-7%	-47%	-42%	-16%	-9%	-5%	61%	85%
2003	INTEL		119	21%	-31%	-18%	10%	17%	29%	95%	150%
2004	INTEL		141	-5%	-46%	-19%	-10%	-5%	0%	12%	25%
2005	INTEL		207	13%	-34%	3%	8%	11%	16%	33%	61%
2006	INTEL		248	0%	-33%	-19%	-7%	-2%	4%	26%	82%
2007	INTEL		309	15%	-27%	0%	10%	15%	19%	36%	67%
2008	INTEL		309	8%	-44%	-11%	3%	8%	15%	25%	49%
2009	INTEL		287	2%	-20%	-11%	-4%	1%	6%	16%	27%
2010	INTEL		307	11%	-12%	0%	7%	9%	14%	27%	57%
2001	INTEL		31	3%	-15%	-12%	-5%	-1%	9%	23%	42%
2001	INTEL		83	3%	-15%	-11%	-7%	-1%	8%	25%	89%
2002	INTEL		73	-5%	-24%	-20%	-8%	-3%	0%	7%	12%
2003	INTEL		54	10%	-8%	-3%	5%	9%	12%	28%	54%
2004	INTEL		36	-1%	-8%	-7%	-3%	-2%	2%	8%	10%
2001	INTEL		90	-9%	-22%	-19%	-14%	-11%	-3%	6%	10%
2002	INTEL		94	-6%	-33%	-20%	-12%	-5%	1%	9%	16%
2003	INTEL		80	12%	-13%	-5%	7%	9%	17%	23%	62%
2004	INTEL		74	-4%	-36%	-14%	-10%	-5%	-1%	7%	48%
2001	INTEL		145	-9%	-54%	-25%	-16%	-11%	-4%	10%	41%
2002	INTEL		135	-6%	-41%	-28%	-14%	-5%	1%	9%	53%
2003	INTEL		115	15%	-21%	2%	9%	12%	20%	29%	108%
2004	INTEL		130	-4%	-33%	-16%	-10%	-4%	2%	10%	47%
2005	INTEL		34	12%	-2%	1%	5%	9%	15%	35%	38%
2006	INTEL		39	4%	-6%	-3%	-1%	4%	6%	14%	20%
2007	INTEL		28	11%	-1%	3%	6%	11%	14%	20%	29%
2008	INTEL		27	5%	-15%	-14%	1%	5%	9%	14%	36%
2010	INTEL		28	9%	-2%	0%	4%	6%	8%	25%	43%
2001	INTEL		88	-12%	-54%	-28%	-19%	-13%	-5%	7%	60%
2002	INTEL		80	-10%	-44%	-32%	-17%	-9%	-4%	5%	63%
2003	INTEL		86	13%	-34%	-8%	9%	13%	21%	27%	40%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2004	INTEL		86	-5%	-40%	-15%	-9%	-5%	-2%	8%	12%
2002	INTEL		26	-10%	-47%	-44%	-21%	-12%	-1%	15%	44%
2006	INTEL		30	7%	-8%	-6%	2%	7%	12%	21%	28%
2007	INTEL		33	12%	3%	4%	7%	10%	19%	21%	22%
2010	INTEL		26	14%	-1%	-1%	5%	11%	23%	34%	36%
2006	INTEL		43	7%	-8%	-2%	1%	7%	11%	19%	31%
2007	INTEL		36	10%	-2%	-1%	5%	9%	14%	21%	26%
2008	INTEL		34	4%	-10%	-5%	1%	3%	8%	14%	14%
2009	INTEL		38	6%	-6%	-5%	2%	7%	11%	20%	21%
2010	INTEL		25	7%	-2%	0%	3%	4%	13%	18%	21%
2006	INTEL		96	4%	-9%	-4%	-1%	5%	8%	17%	32%
2007	INTEL		77	10%	-13%	4%	7%	10%	14%	20%	24%
2008	INTEL		67	3%	-7%	-4%	0%	3%	7%	11%	14%
2009	INTEL		74	8%	-5%	-3%	4%	9%	12%	19%	22%
2010	INTEL		75	8%	-3%	0%	4%	6%	11%	20%	23%
2006	INTEL		63	0%	-19%	-13%	-5%	-1%	1%	16%	57%
2007	INTEL		74	13%	-26%	1%	9%	12%	17%	28%	73%
2008	INTEL		64	4%	-20%	-13%	-1%	4%	11%	16%	36%
2009	INTEL		69	5%	-10%	-6%	0%	6%	9%	14%	25%
2010	INTEL		62	5%	-6%	-1%	4%	5%	7%	12%	22%
2002	INTEL		33	-11%	-39%	-39%	-24%	-13%	-7%	46%	69%
2003	INTEL		76	12%	-18%	-15%	-9%	13%	20%	88%	99%
2004	INTEL		89	0%	-33%	-25%	-9%	-1%	5%	30%	54%
2005	INTEL		102	18%	-12%	2%	10%	16%	25%	44%	72%
2006	INTEL		105	16%	-5%	0%	9%	16%	21%	33%	56%
2007	INTEL		98	18%	2%	6%	11%	17%	22%	36%	66%
2008	INTEL		85	6%	-10%	-4%	0%	5%	9%	23%	26%
2009	INTEL		88	13%	-1%	1%	9%	13%	17%	23%	55%
2010	INTEL		92	16%	-5%	2%	9%	15%	21%	31%	46%
2002	INTEL		30	-10%	-46%	-43%	-20%	-12%	-3%	58%	62%
2003	INTEL		78	17%	-33%	-18%	4%	17%	25%	44%	136%
2004	INTEL		84	-1%	-29%	-16%	-7%	-3%	2%	31%	51%
2005	INTEL		90	21%	-15%	5%	10%	15%	26%	46%	95%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	INTEL		93	11%	-17%	-8%	5%	9%	16%	30%	54%
2007	INTEL		96	19%	-12%	6%	11%	15%	23%	50%	72%
2008	INTEL		103	3%	-21%	-15%	0%	4%	8%	14%	33%
2009	INTEL		96	8%	-8%	0%	4%	9%	12%	19%	32%
2010	INTEL		122	9%	-2%	2%	5%	8%	12%	22%	47%
2002	INTEL		38	-17%	-55%	-51%	-31%	-18%	-6%	25%	29%
2003	INTEL		72	27%	-24%	-18%	12%	18%	31%	137%	179%
2004	INTEL		89	-4%	-38%	-24%	-10%	-5%	0%	12%	79%
2005	INTEL		102	17%	-10%	2%	7%	12%	21%	51%	94%
2006	INTEL		113	6%	-28%	-11%	-1%	4%	10%	34%	60%
2007	INTEL		115	17%	-17%	-9%	13%	18%	22%	35%	67%
2008	INTEL		107	6%	-17%	-12%	2%	7%	14%	19%	27%
2009	INTEL		103	3%	-42%	-7%	-2%	3%	8%	14%	50%
2010	INTEL		106	12%	-55%	5%	8%	11%	15%	25%	54%
2001	INTEL		73	-4%	-19%	-11%	-8%	-5%	2%	6%	9%
2002	INTEL		30	-6%	-13%	-13%	-10%	-8%	-2%	6%	8%
2007	INTEL		25	18%	6%	10%	11%	17%	24%	28%	31%
2001	INTEL		32	-6%	-23%	-15%	-11%	-9%	-5%	14%	16%
2001	INTEL		40	-2%	-12%	-12%	-9%	-7%	4%	16%	25%
2002	INTEL		34	-1%	-19%	-15%	-5%	-1%	3%	14%	14%
2003	INTEL		29	12%	-3%	0%	6%	10%	16%	27%	43%
2004	INTEL		27	-1%	-13%	-13%	-8%	0%	5%	8%	10%
2001	INTEL		58	-8%	-28%	-21%	-15%	-12%	-2%	6%	52%
2002	INTEL		49	-9%	-23%	-21%	-13%	-10%	-4%	3%	6%
2003	INTEL		43	9%	-7%	-6%	4%	9%	15%	24%	25%
2004	INTEL		38	-1%	-11%	-10%	-5%	-1%	3%	8%	10%
2005	INTEL		39	7%	-8%	-6%	3%	5%	10%	22%	23%
2006	INTEL		41	6%	-4%	-4%	1%	7%	11%	16%	17%
2007	INTEL		33	12%	-6%	-1%	6%	14%	17%	22%	27%
2001	INTEL		48	-12%	-52%	-29%	-16%	-13%	-10%	7%	11%
2002	INTEL		44	-9%	-29%	-24%	-12%	-7%	-4%	2%	3%
2003	INTEL		43	13%	-5%	-4%	8%	13%	17%	25%	27%
2004	INTEL		42	-4%	-15%	-13%	-8%	-5%	0%	9%	10%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		41	7%	-5%	0%	4%	7%	10%	15%	18%
2006	INTEL		34	3%	-6%	-5%	-2%	2%	8%	17%	18%
2007	INTEL		31	13%	4%	5%	9%	12%	18%	24%	31%
2008	INTEL		36	4%	-2%	-1%	0%	2%	10%	14%	15%
2009	INTEL		26	5%	-3%	-3%	2%	6%	9%	12%	15%
2010	INTEL		27	7%	-1%	2%	4%	5%	8%	15%	15%
2001	INTEL		40	-1%	-58%	-35%	-17%	-9%	-3%	86%	100%
2001	INTEL		360	1%	-20%	-11%	-7%	0%	7%	18%	68%
2002	INTEL		273	-2%	-27%	-18%	-8%	-3%	3%	14%	54%
2003	INTEL		203	16%	-15%	0%	10%	15%	20%	42%	58%
2004	INTEL		125	3%	-17%	-10%	-3%	1%	7%	26%	28%
2005	INTEL		165	14%	-3%	3%	8%	12%	20%	28%	36%
2006	INTEL		128	13%	-5%	-1%	6%	13%	21%	31%	35%
2007	INTEL		103	15%	-4%	1%	8%	15%	22%	27%	40%
2008	INTEL		84	3%	-8%	-4%	-1%	2%	6%	15%	22%
2009	INTEL		82	15%	4%	6%	10%	15%	20%	24%	33%
2010	INTEL		92	19%	-1%	3%	9%	20%	27%	35%	64%
2001	INTEL		784	0%	-27%	-13%	-9%	-4%	8%	27%	137%
2002	INTEL		667	-1%	-28%	-13%	-7%	-2%	3%	12%	34%
2003	INTEL		583	13%	-7%	1%	8%	12%	19%	27%	63%
2004	INTEL		494	3%	-21%	-8%	-3%	0%	7%	18%	43%
2005	INTEL		510	13%	-4%	1%	8%	12%	18%	27%	34%
2006	INTEL		407	12%	-6%	1%	6%	10%	17%	28%	46%
2007	INTEL		375	12%	-9%	2%	7%	10%	18%	26%	35%
2008	INTEL		349	2%	-11%	-5%	-2%	1%	5%	13%	26%
2009	INTEL		386	14%	-3%	4%	9%	13%	18%	27%	41%
2010	INTEL		379	14%	-2%	2%	6%	13%	21%	30%	50%
2001	INTEL		845	-7%	-43%	-21%	-14%	-10%	0%	12%	68%
2002	INTEL		774	-5%	-34%	-20%	-11%	-4%	0%	9%	63%
2003	INTEL		753	11%	-23%	-4%	7%	10%	16%	24%	82%
2004	INTEL		742	-3%	-22%	-11%	-6%	-4%	-1%	7%	51%
2005	INTEL		741	10%	-23%	0%	5%	9%	14%	24%	43%
2006	INTEL		602	9%	-12%	-3%	5%	8%	14%	22%	33%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2007	INTEL		586	10%	-7%	1%	7%	9%	13%	22%	38%
2008	INTEL		566	3%	-13%	-5%	-1%	3%	6%	15%	34%
2009	INTEL		574	8%	-13%	-1%	4%	8%	12%	19%	36%
2010	INTEL		590	10%	-8%	0%	4%	8%	13%	29%	46%
2001	INTEL		881	-6%	-53%	-23%	-14%	-10%	0%	20%	99%
2002	INTEL		850	-8%	-45%	-33%	-14%	-7%	-2%	9%	86%
2003	INTEL		804	12%	-24%	-5%	7%	11%	17%	26%	99%
2004	INTEL		807	-3%	-34%	-13%	-6%	-4%	0%	8%	53%
2005	INTEL		872	10%	-19%	-1%	5%	9%	14%	25%	61%
2006	INTEL		800	7%	-14%	-4%	3%	7%	12%	18%	43%
2007	INTEL		817	12%	-14%	4%	8%	11%	16%	24%	54%
2008	INTEL		808	4%	-16%	-5%	-1%	3%	7%	14%	29%
2009	INTEL		806	8%	-11%	-1%	4%	8%	11%	19%	40%
2010	INTEL		874	9%	-4%	1%	4%	8%	13%	22%	40%
2001	INTEL		592	-8%	-55%	-27%	-16%	-12%	-3%	23%	79%
2002	INTEL		580	-10%	-52%	-36%	-18%	-10%	-4%	9%	66%
2003	INTEL		549	14%	-36%	-7%	8%	13%	20%	32%	148%
2004	INTEL		584	-4%	-43%	-16%	-10%	-5%	0%	9%	87%
2005	INTEL		635	13%	-14%	-1%	7%	10%	16%	42%	79%
2006	INTEL		582	4%	-16%	-9%	-1%	2%	8%	18%	66%
2007	INTEL		613	13%	-22%	3%	9%	12%	16%	28%	82%
2008	INTEL		612	5%	-22%	-6%	1%	5%	9%	15%	35%
2009	INTEL		590	6%	-10%	-3%	2%	5%	9%	19%	49%
2010	INTEL		643	8%	-8%	0%	4%	7%	11%	19%	48%
2001	INTEL		219	-8%	-53%	-35%	-16%	-10%	-2%	16%	88%
2002	INTEL		223	-12%	-61%	-42%	-21%	-12%	-5%	14%	56%
2003	INTEL		222	18%	-48%	-17%	11%	17%	25%	39%	161%
2004	INTEL		225	-5%	-36%	-16%	-8%	-5%	-1%	9%	65%
2005	INTEL		239	13%	-10%	-1%	6%	10%	16%	53%	77%
2006	INTEL		275	3%	-30%	-23%	-3%	2%	8%	26%	85%
2007	INTEL		280	15%	-22%	5%	11%	14%	18%	28%	60%
2008	INTEL		306	7%	-26%	-8%	2%	8%	13%	22%	45%
2009	INTEL		312	3%	-18%	-10%	-1%	2%	7%	16%	62%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2010	INTEL		356	13%	-1%	4%	8%	11%	15%	29%	56%
2004	INTEL		25	5%	-14%	-6%	-1%	3%	10%	12%	37%
2005	INTEL		29	11%	0%	1%	8%	11%	15%	20%	25%
2006	INTEL		28	8%	-6%	-3%	1%	7%	13%	23%	26%
2007	INTEL		28	14%	4%	5%	8%	11%	22%	26%	26%
2008	INTEL		27	1%	-9%	-8%	-2%	1%	3%	6%	18%
2009	INTEL		28	12%	2%	2%	6%	11%	18%	25%	29%
2005	INTEL		29	10%	-1%	3%	7%	8%	14%	21%	24%
2006	INTEL		25	2%	-8%	-5%	0%	1%	7%	10%	15%
2007	INTEL		29	12%	-2%	1%	7%	12%	16%	25%	27%
2008	INTEL		28	4%	-2%	-1%	1%	3%	6%	10%	16%
2009	INTEL		28	6%	-3%	-2%	3%	6%	9%	14%	21%
2010	INTEL		29	7%	0%	0%	4%	5%	11%	18%	18%
2006	INTEL		32	6%	-21%	-8%	-3%	3%	9%	39%	53%
2007	INTEL		31	13%	-9%	8%	9%	11%	16%	23%	43%
2008	INTEL		35	3%	-13%	-6%	-2%	1%	6%	17%	37%
2009	INTEL		34	7%	-9%	-6%	1%	9%	12%	23%	23%
2010	INTEL		43	9%	-2%	1%	4%	6%	11%	21%	22%
2006	INTEL		34	-2%	-25%	-23%	-8%	-2%	1%	23%	36%
2007	INTEL		44	17%	2%	6%	10%	14%	18%	53%	62%
2008	INTEL		54	8%	-20%	-10%	4%	8%	15%	22%	36%
2009	INTEL		58	2%	-10%	-10%	-4%	0%	7%	20%	25%
2010	INTEL		68	15%	4%	5%	8%	11%	17%	43%	58%
2001	INTEL		26	-3%	-16%	-15%	-11%	-5%	4%	15%	29%
2005	INTEL		26	8%	-5%	-1%	3%	7%	10%	25%	27%
2002	INTEL		50	-1%	-21%	-16%	-8%	1%	5%	12%	12%
2004	INTEL		26	2%	-11%	-9%	-2%	1%	6%	15%	19%
2005	INTEL		31	5%	-8%	-6%	-1%	4%	12%	22%	23%
2007	INTEL		31	16%	1%	4%	8%	13%	23%	34%	36%
2002	INTEL		93	-3%	-26%	-14%	-9%	-3%	0%	13%	16%
2003	INTEL		87	11%	-4%	-1%	7%	10%	15%	22%	29%
2004	INTEL		80	0%	-12%	-9%	-4%	-2%	4%	7%	29%
2005	INTEL		88	8%	-5%	-1%	3%	6%	13%	20%	29%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	INTEL		61	9%	-10%	-4%	2%	6%	15%	30%	35%
2007	INTEL		98	17%	0%	3%	10%	16%	24%	35%	37%
2008	INTEL		84	1%	-9%	-4%	-2%	1%	3%	8%	12%
2009	INTEL		81	10%	-3%	3%	6%	9%	14%	22%	26%
2010	INTEL		68	10%	-2%	3%	5%	8%	18%	22%	27%
2002	INTEL		95	-8%	-37%	-24%	-13%	-7%	-2%	7%	13%
2003	INTEL		108	10%	-16%	-5%	6%	9%	14%	22%	30%
2004	INTEL		109	-3%	-22%	-13%	-7%	-5%	1%	8%	13%
2005	INTEL		136	8%	-6%	-1%	3%	7%	11%	19%	31%
2006	INTEL		110	9%	-9%	-6%	1%	5%	15%	31%	34%
2007	INTEL		178	15%	-5%	4%	10%	14%	19%	27%	35%
2008	INTEL		162	4%	-15%	-2%	1%	4%	7%	14%	32%
2009	INTEL		172	6%	-6%	-2%	2%	5%	9%	17%	32%
2010	INTEL		162	6%	-5%	0%	4%	4%	7%	18%	32%
2002	INTEL		74	-8%	-40%	-25%	-15%	-7%	1%	8%	14%
2003	INTEL		83	12%	-8%	-3%	7%	11%	18%	28%	45%
2004	INTEL		86	-4%	-20%	-11%	-7%	-5%	-1%	5%	34%
2005	INTEL		94	7%	-6%	-2%	3%	6%	11%	16%	32%
2006	INTEL		92	8%	-11%	-7%	-1%	6%	16%	23%	41%
2007	INTEL		196	14%	-5%	4%	10%	14%	18%	25%	35%
2008	INTEL		198	5%	-8%	-3%	1%	5%	9%	13%	24%
2009	INTEL		219	5%	-8%	-3%	2%	5%	9%	18%	26%
2010	INTEL		236	6%	-6%	-1%	4%	6%	8%	15%	21%
2007	INTEL		51	13%	0%	1%	9%	14%	16%	21%	28%
2008	INTEL		63	7%	-6%	-4%	1%	7%	10%	16%	21%
2009	INTEL		60	5%	-6%	-5%	0%	3%	13%	20%	22%
2010	INTEL		72	5%	-8%	-2%	4%	5%	7%	13%	16%
2001	INTEL		59	0%	-17%	-12%	-9%	-2%	7%	16%	18%
2002	INTEL		40	1%	-14%	-13%	-6%	1%	6%	22%	25%
2001	INTEL		72	0%	-15%	-14%	-8%	-4%	5%	30%	54%
2002	INTEL		86	-2%	-20%	-16%	-8%	-4%	3%	18%	21%
2003	INTEL		41	15%	3%	4%	8%	14%	20%	31%	35%
2004	INTEL		40	2%	-13%	-11%	-5%	1%	4%	33%	33%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		34	15%	1%	3%	8%	14%	21%	29%	35%
2006	INTEL		28	10%	-5%	1%	2%	8%	17%	26%	26%
2007	INTEL		33	12%	3%	3%	7%	9%	17%	29%	29%
2008	INTEL		45	3%	-7%	-4%	-1%	3%	6%	13%	24%
2009	INTEL		51	12%	1%	3%	6%	12%	18%	23%	27%
2010	INTEL		64	14%	3%	3%	5%	10%	22%	32%	37%
2001	INTEL		98	-9%	-32%	-22%	-17%	-11%	-3%	12%	32%
2002	INTEL		109	-7%	-33%	-25%	-13%	-6%	0%	8%	16%
2003	INTEL		67	10%	-10%	-4%	5%	9%	13%	24%	32%
2004	INTEL		59	-3%	-36%	-12%	-6%	-4%	0%	9%	28%
2005	INTEL		49	10%	-4%	0%	6%	7%	13%	21%	41%
2006	INTEL		51	7%	-11%	-2%	2%	8%	13%	19%	22%
2007	INTEL		66	11%	-13%	0%	6%	9%	15%	23%	33%
2008	INTEL		60	3%	-9%	-4%	-1%	2%	7%	12%	24%
2009	INTEL		61	8%	-7%	-2%	3%	7%	11%	24%	28%
2010	INTEL		67	7%	-4%	-1%	3%	5%	11%	20%	32%
2001	INTEL		129	-13%	-40%	-27%	-22%	-14%	-7%	6%	36%
2002	INTEL		124	-10%	-42%	-37%	-16%	-11%	-2%	6%	57%
2003	INTEL		75	14%	-18%	-4%	7%	11%	17%	27%	96%
2004	INTEL		95	-4%	-31%	-15%	-9%	-5%	-1%	8%	44%
2005	INTEL		79	11%	-5%	-1%	6%	9%	16%	24%	43%
2006	INTEL		72	5%	-11%	-3%	0%	4%	10%	23%	25%
2007	INTEL		58	12%	-32%	0%	9%	11%	15%	26%	42%
2008	INTEL		68	7%	-10%	-6%	2%	6%	9%	26%	28%
2009	INTEL		74	10%	-4%	-1%	4%	9%	16%	22%	37%
2010	INTEL		75	10%	-3%	1%	4%	8%	13%	27%	39%
2001	INTEL		92	-10%	-50%	-27%	-18%	-13%	-4%	14%	47%
2002	INTEL		87	-11%	-47%	-41%	-17%	-11%	-4%	6%	38%
2003	INTEL		61	14%	-18%	-2%	8%	13%	16%	36%	69%
2004	INTEL		69	-5%	-38%	-16%	-10%	-6%	0%	8%	20%
2005	INTEL		77	11%	-5%	-2%	6%	9%	15%	35%	49%
2006	INTEL		64	2%	-9%	-6%	-4%	-1%	4%	17%	33%
2007	INTEL		70	17%	-17%	5%	11%	16%	20%	45%	79%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		73	5%	-16%	-4%	1%	5%	9%	15%	20%
2009	INTEL		70	6%	-9%	-5%	0%	6%	11%	17%	19%
2010	INTEL		79	8%	-6%	0%	4%	6%	12%	19%	35%
2001	INTEL		42	-8%	-28%	-25%	-17%	-14%	-2%	43%	44%
2002	INTEL		45	-15%	-46%	-43%	-22%	-14%	-6%	8%	35%
2003	INTEL		51	15%	-25%	-17%	11%	16%	19%	30%	147%
2004	INTEL		50	-3%	-36%	-15%	-8%	-5%	-1%	13%	60%
2005	INTEL		55	11%	-7%	-6%	3%	8%	13%	62%	71%
2006	INTEL		51	4%	-17%	-10%	-5%	-1%	8%	28%	82%
2007	INTEL		38	16%	3%	6%	10%	14%	21%	32%	50%
2008	INTEL		47	6%	-25%	-13%	2%	7%	10%	20%	25%
2009	INTEL		53	5%	-14%	-7%	-1%	4%	9%	28%	45%
2010	INTEL		56	13%	-1%	3%	9%	12%	15%	28%	34%
2001	INTEL		54	2%	-19%	-15%	-7%	1%	11%	20%	26%
2002	INTEL		41	-1%	-25%	-19%	-6%	-3%	5%	23%	53%
2003	INTEL		25	12%	-4%	-3%	2%	12%	20%	25%	27%
2004	INTEL		29	0%	-21%	-15%	-8%	-1%	6%	20%	22%
2005	INTEL		38	12%	-7%	-3%	5%	9%	20%	27%	29%
2006	INTEL		36	10%	-5%	-4%	6%	10%	14%	17%	27%
2007	INTEL		25	17%	-3%	7%	15%	19%	21%	23%	25%
2001	INTEL		147	-2%	-25%	-15%	-10%	-7%	2%	30%	66%
2002	INTEL		144	-3%	-23%	-17%	-7%	-2%	0%	14%	25%
2003	INTEL		100	11%	-9%	-3%	6%	9%	16%	24%	32%
2004	INTEL		83	0%	-12%	-10%	-5%	0%	5%	13%	21%
2005	INTEL		74	9%	-11%	-3%	2%	6%	16%	28%	32%
2006	INTEL		91	7%	-12%	-6%	0%	4%	12%	23%	31%
2007	INTEL		69	12%	-2%	3%	7%	11%	17%	23%	26%
2008	INTEL		72	1%	-9%	-8%	-3%	1%	4%	10%	21%
2009	INTEL		80	12%	-8%	1%	7%	10%	18%	27%	30%
2010	INTEL		58	9%	-2%	1%	4%	5%	12%	26%	32%
2001	INTEL		153	-9%	-31%	-18%	-15%	-12%	-5%	5%	39%
2002	INTEL		149	-7%	-33%	-22%	-13%	-6%	-2%	5%	16%
2003	INTEL		131	10%	-7%	-4%	6%	9%	15%	24%	31%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2004	INTEL		126	-4%	-15%	-13%	-7%	-5%	-1%	7%	39%
2005	INTEL		136	7%	-7%	-5%	3%	7%	12%	19%	32%
2006	INTEL		207	5%	-13%	-7%	0%	3%	10%	23%	32%
2007	INTEL		168	9%	-6%	-1%	6%	8%	13%	21%	29%
2008	INTEL		153	4%	-15%	-7%	-1%	4%	8%	13%	17%
2009	INTEL		157	6%	-9%	-4%	1%	6%	11%	19%	26%
2010	INTEL		149	6%	-5%	-3%	2%	4%	8%	16%	20%
2001	INTEL		84	-12%	-50%	-25%	-15%	-12%	-10%	4%	7%
2002	INTEL		90	-8%	-35%	-27%	-14%	-8%	-3%	10%	25%
2003	INTEL		95	12%	-30%	-5%	7%	11%	18%	27%	36%
2004	INTEL		95	-4%	-24%	-11%	-8%	-4%	-2%	6%	40%
2005	INTEL		100	5%	-8%	-5%	3%	4%	7%	15%	26%
2006	INTEL		167	3%	-13%	-5%	-2%	2%	6%	18%	38%
2007	INTEL		170	10%	-4%	2%	7%	10%	13%	19%	24%
2008	INTEL		171	5%	-8%	-3%	1%	5%	10%	14%	21%
2009	INTEL		169	4%	-18%	-5%	1%	4%	8%	13%	19%
2010	INTEL		184	6%	-5%	-1%	4%	5%	8%	14%	18%
2001	INTEL		27	-14%	-52%	-42%	-18%	-12%	-9%	-1%	18%
2004	INTEL		26	-5%	-30%	-12%	-6%	-5%	-2%	1%	11%
2005	INTEL		29	8%	-2%	2%	5%	6%	12%	15%	16%
2006	INTEL		57	0%	-18%	-8%	-4%	-2%	2%	10%	61%
2007	INTEL		67	11%	-15%	-1%	8%	11%	15%	19%	48%
2008	INTEL		65	7%	-17%	-6%	4%	7%	12%	18%	39%
2009	INTEL		65	4%	-12%	-6%	0%	3%	7%	15%	29%
2010	INTEL		66	6%	-5%	0%	4%	5%	9%	15%	18%
2005	INTEL		26	17%	4%	6%	7%	14%	27%	33%	34%
2007	INTEL		34	13%	0%	2%	7%	10%	20%	29%	39%
2008	INTEL		36	2%	-12%	-11%	-2%	0%	4%	19%	23%
2009	INTEL		42	13%	-1%	4%	8%	11%	18%	23%	29%
2010	INTEL		39	14%	-2%	-2%	5%	12%	19%	41%	49%
2005	INTEL		34	12%	-3%	0%	5%	11%	18%	26%	31%
2006	INTEL		29	7%	-4%	-4%	2%	8%	13%	17%	23%
2007	INTEL		37	8%	-4%	-1%	5%	7%	12%	21%	23%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2008	INTEL		42	3%	-9%	-4%	0%	3%	6%	9%	12%
2009	INTEL		41	7%	-2%	0%	3%	8%	12%	16%	17%
2010	INTEL		49	9%	-4%	1%	4%	7%	11%	30%	36%
2005	INTEL		25	15%	1%	1%	7%	10%	21%	42%	44%
2007	INTEL		32	15%	5%	5%	9%	13%	19%	30%	65%
2008	INTEL		40	6%	-4%	-3%	1%	4%	7%	30%	34%
2009	INTEL		39	9%	-4%	-2%	4%	8%	11%	22%	22%
2010	INTEL		44	7%	-13%	-2%	4%	6%	9%	21%	24%
2008	INTEL		26	9%	-13%	-13%	2%	7%	15%	31%	32%
2009	INTEL		28	9%	-13%	-9%	3%	9%	12%	35%	37%
2010	INTEL		29	9%	-4%	-4%	5%	7%	12%	28%	30%
2001	INTEL		57	3%	-25%	-15%	-5%	5%	9%	20%	21%
2002	INTEL		39	1%	-20%	-17%	-4%	1%	5%	16%	20%
2001	INTEL		149	3%	-15%	-12%	-8%	-2%	8%	29%	59%
2002	INTEL		133	-1%	-22%	-15%	-6%	-2%	5%	20%	27%
2003	INTEL		111	12%	-6%	0%	7%	9%	17%	25%	28%
2004	INTEL		99	1%	-24%	-9%	-3%	-1%	6%	14%	27%
2005	INTEL		90	10%	-3%	-1%	3%	8%	16%	24%	35%
2006	INTEL		71	9%	-9%	-6%	2%	10%	17%	23%	25%
2007	INTEL		45	15%	-3%	1%	9%	15%	22%	30%	32%
2008	INTEL		37	2%	-10%	-7%	-1%	1%	5%	13%	21%
2009	INTEL		38	15%	0%	1%	8%	14%	21%	27%	35%
2010	INTEL		28	9%	1%	2%	4%	6%	10%	27%	27%
2001	INTEL		207	-6%	-39%	-19%	-12%	-9%	-1%	11%	59%
2002	INTEL		174	-5%	-30%	-22%	-11%	-4%	1%	9%	20%
2003	INTEL		178	11%	-10%	-5%	6%	10%	16%	26%	77%
2004	INTEL		182	-3%	-23%	-12%	-6%	-4%	0%	7%	31%
2005	INTEL		204	10%	-14%	0%	5%	9%	14%	24%	32%
2006	INTEL		165	4%	-10%	-5%	0%	2%	8%	15%	23%
2007	INTEL		141	11%	-19%	3%	6%	10%	17%	25%	31%
2008	INTEL		118	3%	-22%	-7%	-1%	3%	8%	14%	30%
2009	INTEL		126	7%	-7%	-2%	3%	8%	11%	18%	27%
2010	INTEL		108	9%	-4%	-2%	4%	6%	13%	20%	41%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2001	INTEL		181	-5%	-41%	-21%	-14%	-10%	0%	28%	61%
2002	INTEL		206	-8%	-41%	-31%	-15%	-7%	-3%	10%	42%
2003	INTEL		204	14%	-26%	-5%	8%	13%	19%	27%	113%
2004	INTEL		206	-3%	-29%	-13%	-6%	-3%	1%	7%	47%
2005	INTEL		227	10%	-7%	1%	6%	9%	13%	22%	59%
2006	INTEL		219	3%	-12%	-7%	-2%	2%	7%	14%	63%
2007	INTEL		202	14%	-3%	3%	10%	13%	17%	23%	57%
2008	INTEL		192	4%	-13%	-5%	0%	4%	7%	12%	26%
2009	INTEL		175	7%	-6%	-2%	3%	6%	10%	16%	20%
2010	INTEL		161	7%	-3%	1%	4%	5%	9%	17%	29%
2001	INTEL		102	-7%	-41%	-27%	-15%	-12%	-3%	33%	57%
2002	INTEL		121	-12%	-48%	-38%	-22%	-10%	-4%	9%	47%
2003	INTEL		128	12%	-28%	-4%	8%	12%	18%	32%	41%
2004	INTEL		140	-5%	-40%	-20%	-8%	-5%	1%	10%	15%
2005	INTEL		126	10%	-25%	-6%	6%	9%	13%	24%	75%
2006	INTEL		125	0%	-13%	-9%	-3%	-2%	3%	11%	32%
2007	INTEL		125	15%	-17%	7%	10%	13%	17%	27%	76%
2008	INTEL		131	6%	-18%	-8%	1%	6%	11%	19%	30%
2009	INTEL		141	5%	-32%	-6%	1%	5%	9%	19%	24%
2010	INTEL		136	7%	-4%	1%	4%	5%	9%	18%	25%
2002	INTEL		31	-12%	-39%	-39%	-21%	-12%	-7%	10%	40%
2003	INTEL		37	11%	-17%	-16%	4%	15%	19%	28%	35%
2004	INTEL		42	-7%	-32%	-27%	-9%	-6%	-2%	0%	16%
2005	INTEL		46	16%	0%	1%	8%	10%	19%	57%	67%
2006	INTEL		47	-2%	-39%	-22%	-7%	-3%	4%	13%	41%
2007	INTEL		43	18%	2%	4%	12%	14%	20%	62%	65%
2008	INTEL		45	5%	-30%	-17%	2%	7%	11%	19%	30%
2009	INTEL		40	2%	-16%	-9%	-1%	2%	6%	16%	22%
2010	INTEL		42	9%	-44%	1%	8%	9%	13%	19%	24%
2001	INTEL		29	-2%	-15%	-14%	-12%	-10%	-3%	44%	51%
2002	INTEL		36	-14%	-42%	-38%	-19%	-15%	-6%	-1%	5%
2003	INTEL		50	14%	-6%	-5%	8%	13%	18%	30%	67%
2004	INTEL		54	-5%	-41%	-24%	-10%	-5%	1%	10%	12%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		53	9%	-1%	0%	6%	9%	12%	20%	22%
2006	INTEL		38	4%	-17%	-13%	-2%	3%	11%	19%	25%
2007	INTEL		32	16%	-9%	-1%	11%	13%	18%	37%	76%
2008	INTEL		32	6%	-5%	-3%	1%	5%	9%	17%	18%
2009	INTEL		27	4%	-6%	-6%	0%	4%	9%	13%	19%
2010	INTEL		31	6%	-2%	0%	4%	5%	7%	20%	22%
2001	INTEL		32	1%	-25%	-18%	-13%	-7%	3%	51%	61%
2002	INTEL		35	-9%	-44%	-42%	-22%	-7%	-2%	40%	43%
2003	INTEL		33	6%	-43%	-32%	-6%	12%	17%	31%	31%
2004	INTEL		34	-5%	-17%	-15%	-12%	-6%	-4%	14%	14%
2005	INTEL		35	18%	2%	9%	11%	15%	19%	54%	68%
2006	INTEL		28	2%	-27%	-27%	-7%	-2%	4%	32%	89%
2008	INTEL		28	7%	-12%	-9%	2%	8%	12%	22%	26%
2009	INTEL		27	0%	-13%	-7%	-2%	-1%	3%	13%	14%
2010	INTEL		25	10%	3%	4%	7%	9%	12%	15%	35%
2001	INTEL		26	-8%	-22%	-21%	-13%	-7%	-2%	4%	5%
2010	INTEL		30	6%	-5%	0%	4%	5%	9%	14%	20%
2001	INTEL		30	2%	-12%	-12%	-8%	-2%	12%	18%	18%
2001	INTEL		52	0%	-15%	-13%	-9%	-6%	11%	33%	50%
2002	INTEL		36	-2%	-19%	-10%	-6%	-2%	1%	12%	14%
2003	INTEL		26	13%	-1%	-1%	7%	11%	20%	27%	29%
2001	INTEL		47	-13%	-24%	-23%	-19%	-15%	-11%	19%	23%
2002	INTEL		44	-9%	-29%	-29%	-13%	-10%	-3%	6%	7%
2003	INTEL		44	8%	-13%	-12%	2%	9%	12%	27%	28%
2004	INTEL		43	-3%	-28%	-24%	-11%	-5%	-1%	30%	44%
2005	INTEL		44	7%	-11%	-9%	3%	5%	9%	35%	36%
2006	INTEL		39	4%	-10%	-7%	0%	1%	10%	20%	21%
2007	INTEL		31	11%	-1%	4%	7%	10%	15%	23%	29%
2008	INTEL		26	4%	-4%	-4%	1%	4%	7%	13%	19%
2001	INTEL		46	-12%	-31%	-24%	-19%	-13%	-10%	11%	18%
2002	INTEL		41	-8%	-26%	-26%	-15%	-6%	-2%	7%	9%
2003	INTEL		31	8%	-9%	-6%	0%	9%	13%	22%	31%
2004	INTEL		26	-3%	-15%	-12%	-7%	-4%	0%	8%	14%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		38	7%	-1%	-1%	4%	5%	10%	15%	19%
2006	INTEL		28	2%	-14%	-9%	-3%	0%	7%	14%	23%
2007	INTEL		30	11%	3%	5%	7%	10%	14%	22%	26%
2008	INTEL		26	11%	-1%	0%	7%	10%	16%	22%	22%
2001	INTEL		48	4%	-18%	-11%	-8%	2%	11%	43%	55%
2002	INTEL		26	4%	-23%	-13%	-2%	2%	10%	33%	34%
2003	INTEL		37	20%	-3%	-1%	9%	17%	28%	53%	64%
2004	INTEL		38	-2%	-15%	-15%	-7%	-2%	2%	13%	26%
2001	INTEL		101	1%	-20%	-14%	-10%	-4%	10%	31%	81%
2002	INTEL		57	-1%	-23%	-19%	-8%	-2%	5%	14%	21%
2003	INTEL		66	13%	-13%	-2%	8%	11%	18%	31%	68%
2004	INTEL		77	-1%	-17%	-15%	-7%	-3%	2%	16%	38%
2005	INTEL		54	8%	-4%	-3%	3%	7%	13%	24%	26%
2006	INTEL		34	5%	-6%	-5%	0%	2%	9%	18%	38%
2007	INTEL		28	12%	1%	2%	7%	11%	16%	25%	27%
2001	INTEL		118	-8%	-22%	-20%	-15%	-11%	-3%	8%	32%
2002	INTEL		104	-6%	-35%	-24%	-12%	-5%	1%	14%	20%
2003	INTEL		106	13%	-13%	1%	7%	10%	18%	30%	88%
2004	INTEL		99	-3%	-26%	-13%	-8%	-4%	-1%	7%	40%
2005	INTEL		53	8%	-7%	-1%	3%	8%	12%	20%	29%
2006	INTEL		36	3%	-13%	-10%	-1%	1%	5%	16%	20%
2007	INTEL		29	9%	2%	2%	4%	8%	12%	19%	22%
2010	INTEL		26	6%	-4%	-3%	3%	4%	8%	19%	24%
2001	INTEL		95	-8%	-39%	-24%	-15%	-11%	-4%	12%	86%
2002	INTEL		85	-8%	-36%	-23%	-15%	-7%	-3%	10%	42%
2003	INTEL		87	10%	-18%	-6%	7%	11%	16%	24%	27%
2004	INTEL		112	-3%	-36%	-15%	-7%	-4%	0%	10%	45%
2005	INTEL		45	10%	-10%	-6%	4%	10%	12%	33%	42%
2006	INTEL		32	6%	-8%	-7%	1%	5%	8%	19%	59%
2001	INTEL		37	-10%	-41%	-39%	-15%	-12%	-2%	10%	18%
2002	INTEL		37	-9%	-30%	-30%	-18%	-9%	-3%	4%	54%
2003	INTEL		45	16%	-25%	-12%	7%	13%	20%	92%	97%
2004	INTEL		45	-5%	-30%	-20%	-10%	-4%	-1%	11%	24%



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### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2005	INTEL		25	8%	-6%	-1%	3%	6%	13%	23%	27%
2007	INTEL		26	11%	-1%	0%	6%	10%	18%	21%	24%
2008	INTEL		29	5%	-4%	-1%	0%	4%	6%	23%	26%
2009	INTEL		27	12%	1%	5%	6%	10%	18%	25%	26%
2010	INTEL		28	13%	-3%	2%	4%	8%	23%	32%	34%
2005	INTEL		32	8%	0%	1%	3%	5%	11%	16%	34%
2006	INTEL		37	6%	-12%	-5%	1%	4%	9%	19%	20%
2007	INTEL		39	9%	-2%	-1%	6%	8%	13%	17%	28%
2008	INTEL		34	3%	-11%	-8%	-1%	4%	7%	12%	13%
2009	INTEL		32	6%	-6%	-5%	2%	7%	10%	14%	15%
2010	INTEL		36	9%	-5%	1%	4%	7%	12%	25%	35%
2005	INTEL		43	8%	-5%	-5%	2%	6%	12%	33%	33%
2006	INTEL		52	5%	-7%	-4%	1%	6%	9%	15%	21%
2007	INTEL		79	12%	2%	4%	9%	10%	14%	23%	42%
2008	INTEL		93	6%	-6%	-4%	1%	5%	9%	22%	34%
2009	INTEL		95	10%	-3%	-1%	5%	8%	13%	22%	31%
2010	INTEL		103	8%	-3%	0%	4%	6%	11%	19%	38%
2006	INTEL		28	4%	-15%	-12%	-2%	2%	9%	21%	46%
2007	INTEL		34	14%	-15%	2%	10%	13%	15%	27%	63%
2008	INTEL		42	6%	-6%	-3%	1%	4%	10%	17%	31%
2009	INTEL		43	6%	-7%	-4%	3%	4%	10%	17%	20%
2010	INTEL		51	7%	-3%	1%	4%	6%	11%	15%	20%
2010	INTEL		28	10%	-2%	0%	8%	9%	12%	19%	25%
2001	INTEL		43	0%	-16%	-15%	-11%	-3%	8%	29%	39%
2001	INTEL		26	-7%	-18%	-18%	-12%	-7%	-3%	4%	9%
2001	INTEL		26	-2%	-16%	-15%	-10%	-6%	1%	27%	36%
2005	INTEL		39	12%	0%	1%	4%	10%	19%	28%	34%
2006	INTEL		41	7%	-12%	-8%	0%	7%	14%	21%	24%
2007	INTEL		30	12%	1%	1%	7%	10%	17%	26%	30%
2008	INTEL		26	-1%	-10%	-7%	-4%	-1%	0%	8%	10%
2004	INTEL		30	-4%	-16%	-15%	-7%	-4%	-1%	5%	11%
2005	INTEL		51	8%	0%	0%	4%	8%	12%	17%	20%
2006	INTEL		47	5%	-5%	-1%	1%	6%	9%	14%	19%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2007	INTEL		44	9%	-6%	-4%	6%	8%	14%	23%	25%
2008	INTEL		29	5%	-6%	-4%	1%	4%	9%	15%	29%
2009	INTEL		32	5%	-2%	-2%	1%	4%	8%	14%	23%
2010	INTEL		29	5%	-2%	0%	4%	4%	8%	15%	17%
2004	INTEL		42	-2%	-32%	-28%	-10%	-2%	0%	47%	47%
2005	INTEL		55	13%	2%	3%	7%	11%	17%	31%	57%
2006	INTEL		69	6%	-10%	-5%	1%	5%	10%	15%	34%
2007	INTEL		65	12%	3%	5%	9%	12%	14%	21%	25%
2008	INTEL		59	5%	-3%	-3%	1%	5%	8%	14%	17%
2009	INTEL		62	7%	-7%	-2%	3%	5%	11%	18%	28%
2010	INTEL		49	10%	-4%	-2%	4%	7%	12%	32%	39%
2005	INTEL		32	20%	5%	5%	12%	16%	22%	53%	92%
2006	INTEL		37	1%	-13%	-12%	-3%	2%	6%	11%	13%
2007	INTEL		35	14%	0%	2%	9%	12%	19%	27%	47%
2008	INTEL		39	5%	-21%	-4%	2%	6%	9%	14%	18%
2009	INTEL		38	5%	-7%	-3%	1%	3%	7%	19%	24%
2010	INTEL		39	6%	-6%	-4%	3%	7%	9%	13%	16%
2004	INTUIT		31	6%	-14%	-11%	-6%	2%	10%	39%	63%
2005	INTUIT		47	18%	-7%	-1%	11%	15%	23%	41%	56%
2006	INTUIT		49	3%	-19%	-13%	-4%	3%	8%	17%	32%
2007	INTUIT		58	9%	-30%	-21%	-1%	9%	12%	39%	83%
2008	INTUIT		71	-2%	-23%	-17%	-9%	-4%	4%	20%	56%
2009	INTUIT		71	19%	-25%	-8%	7%	17%	34%	43%	61%
2010	INTUIT		72	0%	-28%	-24%	-8%	0%	6%	26%	39%
2008	INTUIT		28	4%	-14%	-12%	-4%	1%	14%	21%	22%
2007	INTUIT		30	9%	-3%	-3%	4%	7%	13%	25%	33%
2008	INTUIT		34	2%	-7%	-7%	-3%	0%	3%	19%	25%
2009	INTUIT		31	13%	-6%	-5%	6%	11%	20%	30%	38%
2010	INTUIT		32	3%	-14%	-9%	-1%	1%	8%	22%	26%
2002	INTUIT		26	31%	-40%	-24%	3%	30%	49%	80%	160%
2003	INTUIT		26	7%	-51%	-51%	-17%	4%	21%	130%	130%
2004	INTUIT		27	3%	-29%	-26%	-13%	-7%	4%	71%	85%
2005	INTUIT		30	20%	-32%	-30%	8%	19%	31%	90%	139%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	INTUIT		34	13%	-14%	-10%	4%	10%	23%	39%	44%
2005	INTUIT		28	22%	-3%	-3%	10%	21%	30%	75%	75%
2006	INTUIT		26	13%	-23%	-23%	4%	8%	21%	62%	62%
2007	INTUIT		31	17%	-16%	-13%	3%	15%	27%	38%	70%
2008	INTUIT		31	-1%	-17%	-15%	-11%	-7%	4%	36%	55%
2009	INTUIT		34	23%	-20%	-7%	1%	24%	39%	52%	68%
2010	INTUIT		32	18%	-19%	-19%	-4%	11%	39%	57%	121%
2007	INTUIT		42	9%	-13%	-11%	-1%	7%	13%	46%	77%
2008	INTUIT		38	-4%	-21%	-21%	-12%	-6%	4%	13%	19%
2009	INTUIT		47	11%	-14%	-9%	2%	8%	18%	44%	56%
2010	INTUIT		46	9%	-15%	-12%	-1%	3%	17%	33%	51%
2006	INTUIT		53	11%	-14%	-13%	4%	12%	23%	30%	30%
2007	INTUIT		27	10%	-27%	-9%	1%	9%	18%	43%	44%
2006	INTUIT		26	11%	-17%	-11%	3%	8%	23%	34%	50%
2001	INTUIT		47	-32%	-67%	-57%	-44%	-36%	-27%	-13%	157%
2002	INTUIT		27	21%	-11%	-5%	16%	24%	31%	35%	54%
2003	INTUIT		38	8%	-23%	-15%	-8%	5%	14%	44%	56%
2004	INTUIT		40	-3%	-22%	-18%	-11%	-3%	4%	12%	24%
2005	INTUIT		25	20%	-7%	-7%	14%	19%	27%	45%	45%
2001	INTUIT		39	-29%	-57%	-49%	-41%	-35%	-25%	17%	77%
2002	INTUIT		45	12%	-32%	-24%	1%	16%	28%	37%	40%
2003	INTUIT		44	13%	-26%	-16%	1%	12%	24%	38%	45%
2004	INTUIT		31	4%	-16%	-16%	-3%	2%	7%	30%	30%
2005	INTUIT		30	21%	0%	0%	11%	20%	27%	40%	40%
2006	INTUIT		37	11%	-11%	-10%	5%	12%	19%	30%	32%
2007	INTUIT		57	17%	-7%	-2%	4%	16%	25%	44%	65%
2008	INTUIT		56	1%	-19%	-15%	-6%	0%	6%	18%	28%
2009	INTUIT		52	17%	-13%	-7%	7%	16%	27%	49%	63%
2010	INTUIT		54	6%	-16%	-11%	-4%	3%	11%	32%	70%
2003	INTUIT		187	8%	-24%	-9%	1%	6%	13%	31%	60%
2004	INTUIT		184	10%	-18%	-7%	3%	8%	17%	29%	45%
2005	INTUIT		173	16%	-14%	-3%	8%	13%	23%	37%	67%
2006	INTUIT		152	7%	-12%	-8%	-3%	6%	15%	26%	48%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2007	INTUIT		198	17%	-13%	-3%	6%	13%	27%	47%	111%
2008	INTUIT		170	6%	-24%	-10%	-1%	5%	14%	26%	44%
2001	INTUIT		100	-22%	-59%	-51%	-39%	-26%	-6%	17%	56%
2002	INTUIT		140	8%	-44%	-24%	-3%	6%	21%	35%	47%
2003	INTUIT		38	5%	-14%	-14%	-3%	5%	16%	23%	23%
2009	INTUIT		172	17%	-25%	-6%	5%	13%	25%	54%	65%
2010	INTUIT		162	5%	-26%	-13%	-6%	2%	15%	35%	50%
2001	INTUIT		122	-31%	-62%	-55%	-45%	-36%	-24%	7%	127%
2002	INTUIT		170	8%	-49%	-26%	0%	6%	21%	40%	51%
2003	INTUIT		49	7%	-26%	-13%	-5%	6%	13%	42%	46%
2001	INTUIT		91	-35%	-65%	-57%	-46%	-37%	-27%	6%	15%
2002	INTUIT		116	14%	-42%	-25%	-1%	11%	30%	55%	130%
2003	INTUIT		32	2%	-18%	-16%	-10%	-1%	10%	30%	40%
2003	INTUIT		61	7%	-19%	-8%	0%	5%	16%	32%	38%
2004	INTUIT		66	4%	-10%	-8%	0%	3%	7%	18%	27%
2005	INTUIT		68	14%	-4%	-2%	9%	14%	17%	37%	42%
2006	INTUIT		74	10%	-14%	-7%	1%	8%	20%	35%	39%
2007	INTUIT		54	11%	-16%	-8%	0%	9%	18%	36%	43%
2008	INTUIT		54	9%	-11%	-10%	2%	7%	19%	32%	32%
2001	INTUIT		36	-19%	-56%	-52%	-38%	-27%	-9%	13%	104%
2002	INTUIT		51	5%	-25%	-24%	-10%	0%	17%	45%	59%
2010	INTUIT		29	4%	-11%	-6%	-4%	1%	10%	25%	25%
2002	INTUIT		38	18%	-36%	-28%	3%	15%	33%	84%	112%
2003	INTUIT		44	6%	-39%	-25%	-4%	4%	15%	55%	67%
2004	INTUIT		38	1%	-23%	-20%	-6%	0%	10%	23%	30%
2005	INTUIT		36	17%	-9%	-1%	7%	18%	25%	44%	44%
2002	INTUIT		33	10%	-31%	-26%	-12%	14%	24%	41%	70%
2003	INTUIT		42	17%	-8%	-6%	0%	10%	23%	67%	142%
2004	INTUIT		48	8%	-11%	-8%	-3%	4%	16%	35%	47%
2005	INTUIT		53	16%	-10%	-3%	11%	17%	21%	35%	36%
2006	INTUIT		52	15%	-6%	-4%	6%	13%	24%	37%	47%
2007	INTUIT		59	15%	-20%	-13%	3%	14%	22%	58%	65%
2008	INTUIT		68	0%	-23%	-15%	-8%	-3%	5%	21%	47%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2009	INTUIT		67	23%	-16%	-6%	7%	21%	36%	51%	89%
2010	INTUIT		71	5%	-24%	-19%	-7%	-2%	17%	41%	70%
2008	INTUIT		30	2%	-12%	-12%	-6%	-2%	4%	24%	40%
2003	INTUIT		186	9%	-22%	-15%	0%	6%	17%	38%	74%
2004	INTUIT		272	2%	-23%	-13%	-5%	1%	6%	20%	40%
2005	INTUIT		307	14%	-11%	0%	7%	12%	19%	34%	53%
2006	INTUIT		384	10%	-23%	-8%	2%	9%	17%	31%	46%
2007	INTUIT		444	12%	-23%	-7%	2%	9%	19%	45%	80%
2008	INTUIT		449	0%	-27%	-12%	-6%	-2%	4%	15%	70%
2009	INTUIT		294	13%	-13%	-6%	5%	11%	20%	39%	85%
2010	INTUIT		293	2%	-35%	-17%	-8%	-1%	8%	35%	66%
2004	INTUIT		37	3%	-17%	-14%	-2%	3%	9%	22%	26%
2005	INTUIT		65	14%	-10%	0%	6%	13%	20%	32%	44%
2006	INTUIT		83	8%	-28%	-13%	2%	7%	16%	35%	49%
2007	INTUIT		101	11%	-18%	-7%	2%	10%	20%	37%	46%
2008	INTUIT		97	-1%	-18%	-13%	-6%	-3%	1%	14%	31%
2006	INTUIT		34	12%	-8%	-1%	6%	10%	17%	34%	35%
2007	INTUIT		55	6%	-13%	-6%	-1%	4%	11%	22%	28%
2008	INTUIT		71	3%	-10%	-8%	-2%	1%	6%	20%	28%
2009	INTUIT		59	16%	-7%	-4%	9%	11%	21%	48%	68%
2010	INTUIT		57	1%	-59%	-10%	-2%	0%	4%	26%	35%
2004	INTUIT		39	3%	-11%	-10%	-3%	3%	9%	17%	25%
2005	INTUIT		39	11%	-8%	0%	6%	9%	16%	25%	33%
2006	INTUIT		39	9%	-5%	-2%	4%	7%	14%	25%	26%
2007	INTUIT		41	2%	-12%	-12%	-1%	1%	6%	12%	15%
2008	INTUIT		34	1%	-8%	-8%	-5%	1%	7%	11%	11%
2003	INTUIT		89	6%	-33%	-20%	0%	4%	13%	36%	48%
2004	INTUIT		104	2%	-18%	-15%	-6%	-1%	7%	32%	47%
2005	INTUIT		134	15%	-23%	-4%	7%	14%	22%	36%	83%
2006	INTUIT		164	8%	-51%	-10%	2%	7%	17%	28%	59%
2007	INTUIT		189	12%	-27%	-11%	1%	10%	20%	44%	98%
2008	INTUIT		222	-2%	-23%	-17%	-8%	-3%	2%	14%	25%
2009	INTUIT		213	15%	-18%	-8%	5%	13%	24%	44%	129%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2010	INTUIT		222	1%	-31%	-19%	-10%	-1%	7%	28%	53%
2008	INTUIT		27	1%	-15%	-13%	-6%	1%	3%	6%	68%
2009	INTUIT		25	15%	-15%	-9%	0%	15%	31%	36%	55%
2010	INTUIT		30	3%	-31%	-21%	-5%	1%	9%	23%	102%
2007	INTUIT		41	3%	-21%	-17%	-8%	1%	13%	30%	33%
2008	INTUIT		43	1%	-13%	-11%	-5%	-1%	5%	21%	31%
2009	INTUIT		38	23%	-8%	6%	11%	17%	29%	54%	63%
2010	INTUIT		37	-2%	-29%	-19%	-6%	-2%	2%	21%	37%
2006	INTUIT		36	11%	-2%	-1%	6%	10%	16%	26%	27%
2007	INTUIT		25	10%	-8%	0%	4%	9%	15%	22%	36%
2008	INTUIT		28	4%	-9%	-6%	-1%	2%	6%	19%	35%
2009	INTUIT		27	10%	-5%	-2%	5%	8%	13%	32%	33%
2010	INTUIT		25	5%	-4%	-4%	2%	4%	9%	14%	17%
2001	INTUIT		41	-22%	-51%	-50%	-39%	-22%	-5%	14%	17%
2002	INTUIT		40	12%	-9%	-4%	3%	6%	18%	41%	59%
2003	INTUIT		46	3%	-12%	-12%	-5%	4%	8%	14%	14%
2001	INTUIT		32	-30%	-45%	-44%	-39%	-35%	-31%	6%	14%
2002	INTUIT		29	9%	-30%	-13%	1%	9%	21%	29%	37%
2003	INTUIT		27	7%	-18%	-18%	0%	8%	17%	20%	20%
2002	INTUIT		36	15%	-22%	-12%	0%	4%	31%	65%	75%
2003	INTUIT		32	15%	1%	1%	3%	17%	23%	31%	31%
2002	INTUIT		27	8%	-16%	-10%	0%	12%	15%	21%	22%
2003	INTUIT		25	5%	-14%	-14%	2%	7%	10%	18%	18%
2001	PIXAR	ANIMATOR	47	12%	-1%	1%	8%	11%	15%	19%	41%
2002	PIXAR	ANIMATOR	54	24%	-66%	-62%	12%	14%	15%	22%	595%
2003	PIXAR	ANIMATOR	60	-15%	-85%	-82%	-18%	-15%	-11%	1%	200%
2004	PIXAR	ANIMATOR	60	22%	-77%	-72%	15%	36%	57%	82%	96%
2005	PIXAR	ANIMATOR	61	26%	-64%	-14%	10%	20%	36%	120%	132%
2006	PIXAR	ANIMATOR	84	4%	-25%	-18%	-9%	0%	13%	51%	84%
2007	PIXAR	ANIMATOR	68	3%	-15%	-12%	-7%	-2%	7%	33%	67%
2008	PIXAR	ANIMATOR	87	-7%	-26%	-24%	-12%	-5%	-1%	5%	18%
2009	PIXAR	ANIMATOR	85	11%	-4%	3%	7%	10%	14%	23%	28%
2010	PIXAR	ANIMATOR	85	12%	-8%	3%	7%	11%	16%	27%	37%



## Appendix B

### Distribution of Yearly Change in Total Compensation (Job Titles in Leamer Supplemental Report Regressions)

Year	Employer	Job Title	Headcount	Average	Minimum	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	Maximum
2006	PIXAR	ARTIST_STORY	25	-1%	-19%	-17%	-14%	-10%	11%	18%	45%
2007	PIXAR	ARTIST_STORY	30	3%	-16%	-12%	-6%	-4%	1%	24%	121%
2008	PIXAR	ARTIST_STORY	28	-3%	-20%	-17%	-13%	-10%	-1%	30%	41%
2009	PIXAR	ARTIST_STORY	31	14%	6%	6%	10%	11%	15%	32%	44%
2010	PIXAR	ARTIST_STORY	25	11%	-1%	0%	7%	9%	16%	23%	27%
2001	PIXAR	ENGINEER_SOFTWARE	40	1%	-55%	-53%	-37%	12%	15%	21%	133%
2002	PIXAR	ENGINEER_SOFTWARE	53	14%	-62%	-59%	-43%	14%	15%	23%	563%
2003	PIXAR	ENGINEER_SOFTWARE	60	-24%	-86%	-80%	-17%	-15%	-11%	-3%	3%
2004	PIXAR	ENGINEER_SOFTWARE	41	43%	-63%	13%	19%	40%	62%	94%	146%
2005	PIXAR	ENGINEER_SOFTWARE	30	30%	0%	1%	8%	24%	37%	96%	113%
2006	PIXAR	ENGINEER_SOFTWARE	37	5%	-23%	-17%	-15%	-5%	15%	65%	96%
2007	PIXAR	ENGINEER_SOFTWARE	38	-4%	-22%	-18%	-10%	-7%	-2%	27%	38%
2008	PIXAR	ENGINEER_SOFTWARE	41	-9%	-24%	-22%	-15%	-12%	-5%	6%	29%
2009	PIXAR	ENGINEER_SOFTWARE	45	11%	-11%	2%	9%	11%	12%	25%	30%
2010	PIXAR	ENGINEER_SOFTWARE	61	10%	0%	1%	5%	9%	11%	25%	42%
2001	PIXAR	TECHNICAL_DIRECTOR	120	0%	-61%	-56%	-24%	10%	15%	27%	199%
2002	PIXAR	TECHNICAL_DIRECTOR	125	7%	-71%	-64%	11%	14%	16%	22%	272%
2003	PIXAR	TECHNICAL_DIRECTOR	122	-18%	-81%	-76%	-17%	-15%	-13%	-1%	205%
2004	PIXAR	TECHNICAL_DIRECTOR	146	41%	-80%	-69%	17%	56%	73%	106%	167%
2005	PIXAR	TECHNICAL_DIRECTOR	163	23%	-71%	-57%	6%	24%	39%	84%	147%
2006	PIXAR	TECHNICAL_DIRECTOR	163	4%	-28%	-20%	-13%	0%	14%	47%	112%
2007	PIXAR	TECHNICAL_DIRECTOR	155	1%	-53%	-16%	-8%	-4%	5%	37%	121%
2008	PIXAR	TECHNICAL_DIRECTOR	170	-9%	-30%	-22%	-16%	-11%	-6%	19%	53%
2009	PIXAR	TECHNICAL_DIRECTOR	190	15%	-14%	1%	10%	14%	20%	32%	53%
2010	PIXAR	TECHNICAL_DIRECTOR	256	12%	-12%	0%	5%	10%	16%	31%	71%
2008	PIXAR	TECHNICAL_DIRECTOR_LEAD	28	-19%	-37%	-34%	-23%	-18%	-13%	-11%	7%
2009	PIXAR	TECHNICAL_DIRECTOR_LEAD	33	13%	0%	2%	8%	11%	19%	28%	41%

Notes: Job titles shown include those with at least 25 employees in a given year.

Source: Dr. Leamer's backup data. Leamer Supplemental Report Exhibits 1 and 2.

## **Appendix C**



## *Curriculum Vitae*

### **Kevin M. Murphy**

June 2013

*Business Address:*

University of Chicago  
Booth School of Business  
5807 South Woodlawn Avenue  
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*Home Address:*

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New Lenox, Illinois 60451  
Phone: (815)463-4756  
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#### **Current Positions**

July 2005-Present: George J. Stigler Distinguished Service Professor of Economics,  
Department of Economics and Booth School of Business, University of Chicago

Faculty Research Associate, National Bureau of Economic Research

#### **Education**

University of California, Los Angeles, A.B., Economics, 1981

University of Chicago, Ph.D., 1986

Thesis Topic: *Specialization and Human Capital*

#### **Previous Research and Academic Positions**

2002-2005: George J. Stigler Professor of Economics, Department of Economics and  
Booth School of Business, University of Chicago

1993 – 2002: George Pratt Shultz Professor of Business Economics and Industrial  
Relations, University of Chicago

1989 – 1993: Professor of Business Economics and Industrial Relations, University of  
Chicago

1988 – 1989: Associate Professor of Business Economics and Industrial Relations,  
University of Chicago

1986 – 1988: Assistant Professor of Business Economics and Industrial Relations, University of Chicago

1983 – 1986: Lecturer, Booth School of Business, University of Chicago

1982 – 1983: Teaching Associate, Department of Economics, University of Chicago

1979 – 1981: Research Assistant, Unicon Research Corporation, Santa Monica, California

### **Honors and Awards**

2008: John von Neumann Lecture Award, Rajk College, Corvinus University, Budapest

2007: Kenneth J. Arrow Award (with Robert H. Topel)

October 2005: Garfield Research Prize (with Robert H. Topel)

September 2005: MacArthur Foundation Fellow

1998: Elected to the American Academy of Arts & Sciences

1997: John Bates Clark Medalist

1993: Fellow of The Econometric Society

1989 – 1991: Sloan Foundation Fellowship, University of Chicago

1983 – 1984: Earhart Foundation Fellowship, University of Chicago

1981 – 1983: Fellowship, Friedman Fund, University of Chicago

1980 – 1981: Phi Beta Kappa, University of California, Los Angeles

1980 – 1981: Earhart Foundation Fellowship, University of California, Los Angeles

1979 – 1981: Department Scholar, Department of Economics, University of California, Los Angeles

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“The Undereducated American,” *Wall Street Journal*, August 19, 1996, pp. A12. Changes in the rate of returns to education.

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Final Submission of Kevin M. Murphy, January 16, 2009, in the 2006 MSA Adjustment Proceeding.

Expert Report of Kevin M. Murphy, January 23, 2009, in the Matter of City of New York v. Amerada Hess Corp., et al., The United States District Court for the Southern District of New York. Report submitted on behalf of Citgo Petroleum Corporation.

Declaration of Kevin M. Murphy, January 29, 2009, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc., The United States District Court for the District of Minnesota.

Deposition of Kevin M. Murphy, February 10, 2009, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store Services, LLC., The United States Third Circuit Court of Michigan Detroit Division. Case No. 07-706645.

Expert Report of Kevin M. Murphy, February 13, 2009, in the Matter of City of New York v. Amerada Hess Corp., et al., The United States District Court for the Southern District of New York. Report submitted on behalf of Citgo Petroleum Corporation regarding Citgo’s share of total RFG supply at the New York Harbor.

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Expert Report of Kevin M. Murphy, December 5, 2011, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Trial Testimony of Kevin M. Murphy, December 7-8, 2011, in the Matter of Novell, Incorporated v. Microsoft Corporation., The United States District Court Northern District of Maryland.

Trial Testimony of Kevin M. Murphy, December 29, 2011, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Supplemental Expert Report of Kevin M. Murphy, January 15, 2012, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

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Affidavit of Kevin M. Murphy, March 12, 2012, in the Matter of Sharon Price and Michael Fruth, Individually and on Behalf of Others Similarly Situated vs. Philip Morris Incorporated, The United States Circuit Court, Third Judicial Court, Madison County, Illinois.

Declaration of Kevin M. Murphy, May 3, 2012, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Comments of Kevin M. Murphy of DirecTV, LLC, June 22, 2012, in the Matter of Revision of the Commission's Program Access Rules; News Corporation and the DIRECTV Group, Inc., Transferors, and Liberty Media Corporation, Transferee, for Authority to Transfer Control; Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corporation (and Subsidiaries, Debtors-in-Possession), Assignors, to Time Warner Cable, Inc. (Subsidiaries), Assignees, et al., Federal Communications Commission.

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Declaration of Kevin M. Murphy, July 21, 2012, in the Matter of Kirk Dahl v. Bain Capital Partners, LLC., The United States District Court District of Massachusetts.

Expert Report of Kevin M. Murphy, July 23, 2012, in the Matter of Kirk Dahl v. Bain Capital Partners, LLC., The United States District Court District of Massachusetts.

Expert Report of Kevin M. Murphy, July 24, 2012, in the Matter of Microsoft Corporation v. Motorola, Inc., The United States District Court Western District of Washington at Seattle.

Deposition of Kevin M. Murphy, August 22, 2012, in the Matter of Microsoft Corporation v. Motorola, Inc., The United States District Court Western District of Washington at Seattle.

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Expert Report of Kevin M. Murphy, November 12, 2012, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division.



Trial Testimony of Kevin M. Murphy, November 13, 2012, in the Matter of Microsoft Corporation v. Motorola INC, The United States District Court Western District of Washington at Seattle.

Expert Report of Kevin M. Murphy, November 15, 2012, in the Matter of New Jersey Dep't of Env'tl. Prot., et al. v. Atlantic Richfield Co., et al., The United States District Court Southern District of New York.

Deposition of Kevin M. Murphy, December 3, 2012, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division

Expert Report of Kevin M. Murphy, December 21, 2012, in re: Titanium Dioxide Antitrust Litigation, The United States District Court for the District of Maryland.

Deposition of Kevin Murphy, January 16, 2013, in the Matter of Avery Dennison Corporation v. 3M Innovative Properties and 3M Company, The United States District Court for the District of Minnesota.

Amended Expert Report of Kevin M. Murphy, February 8, 2013, in the Matter of New Jersey Dep't of Env'tl. Prot., et al. v. Atlantic Richfield Co., et al, The United States District Court Southern District of New York.

Expert Report of Professor Kevin M. Murphy, February 8, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.

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Rebuttal Expert Report of Kevin M. Murphy, March 1, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.

Second Supplemental Expert Report of Kevin M. Murphy, March 8, 2013, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Direct Testimony of Kevin M. Murphy, April 26, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York (revised and resubmitted on May 29, 2013).

Declaration of Kevin M. Murphy, May 13, 2013, in the Matter of Brenda Blakeman v National Milk Producers Federation, et al., The United States District Court for the Southern District of Illinois.

Expert Report of Kevin M. Murphy, May 29, 2013, in the Matter of Microsoft Corporation v. Motorola, Inc., et al., The United States District Court Western District of Washington at Seattle.

Declaration of Kevin M. Murphy, June 6, 2013, in the Matter of WNET, Thirteen, Fox Television Stations, Inc.; Twentieth Century Fox Film Corporation, WPIX, Inc., Univision Television Group, Inc.; The Univision Network Limited Partnership, and Public Broadcasting Service v. Aereo, Inc. f/k/a Bamboom Labs, Inc., The United States Court for the Southern District of New York.

Expert Report of Kevin M. Murphy, June 7, 2013, in the Matter of Patrick Brady, et al., v. Airline Pilots Association, International, The United States District Court District of New Jersey.

Rebuttal Expert Report of Kevin M. Murphy, June 10, 2013, in the Matter of Microsoft Corporation v. Motorola, Inc., et al., The United States District Court Western District of Washington at Seattle.

Trial Testimony of Kevin M. Murphy, June 19, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.



## **Appendix D**

### Materials Relied Upon

<b>Court Documents</b>
In Re: High-Tech Employee Antitrust Litigation, Order Granting in Part, Denying in Part Motion for Class Certification, April 4, 2013
In Re: High-Tech Employee Antitrust Litigation, Transcript of Proceedings Before The Honorable Lucy H. Koh United States District Judge, January 17, 2013
In Re: High-Tech Employee Antitrust Litigation, Plaintiffs' Supplemental Motion and Brief in Support of Class Certification, May 10, 2013
<b>Deposition Transcripts</b>
Deposition of Edward E. Leamer, June 11, 2013
<b>Expert Reports</b>
In Re: High-Tech Employee Antitrust Litigation, Expert Report of Edward E. Leamer, Ph.D., October 1, 2012
In Re: High-Tech Employee Antitrust Litigation, Supplemental Expert Report of Edward E. Leamer, Ph.D., May 10, 2013
In Re: High-Tech Employee Antitrust Litigation, Expert Report of Professor Kevin M. Murphy, January 17, 2013
<b>Academic Sources</b>
George Casella and Roger L. Berger, <i>Statistical Inference</i> . 1990
William H. Greene, <i>Econometric Analysis</i> . Sixth Edition
Milton Friedman, "Do Old Fallacies Ever Die?," <i>Journal of Economic Literature</i> 30 (1992): 2129-2132.
Susan E. Jackson et al., <i>Managing Human Resources</i> . Eleventh Edition
ChangHwan Kim and Christopher R. Tamborini, "Do Survey Data Estimate Earnings Inequality Correctly? Measurement Errors Among Black and White Male Coworkers," <i>Social Forces</i> (2012)
Charles F. Manski, "Economic Analysis of Social Interactions," <i>Journal of Economic Perspectives</i> 14 (2000): 115-136
Robert A. Moffitt, "Policy Interventions, Low-Level Equilibria, and Social Interactions" in <i>Social Dynamics</i> . MIT Press, 2001
Robert S. Pindyck and Daniel L. Rubinfeld, <i>Econometric Models and Economic Forecasts</i> . Fourth Edition
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Nate Silver, <i>The Signal and the Noise</i> . Penguin, 2012
<b>Other Sources</b>
Agam Shah, "Intel Freezes Salaries from CEO on Down," <i>Computerworld</i> , March 23, 2009
The Integrated Public Use Microdata Series (IPUMS-USA) ( <a href="https://usa.ipums.org/usa/">https://usa.ipums.org/usa/</a> )



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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION

IN RE: HIGH-TECH EMPLOYEE  
ANTITRUST LITIGATION

THIS DOCUMENT RELATES TO:  
ALL ACTIONS

**Master Docket No. 11-CV-2509-LHK**

**EXPERT REPORT OF KATHRYN  
SHAW, PH.D.**



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## I. Qualifications

1. I am the Ernst C. Arbuckle Professor of Economics at the Stanford Graduate School of business. I have researched and taught labor economics and personnel economics for over 30 years. Personnel economics is the study of how firms manage their employees, including compensation methods and hiring/firing practices. I also co-pioneered the field of “insider econometrics,” a research field in personnel economics in which researchers go within companies and use insider knowledge and data to identify the performance gains from management practices.<sup>1</sup>

2. Throughout the course of my work on insider econometrics, I have studied and visited approximately 95 firms in the U.S., Europe, and Japan. Firms I have visited have been involved in diverse industries such as software, steel, chemicals, electricity generation, retail trade, services, bio-technology, pharmaceuticals, and trucking sector. The purpose of these visits was to study the effects of the personnel management practices on workers’ productivity. From 2003 to 2009, I (along with Richard Freeman) headed the National Bureau of Economics Research project on “International Differences in the Business Practices and Productivity of Multinational Firms in Advanced Capitalist Countries.” In the course of that work, I edited three books. Two books studied the productivity gains from human resource management practices, and one book studied the structure of wages within and across firms in Organization for Economic Cooperation and Development (“OECD”) countries. For this and earlier work, I have raised \$2.95 million (with other principal investigators) from the National Science Foundation, the Alfred P. Sloan Foundation, the Russell Sage Foundation, the Rockefeller Foundations, and the Department of Labor.

3. For the past decade, I have been studying technology companies in Silicon Valley. From 2005 to 2007, I developed and taught a course at Stanford on *Managing Talent* in

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<sup>1</sup> Casey Ichniowski and Kathryn Shaw, “Insider Econometrics: Empirical Studies of How Management Matters,” *Handbook of Organizational Economic*, editors Robert Gibbons and John Roberts, Princeton University Press, 2013: 263-311. “Insider Econometrics: A Roadmap with Stops Along the Way,” *Labour Economics*, 2009.



which one tool used was to analyze the compensation practices of about forty companies in Silicon Valley. During the course, we immersed students with company CEOs, high level managers, engineers, and other managers and individual contributors. Using a question and answer format, we discussed companies' policies on compensation, performance evaluation, the links between evaluation and pay, bonuses, equity, and promotions. We also studied how companies attract and select new employees, how they award and retain star performers, and how they address outside offers.

4. Technology companies are often featured in my many other classes at Stanford on human resource management strategies for both MBAs and executives. In my current course, *Making Data Relevant*, the curriculum involves how managers can best use compensation and productivity data to manage companies. We perform exercises in which we simulate the use of data to evaluate, reward, and hire employees. During the course of teaching these classes, I have taught executives and MBA students who are or were employed at technology companies and who share their experiences on managing talent and the cultures of their respective firms. Quite often, issues relevant to my opinion in this case arise, including pay for performance, internal equity and individualized compensation systems.

5. I also recently worked with a team of researchers to study how firms in the software industry attract and compensate star talent, using a unique data set on the compensation and careers of about 50,000 software employees.<sup>2</sup> Our focus was to investigate the relationship between different software product types and the worker compensation in the software industry. In particular, we examined how firms in a product line where "home run" products matter, attract and pay star employees. Our investigation was based on a rich longitudinal data set matching employers and employees. Specifically, we measured both earnings levels and earnings growth due to pay increases within firms and job-hopping between firms. We used this rich data source

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<sup>2</sup>Fredrik Andersson, Matthew Freedman, John Haltiwanger, Julia Lane, Kathryn Shaw, "Reaching for the Stars: Who Pays for Talent in Innovative Industries?", *Economic Journal*, 2009.

to investigate the connection between the payoff to high stakes products and the rewards to stars in the software industry. In short, our analysis revealed that firms that operate in “home run” product markets will pay stars both higher starting salaries and higher performance pay. The highest skilled stars are much more highly valued and paid than those who are slightly less skilled.

6. Prior to my time at Stanford, I taught and researched labor economics, personnel economics and insider econometrics at Carnegie Mellon University from 1981 through 2003. As a part of this work, I used production-level data from firms in the steel industry to model the effects of alternative management strategies on productivity.<sup>3</sup> I have also studied the productivity gains from information technologies in other manufacturing industries.<sup>4</sup>

7. I am widely published on the topic of personnel economics.<sup>5</sup> These, and related publications, have been published in the top three journals in the economics profession, the *American Economic Review*, the *Journal of Political Economy*, and the *Quarterly Journal of Economics*. I am the author of over fifty publications in journals and books. My publications have focused on a wide range of personnel economics topics, including the interplay between wage structures and human resource management practices and their combined impact on employee performance, why companies use particular human resource management practices,

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<sup>3</sup> Casey Ichniowski and Kathryn Shaw, “Beyond Incentive Pay: Insiders’ Estimates of the Value of Complementary Human Resource Management Practices,” 17 *Journal of Economic Perspectives* 155, 163–168 (2003). Casey Ichniowski and Kathryn Shaw, “Insider Econometrics: Empirical Studies of How Management Matters,” *Handbook of Organizational Economic*, editors Robert Gibbons and John Roberts, Princeton University Press, 2013: 274-77. Casey Ichniowski and Kathryn Shaw, “Old Dogs and New Tricks: Determinants of the Adoption of Productivity-Enhancing Work Practices,” *Brookings Papers on Economic Activity, Microeconomics* (1995), 1-65.

<sup>4</sup> Ann Bartel, Casey Ichniowski and Kathryn Shaw, “How Does Information Technology Affect Productivity? Plant-Level Comparisons of Product Innovation, Process Improvement, and Worker Skills,” *Quarterly Journal of Economics* vol. 122 (4) (2007): 1721-1758.

<sup>5</sup> Edward Lazear and Kathryn Shaw, “Personnel Economics: The Economist’s View of Human Resources,” *Journal of Economic Perspectives*, vol. 21 (4), (Fall 2007): 91-114. Casey Ichniowski and Kathryn Shaw, “Beyond Incentive Pay: Insiders’ Estimates of the Value of Complementary Human Resource Management Practices,” *Journal of Economic Perspectives*, vol. 17 (1) (Winter 2003): 155-178.



the dispersion of talent between firms and the variance of compensation within firms, the impact of information technology on productivity, and the productivity impact of non-compensation practices (such as the use of work teams, carefully interviewing and selecting workers to identify those with high level job and task skills, and ongoing training).<sup>6</sup>

8. I hold an A.B. degree from Occidental College in Los Angeles California and a Ph.D. in Economics from Harvard University. I was a Senate confirmed Member of the Council of Economic Advisors, Executive Office of the President, from 1999 to 2001. I have been an editor of the *Journal of Labor Economics* and the *Review of Economics and Statistics*, and on the Editorial Advisory Board of the *Journal of Economic Perspectives*. I am currently a board member of the Society of Labor Economists, and in 2008 was elected a Fellow of the Society of Labor Economists. In 2001, I received the Columbia University award for the best paper on international business, and in 1998 I was honored as the recipient of the Minnesota Award for Employment Research for the best paper in 1997-98 on the topic of employment issues. I have received several teaching awards, including the Trust Faculty Fellow for 2005-06 and 2011-12, and the Xerox Research Chair. I have served on a Research Panel of the National Science Foundation and am currently a board member of the STEP panel of the National Academy of Sciences. I have given keynote lectures, including those at meetings of the Society of Labor Economics and the European Labour Economics Association.

9. Attached as Appendix A is my Curriculum Vitae.

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<sup>6</sup> See, e.g., Kathryn Shaw, "Insider Econometrics: A Roadmap with Stops Along the Way," 16 *Labour Economics* 607 (2009): 607-617; Casey Ichniowski and Kathryn Shaw, "Beyond Incentive Pay: Insiders' Estimates of the Value of Complementary Human Resource Management Practices," 17 *Journal of Economic Perspectives* 155, 163-168 (2003). Edward Lazear and Kathryn Shaw "Wage Structure, Wages, and Mobility," in *An International Comparison of the Structure of Wages* (2008). Casey Ichniowski and Kathryn Shaw, "Old Dogs and New Tricks: Determinants of the Adoption of Productivity-Enhancing Work Practices," *Brookings Papers on Economic Activity: Microeconomics* (1995): 1-65.

## II. Introduction

10. I understand that Plaintiffs allege defendants Adobe Systems Inc. (“Adobe”), Apple Inc. (“Apple”), Google Inc. (“Google”), Intel Corporation (“Intel”), Intuit Inc. (“Intuit”), Lucasfilm Ltd. (“Lucasfilm”) and Pixar (collectively, “Defendants”) conspired to refrain from cold calling each other’s employees and other forms of solicitations. Plaintiffs claim that the alleged conspiracy caused compensation to be suppressed for all or nearly all salaried employees at each Defendant.

11. I understand that the Court denied Plaintiffs’ first class certification motion on the ground that Plaintiffs failed to support or confirm their “theory that there was a rigid wage structure such that an impact to some of Defendants’ employees would necessarily have resulted in an impact to all or nearly all employees.”<sup>7</sup>

12. I further understand that Plaintiffs have filed a renewed motion, asking the Court to certify a class of employees “in the technical, creative, and/or research and development fields during part or all of the period from January 2005 through December 2009 (the “Technical Class”). Plaintiffs offer the Expert Witness Report of Kevin F. Hallock (“Hallock Report”) in an attempt to answer the Court’s question whether Defendants had such rigid compensation structures that suppression of wages to some employees would have affected all or nearly all class members.

13. Dr. Hallock states that defendants each had formalized pay systems that have certain features that “could” spread an impact on compensation for some employees to all or nearly all technical class employees. He clarified at deposition that impact “could” be spread

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<sup>7</sup> Order Granting in Part, Denying in Part Motion for Class Certification, *In re: High-Tech Employee Antitrust Litigation*, Case No. 11-CV-02509-LHK, Dkt. 382, Filed 04/05/2013 (“Class Certification Order”) at 43:1-4; *id.* at 36:3-7 (“However, Dr. Leamer fails to explain how it may be inferred from [his analysis] that Defendants’ salary structures were *so* rigid that compensation for employees with entirely different titles would necessarily move together through time such that a detrimental impact to an employee with one job title would necessarily result in an impact to other employees in entirely different jobs (*i.e.*, that any impact would ripple across the entire salary structure.)”; *id.* at 45:1-3 (“The Court is most concerned about whether the evidence will be able to show that Defendants maintained such rigid compensation structures that a suppression of wages to some employees would have affected all or nearly all Class members.”)).



through three “avenues”: (i) internal equity, (ii) use of external market survey data to benchmark internal salary ranges, and (iii) use of external market data to benchmark annual salary merit increase percentages. Hallock Dep. 153:8-158:6, 214:25-215:11, 227:25-230:10. Dr. Hallock also states that impact could be spread based on a “top of the box” theory. None of these avenues would necessarily lead to or require transmission of impact on some employees to all or nearly all class members.

### **III. Assignment**

14. Counsel for Defendants have asked me to address Dr. Hallock’s opinions in this matter, and offer my opinion regarding whether he has demonstrated that a suppression of wages to some employees would have affected all or nearly all Class members.

### **IV. Materials Reviewed**

15. In reaching my opinions, I reviewed and considered Plaintiffs’ Consolidated Amended Complaint, Dr. Hallock’s report, material cited by Dr. Hallock, relevant exhibits attached to the expert report of Dr. Kevin Murphy, deposition transcripts and exhibits, declarations and exhibits, documents produced in discovery, expert reports, and my 30 years of experience researching, publishing, and teaching in the fields of labor economics and personnel economics, including experience working with Silicon Valley companies. Appendix B includes the materials I have relied on and reviewed for this matter.

### **V. Summary of Opinions**

16. Dr. Hallock’s conclusion that Defendants each had formalized systems does not answer the question of whether suppression of wages to some employees would affect all or nearly all other employees. Consistent with technology firms in Silicon Valley (and unlike the government or unionized firms Dr. Hallock points to), Defendants employ a pay for performance philosophy implemented by individual managers based on each manager’s subjective evaluation of their employees’ performance, talent, skills, contribution to the company, and potential. As I would expect, the exhibits prepared by Defendants’ expert Dr. Kevin Murphy regarding the

variance in pay changes in Defendants' compensation data is consistent with a pay for performance system. Compensation varies dramatically between and among employees within the same job titles and across job titles.

17. In addition to Defendants' pay for performance philosophy, Defendants' pay practices and entire pay process (from using external market data, to creating internal salary ranges, to empowering managers to evaluate employees and set pay, etc.) does not support a theory that pay increases for some individuals will spillover to all or nearly all class members. In Defendant firms, and the technology firms I have studied, there is no propagation mechanism built in to the pay process.

18. Dr. Hallock's prediction that impact "could" spread through certain "avenues" is flawed. He first relies on a misplaced view of "internal equity" to argue that any impact on compensation due to the alleged conspiracy could have been transmitted to all or nearly all class members due to internal equity considerations. In a pay for performance culture, internal equity is but one factor considered by managers in setting pay for individuals. Internal equity is simply a notion that managers should consider the pay of similarly performing employees doing similar work when setting an individual's pay. The concept of internal equity was used at the manager level to make individual employee compensation decisions, not on a company-wide level to make automatic adjustments to groups of people. From my experience and based on the evidence in this case, there is no reason that internal equity should impact workers who are doing dissimilar work, such as employees in different jobs, or workers who perform at different levels.

19. Dr. Hallock's next "avenue" relates to Defendants' use of external market data to benchmark internal salary ranges. Dr. Hallock concludes that if the market compensation data is suppressed (as a result of the alleged anti-solicitation agreements), then internal compensation levels at Defendants could also be suppressed. However, given how Defendants used external market data, I would not expect this "avenue" to lead to impact on all or nearly all class members. First, Defendants did not use the same compensation benchmarking data and each benchmarked against a large group of firms beyond the one, two, or three with which it had an



alleged cold calling agreement. Given the large size of the labor market surveyed by consulting firms, it is hard to imagine that the suppression of pay in a few jobs could lead to suppression of pay in benchmark data. Second, assuming that market data was in fact suppressed, most Defendants used job title specific market data to benchmark internal job specific salary ranges. Thus, suppressed market data for one job title would not affect data for another job title, nor would suppressed salary range for one job title affect the salary range for another job title. Third, Dr. Hallock ignores the fact that changes in salary ranges do not lead to changes in actual compensation levels for all employees.

20. Dr. Hallock's next theory, that suppressed market data led to suppressed merit increase budget, is equally unsupported. I am not aware of any evidence that market data on base salary increase percentages was suppressed, or that suppressed data resulted in impact on all or nearly all class members.

21. Finally, Dr. Hallock's "top of the box" theory is incorrect. This theory finds no basis in the Defendants' compensation systems. The documents and testimonies show the opposite – that pay determinations were left in the hands of individual managers based on their assessment of individual performance.

#### **VI. Defendants' Pay for Performance Philosophy Leads to Large Variances in Pay Based on Subjective Manager Evaluations.**

22. Dr. Hallock spends much of his report explaining compensation design and summarizing general concepts of compensation structures and principles that might apply across typical large firms in the economy. Hallock ¶¶ 10-109. He then summarizes evidence from the Defendants and concludes that "the defendants each had formalized or sophisticated human resource (HR) or compensation systems of one type or another." Hallock ¶ 45.

23. I agree that Defendants had formalized compensation systems or structures to administer compensation. In Silicon Valley and elsewhere, most large companies have formalized compensation systems or structures to administer pay, including using job

classification systems, job titles, benchmarking to external market intelligence, setting salary ranges, providing guidelines and recommendations for increases to compensation, etc.<sup>8</sup>

24. The fact that a company has a formalized compensation system or structure, however, does not answer the question of whether suppression of wages to some employees would affect all or nearly all other employees. A formalized compensation system can be carried out and implemented in a way such that some workers' wages can be adjusted without widespread effect on other workers.

25. Dr. Hallock stops short of adequately addressing Defendants' compensation philosophies, how Defendants' compensation systems were actually implemented, how actual pay determinations were made, and what the actual compensation data in this case shows. To test and verify whether impact spread to all or nearly all class members, one should examine the evidence regarding how actual pay decisions were made and the compensation data.<sup>9</sup>

26. Consistent with other technology firms I have studied, Defendants employ a pay for performance philosophy implemented by individual managers based on each manager's subjective evaluation of their employees' performance, talent, skills, contribution to the company, and potential.<sup>10</sup> Technology firms adopt a pay for performance philosophy to attract high performers and incentivize greater effort and talent. It is, however, difficult to measure performance in a mechanical or objective way for high-tech employees. For example, in software development, the number of lines of code written in one day could be measured, but

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<sup>8</sup> See generally Edward Lazear and Kathryn Shaw, "Personnel Economics: The Economist's View of Human Resources," *Journal of Economic Perspectives*, 21 (4), (Fall 2007): 91-114.

<sup>9</sup> Casey Ichniowski and Kathryn Shaw, "Insider Econometrics: Empirical Studies of How Management Matters," *Handbook of Organizational Economic*, editors Robert Gibbons and John Roberts, Princeton University Press, 2013: 263-311 (describing the benefits of insider economics, which uses insider information and data to analyze the impact of human resources management practices. "Insider Econometrics: A Roadmap with Stops Along the Way," *Labour Economics*, 2009 (same).

<sup>10</sup> Fredrik Andersson, Matthew Freedman, John Haltiwanger, Julia Lane, and Kathryn Shaw, "Reaching for the Stars: Who Pays for Talent in Innovative Industries?" *Economic Journal*, 2009, 4-8 (describing software industry compensation practices). Paul Oyer and Kathryn Shaw, "Reward Systems," Human Resource Class Notes: Chapter 4 (Spring 2012) (describing subjective performance evaluations).



may tell the firm nothing meaningful about performance (such as, the quality of the code or the complexity of the project). Thus, firms in high-tech, like Defendants, leave pay decisions in the hands of individual managers, who are in the best position to evaluate employee performance based on their discretion.<sup>11</sup>

27. Appendix C is a collection of the evidence I have seen in this case demonstrating that Defendants believed in the managerial philosophy of paying for performance and implemented this philosophy by empowering managers to evaluate performance and set pay.

28. From the employer's perspective, a pay for performance system can increase productivity by incentivizing the right behavior and attracting the right workers. There is extensive literature on the significant amount of productivity increase that results from switching from a traditional lockstep pay system to a pay for performance system. The classic paper, by Lazear (2000), follows one particular firm that changed its pay practices from paying on an hourly basis to paying for productivity. The firm in question replaced broken windshields at the customer's house. When the firm instituted pay for performance by giving piece-rate pay, not only did employees install more windshields, but the firm attracted better employees who were very good at installing windshields. These factors raised productivity by 44%.<sup>12</sup>

29. Dr. Hallock refers to examples from the government sector or unionized setting to support his conclusions, as if to suggest that Defendants used similar systems. Hallock ¶¶ 15, 18, 206, Figure 1. Dr. Hallock also repeatedly relied on these examples during his deposition. Hallock Dep. 95:15-96:12 (referencing government organizations, state police officers, school

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<sup>11</sup> Paul Oyer and Kathryn Shaw, "Reward Systems," Human Resource Class Notes: Chapter 4 (Spring 2012). In contrast, certain firms are better suited to measure performance based on objective measures (such as, a call center may measure productivity and performance by tracking the number of calls processed or the length of each call).

<sup>12</sup> See also Casey Ichniowski and Kathryn Shaw, "Insider Econometrics: Empirical Studies of How Management Matters," *Handbook of Organizational Economic*, editors Robert Gibbons and John Roberts, Princeton University Press, 2013: 263-311. Edward Lazear and Kathryn Shaw, "Personnel Economics: The Economist's View of Human Resources," *Journal of Economic Perspectives*, 21 (4), (Fall 2007): 91-114. Kathryn Shaw, "Insider Econometrics: A Roadmap with Stops Along the Way," *Labour Economics*, 2009.

teachers); 127:22-129:25 (stating public school teachers' compensation is an example of a rigid pay structure). Dr. Hallock's reliance on these systems illustrates the core problem with his conclusions. Unlike Defendants in this case, government and unionized firms employ a traditional compensation philosophy.<sup>13</sup> These traditional firms base pay on measures such as education, tenure, and hours worked, rather than on individualized performance and output. Traditional compensation philosophy therefore leads to a compensation structure in which compensation decisions are not made at the individual level, but are set by a rigid rule of salary schedules that leave no discretion for management to determine the wages of individuals. Because the traditional compensation system has rigid rules for allocating pay, it maintains a salary structure in which the pay of one worker is fixed relative to the pay of another worker.

30. In contrast, in technology based firms (among others), the compensation system generally begins with pay ranges assigned to job codes, but these serve as mere guidelines for managers as they use their discretion to determine compensation when hiring, promoting, and allocating annual pay increases to individuals as a function of performance and contribution. Unlike traditional compensation firms, the pay of one worker is highly variable relative to the pay of another worker, depending on how their individual performance varies over time and their managers' exercise of discretion.

31. The pay for performance system of technology companies thus leads to variances in pay across workers that reflect differences in workers' skills or effort.<sup>14</sup> I have reviewed the

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<sup>13</sup> Casey Ichniowski and Kathryn Shaw, "Beyond Incentive Pay: Insiders' Estimates of the Value of Complementary Human Resource Management Practices," 17 *Journal of Economic Perspectives* 155, 163-168 (2003): 155-80 (contrasting the objectives of "innovative" human resource management practices and to contrast these with more "traditional" practices). Cf. Fredrik Andersson, Matthew Freedman, John Haltiwanger, Julia Lane, Kathryn Shaw, "Reaching for the Stars: Who Pays for Talent in Innovative Industries?", *Economic Journal*, 2009: 5 ("[S]oftware firms on average pay relatively high salaries, but a small subset of workers in the industry receive particularly high wages."). *Id.* at 33 ("[T]he increasing movement of the economy towards knowledge workers has increased the value of stars to firms, and thus increased the variance of pay.").

<sup>14</sup> Fredrik Andersson, Matthew Freedman, John Haltiwanger, Julia Lane, Kathryn Shaw, "Reaching for the Stars: Who Pays for Talent in Innovative Industries?", *Economic Journal*, 2009: 4 ("The highest skilled stars are much more highly valued and paid than those who are slightly less skilled."). Hallock himself wrote that "it should be recognized that paying people the same for working for a period of time (for example) may make others upset,



exhibits prepared by Defendants' expert Dr. Kevin Murphy regarding the variance in pay changes in Defendants' compensation data. As one would expect in a pay for performance system, the compensation data shows that compensation changes vary dramatically among employees within the same job titles and across job titles, as would be expected when decisions are highly individualized based on myriad factors including an individual employee's performance, talent, skills, education, potential, demand and overall value to the firm; whether the employee is a "star" employee or a poor performer; an employee's past compensation history; the budget for compensation; the idiosyncrasies of the manager making the compensation decision; and many other factors and considerations that go into deciding the pay for an individual employee.<sup>15</sup>

32. This significant variation in compensation across employees is at odds with a compensation structure in which changes in compensation for individual employees resulting from cold calls necessitates changes in compensation for all class members.

**VII. Defendants' Pay Practices Do Not Support Spillover of Pay Increase From One Individual to All or Nearly All Class Members.**

33. The pay practices of technology firms form a cohesive system of managerial practices aimed at supporting superior company performance in the marketplace. Based on my experience and the materials I have reviewed in this case, technology firms, including

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(continued...)

because some are more productive per period than others." Kevin F. Hallock, *Pay: Why People Earn What They Earn And What You Can Do Now To Make More* 87 (Cambridge Univ. Press 2012).

<sup>15</sup> Thomas Lemieux, W. Bentley MacLeod, and Daniel Parent, "Performance Pay and Wage Inequality," *The Quarterly Journal of Economics* (2009) 124 (1):1-49. Fredrik Andersson, Matthew Freedman, John Haltiwanger, Julia Lane, Kathryn Shaw, "Reaching for the Stars: Who Pays for Talent in Innovative Industries?"; *Economic Journal*, 2009: 4 ("The highest skilled [software industry] stars are much more highly valued and paid than those who are slightly less skilled."). Edward Lazear and Kathryn Shaw, "Personnel Economics: The Economist's View of Human Resources," *Journal of Economic Perspectives*, vol. 21 (4), (Fall 2007): 4 ("[W]age inequality has risen markedly mainly because the upper tail of high earners has grown. This rising variance of pay has occurred within occupations and across occupations. The variance of pay has also risen within firms and across firms." (citing Autor, Katz, and Kearney, 2006)).

Defendants, generally use a typical set of compensation practices. The large variances in pay at each of the Defendants reflect compensation systems that were flexible enough to allow the adjustments of an individual employee's compensation without shifting the entire compensation structure.

34. Pay is set first during the hiring process. Jobs are typically arranged in job families, and then in job codes and grade levels within these families. When the manager makes the hiring decision, he/she uses his/her discretion along with the guidelines of pay ranges (formed from market intelligence) to set the pay of the individual he is hiring. The firm typically gathers data from consulting firms, such as Radford and others, on pay by job code. The firm then generally sets a midpoint target and a range for job codes within the firm. When the manager hires an employee, he chooses the pay that fits the individual new hire, based on the new hire's expected value to the firm and his alternative wage at other firms.

35. Pay is adjusted during the promotion process. The employee may be promoted to a higher grade level within the same job code, or to a new job code. The decision to promote is determined by each manager, based on his assessment that the employee can be expected to perform at the higher level of performance consistent with the promotion. As in the decision to hire, the decision to promote is accompanied by a personalized pay decision: pay is set according to the employee's expected contribution to the firm.

36. Pay may also be adjusted during the annual or semi-annual performance review process. Each manager is given a budget and told to allocate that budget to pay increases based on the performance of each employee. Those who are star employees will receive large raises; those who are laggard employees will receive little or no raise.

37. Pay may also be adjusted when bonuses and equity are allocated. These are allocated based on an individual's performance or based on the performance of his team.

38. Lastly, based on my experience, in relatively rare instances, pay may be adjusted to retain an employee when he/she receives an outside offer. I say these instances are relatively



rare because pay increases are typically only offered to the high achievers. The lower achievers are generally allowed to leave.

39. At each juncture of this typical process for determining pay – the hiring, promotion, review, or retention process – individual performance is key. I would not expect a pay gain for one worker to lead to a pay gain for another worker. Consider three workers, A, B, and C. Assume A is the star performer, B is the median performer, and C is the below average performer. The star performer, A, will typically be paid for performance at various stages in his work life: he will likely be at the upper end of the pay range when he is hired; he will likely be promoted to a higher pay range; or he will likely receive a bigger annual pay raise. If A receives an outside offer and that offer is matched by his employer, I would not expect his higher pay to spill over to those who do not have his capabilities.

40. Taken as a whole, there is no apparent propagation mechanism built in to the pay process in Defendant firms and other technology firms I have studied.

**VIII. Dr. Hallock’s Prediction That Impact “Could” Spread Through Certain “Avenues” Is Inaccurate.**

41. During his deposition, Dr. Hallock was asked to explain his opinion that the anti-solicitation agreements could lead to suppression of pay for all or nearly all class members. Dr. Hallock testified that three “avenues” of pay suppression are possible, but concedes that none of the three avenues would necessarily lead to impact on all or nearly all class members. Hallock Dep. 153:08-158:06, 214:25-215:11, 227:25-230:10. I address each “avenue” below.

**A. Internal Equity is Used by Managers to Make Individual Compensation Decisions By Comparing Similarly Performing Employees Who Do Similar Work.**

42. According to Dr. Hallock, the first avenue by which pay could be suppressed for all or nearly all class members pertains to the application of internal equity. Plaintiffs claim that if the pay of one individual rises, that would increase the pay of all other class members because it would be inequitable to raise the pay of one and not others. Therefore, if the pay of one

individual is suppressed, that would suppress the pay of all others for whom pay would have risen. This argument is flawed because it makes use of an outdated notion of internal equity and mischaracterizes the notion of internal equity as it is applied to these Defendants.

43. There are two definitions of internal equity in the management world. In the first definition, labeled distributive justice, pay is perceived to be fair when all are paid the same wage. This form of internal equity might be relevant to traditional firms or to unionized firms where the goal is equal pay for all within an education/tenure class. In the second definition, labeled procedural justice, pay is perceived to be fair when the procedures for setting pay are fair.<sup>16</sup> This form of internal equity is relevant to technology firms that pay for performance, and specifically to Defendants in this case. In these workplaces, pay is perceived to be fair when the firm follows its procedures of paying for performance. The notion of internal equity does not act as a pressure to equalize pay, but is a concept to further the pay for performance philosophy and a means to strive for fairness by establishing fair procedures.

44. Dr. Hallock makes the same point in his report. Hallock ¶ 202 (“[W]orkers will be motivated when their perceived inputs (e.g., effort) match their perceived outputs (e.g., pay). If someone thinks she is being unfairly paid (e.g., others are being paid more for the same perceived effort), she will become uncomfortable and unmotivated.”).<sup>17</sup> In other words, what matters to employees is not distributive justice, but rather procedural justice where fair procedures ensure pay is based on actual performance.<sup>18</sup>

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<sup>16</sup> As a leading text book put it, a “justice principle that has been shown to prevail in many settings, especially where performance varies significantly across individuals, is simple equity. According to the equity principle, individuals ought to be rewarded commensurate with the outcomes they generate, factoring in the inputs – effort, ability, and so on – they brought to bear in performing the task.” (James N. Baron & David M. Kreps, *Strategic Human Resources* 107 (1999)).

<sup>17</sup> The materials that Dr. Hallock relied upon in his report also makes this point. George Milkovich, Jerry Newman & Barry Gerhard, *Compensation* 87 (McGraw-Hill Irwin 2011) (“One group argues that if fair (i.e., sizable) differentials among jobs are not paid, individuals may harbor ill will toward the employer, resist change, change employment if possible, become depressed, and ‘lack that zest and enthusiasm which makes for high efficiency and personal satisfaction in work.’”).

<sup>18</sup> Paul Oyer and Kathryn Shaw, “Reward Systems,” Human Resource Class Notes: Chapter 4 (Spring 2012) (comparing distributive justice and procedural justice in determining pay).



45. The evidence in this case shows that managers are trained to consider internal equity as one factor (among many) to consider when making pay decisions based on individual performance. As discussed above, pay is based on a myriad of factors, including an individual's current and expected future contribution to the firm. Internal equity is considered by *individual managers* in making *individual* employee compensation decisions. In the evidence I have reviewed, internal equity is not discussed as a means of making automatic *company-wide* adjustments to the compensation of groups of employees. Nor have I seen evidence that every inequity needs to be remedied.

46. Moreover, from my experience and based on the evidence in this case, there is no reason that internal equity should impact workers who are doing dissimilar work, such as employees in different jobs, or workers who perform at different levels. At deposition, Dr. Hallock stated repeatedly that whether an impact to one or some employees would cause a raise to others because of internal equity would be dependent on the facts and the comparability of the jobs at issue. At most, he suggested that pay spillover would be limited to similar employees doing similar work. As Dr. Hallock explained:

“Imagine . . . five people are working side by side. They're all *doing roughly the same work*. They're all paid roughly the same way. One of them gets a cold call. That person's wage increases. There is principles of internal equity that would suggest that there is upward pressure on the others.” Hallock Dep. 192:2-8.

“If person X doesn't get the job offer, there is [sic] less upward pressure on the wages of the *work crew* if they're *doing similar work*. Because people – there is this idea of internal equity.” Hallock Dep. 202:20-23.

“[R]elated to internal equity concerns is the idea that *people doing similar work* would be paid similarly . . . . I don't know if they're doing similar work, but let's assume that they are. So that if one didn't get a raise, there would be less upward pressure on others in the *work group* than if the person did get a raise.” Hallock Dep. 203:15-22.

“Employee A in a *work group*, say there are two people doing that job. . . . [T]hey're both *doing very similar jobs*. Internal equity, if that – if one gets a raise because of a cold call, it's certainly possible, because of internal equity that another person would get a raise immediately. . . . If

they're really *identical workers* and they're really *doing the same thing*, it would be surprising to me that there wouldn't be pressure due to – due to equity concerns. If they're really *performing the similar task or identical task* as we were talking about in this case.” Hallock Dep. 240:13-241:7.

“[I]t's possible that when one worker gets a bump due to a cold call and then she negotiates with the firm to increase her wage in the incumbent firm that people near her don't immediately get wage changes. That's certainly possible. But at the same time, internal equity concerns, among other things, would suggest that there is then pressure on the wages of *people doing similar work*.” Hallock Dep. 242:14-21.

47. Take for example the job titles in Plaintiffs' proposed Technical Class at Intel, which includes chemical engineers, technical writers, IT support specialists, semiconductor engineers, and web designers.<sup>19</sup> I am not aware of any evidence in this case, or outside of this case, to suggest that an IT manager who increases compensation of one of his employees would lead to a chemical engineer manager (or semiconductor engineer manager, or technical writer manager) to increase the compensation of his/her employees to maintain internal equity. Appendix E contains the full list of job titles in the Technical Class for each Defendant and the number of managers within each job title from 2008-2009. Appendix E evidences the vast number of jobs at issue in this case, and the large number of managers at each Defendant across jobs and within job titles. I would not expect a manager's consideration of internal equity to impact all or nearly all other employees in different job titles, under the supervision of different managers.

48. Consistent with this, Dr. Hallock first testified during his deposition that he would *not* expect to see any impact from internal equity outside of a particular job title:

Q. And then assuming suppressed wages for some IT support specialists at Intel, how would that impact the compensation of employees in a different job title, let's say mask designer at Intel.

A. Again, you are asking about a narrow – a narrower part of what's going on. So they don't necessarily – it doesn't necessarily have to be the case that the

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<sup>19</sup> 76586DOC001050\_AEO.xls. Appendix F, created based on this document, categorizes Intel's employees in the Technical Class by Job Functions.



impact on those particular workers led to the prediction that there would be suppression because there are multiple avenues. So I think I understand where you are coming from. So you are asking if – so that’s it. It doesn’t necessarily have to be that avenue. It could be another avenue that leads to my prediction.<sup>20</sup> Hallock Dep. 225:1-14.

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A. Have I reached an opinion about whether a negative impact on an employee would – in one job title would necessarily impact those in another job title? I haven’t – again, I haven’t thought about this specific job title to job title thing that you’ve just brought up before carefully and I’d like to think about that. But I certainly haven’t made a general opinion about that.” Hallock Dep. 235:6-13.

49. Dr. Hallock revised his testimony later in the deposition, stating that “it’s possible that propagation happens from job title to job title” due to internal equity. Hallock Dep. 258:11-12. However, Dr. Hallock cites to no evidence to support this job title to job title propagation and simply testified that this “could” occur. Hallock Dep. 258:16-22, 259:9-15, 259:20-22, 261:2-14.

50. I am unaware of any evidence that requires automatic adjustments to compensation across job titles due to internal equity concerns. To the contrary, the evidence regarding each Defendant in Appendix D shows the concept of internal equity was used at the manager level to make decisions about individual compensation, not at the policy level to make changes in pay practices.

51. Dr. Hallock cites to several figures from Defendants’ documents containing guidelines for managers on how to exercise their discretion when giving annual salary increases. *See* Figures 12-15. These figures demonstrate first that managers were advised to give high performers larger salary increases. These figures also show suggested salary increases were dependent on position within a salary range, which is pegged to market conditions. There is no mention of internal equity or any suggestion that pay of one individual is based on the pay of another individual. In other words, employees were *not* paid in relation to each other, but were

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<sup>20</sup> I discuss the “other avenues” in detail below in sections B through D.

paid in relation to the market. For example, Figure 15 is Adobe's [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] Adobe created its salary ranges based on market data.<sup>21</sup> This Figure shows that Adobe's managers were not advised to compensate employees based on what *other employees* in the manager's team (or other teams) are paid. Rather, this Figure shows that Adobe suggested that a manager exercise his/her discretion in making pay determinations based on an individual's performance and his/her position in relation to the market data. [REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED]  
52. Dr. Hallock testified that internal equity would not necessarily lead to impact for all or nearly all class members:

A. An Adobe employee gets a raise after a cold call from Apple. Comes in, negotiates a higher wage. Yes.

Q. Right. Would you predict that that would then lead to a raise to all or nearly all technical employees?

A. I wouldn't necessarily predict that that alone would do that. . . . So that alone might not do that. So no. Hallock Dep. 189:18-190:2.

53. Based on my experience and the evidence in this case, I do not expect that the concept of internal equity would be a means by which impact on a some employee's compensation would spill over to all or nearly all class members.

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<sup>21</sup> Streeter Dep. 265:25-266:12 (Adobe created ranges based on some spread that corresponded to the 65th percentile of the market for a particular job title.);

<sup>22</sup> Ex. 1855 at 1855.107 containing the "sample distribution matrices" from which Dr. Hallock's Figure 14 is drawn) and 1855.103 (instructing managers to "differentiate by performance level" in determining their employees' compensation); Burmeister Dep. 104:9-14 (Figure 14 is an illustration of how Apple awarded merit salary increases based on individual performance and salary *relative to market* [SRP stands for salary range position and is "in reference to th[e] market midpoint" ].).

<sup>23</sup> Wagner Decl. Ex. A at 11 ([REDACTED]).



**B. Dr. Hallock's Opinion That the Suppression of External Pay Data in One Job Code Could Lead to Spillover is Unsupported.**

54. Dr. Hallock testified that the second avenue by which pay could be suppressed for all or nearly all class members relates to the use of market survey data to benchmark internal compensation. Dr. Hallock states that each Defendant used external market data as benchmarks for internal compensation. Hallock Dep. 223:8-14. Thus, according to Dr. Hallock, if cold calling suppressed the pay of some groups of workers, that lower pay would be reported to the market consultants like Radford and would suppress the pay of the benchmarking data, which in turn would be used to create internal salary ranges. Hallock Dep. 220:18-25. *See also* Hallock ¶ 240.

55. First, it is hard to imagine that the amount of suppressed cold calling is significant enough to make a difference in the market survey results.<sup>24</sup>

56. Moreover, while it is true that most Defendants used external market data to create internal salary ranges,<sup>25</sup> not all Defendants used the same compensation benchmarking data and each benchmarked against a large group of firms far beyond the one, two, or three with which it allegedly had a cold-calling agreement, if it benchmarked against those firms at all.<sup>26</sup>

<sup>24</sup> Dr. Hallock stated during his deposition that he did not examine whether market data included suppressed wages. Hallock Dep.216:18-217:22.

<sup>25</sup> Sheehy Dep. 89:9-16 (Pixar uses the [REDACTED] percentile of the market data as the minimum and the [REDACTED] percentile of the market data as the maximum); Otellini Dep. 252:3-4 (Intel "establish[s] the ranges based upon our view of the market..."); Streeter Dep. 265:25-266:12 (Adobe created ranges based on some spread that corresponded to the 65th percentile of the market for a particular job title.); Wagner Decl. ¶¶ 7-8 [REDACTED]; [REDACTED]; Maupin Dep. 148:25-149:12 (Lucasfilm matches job descriptions to relevant market survey data and then assigns a job to a pay range that aligns with the [REDACTED] percentile of the relevant market data for that job); Burmeister Decl. ¶ 4 [REDACTED].

<sup>26</sup> Morris Decl. ¶ 19 (Adobe's salary ranges based on market data from approximately 25 companies); Wagner Decl. ¶¶ 7-8 [REDACTED]; [REDACTED]; Stubblefield Dep. 24:1-8 [REDACTED]; [REDACTED]; McKell Decl. ¶ 7 [REDACTED]; McKell Dep. 87:22-24, 88:6-20, 89:6-7 [REDACTED]; [REDACTED]; McAdams Decl. ¶ 13 (Pixar requests the "Bay Area" or "Northern California" cut of Radford data, which includes hundreds of companies.); Maupin Decl. ¶¶ 13(iii), 14 (Lucasfilm used data from Croner Games for certain technical jobs, which no Defendant participated in

Further, Pixar and Lucasfilm used the Croner Company survey, which none of the other Defendants used or participated in.<sup>27</sup> Moreover, defendants that relied on the same surveys did not always use the same data slices. Apple, for example, [REDACTED]  
[REDACTED]<sup>28</sup> [REDACTED]  
[REDACTED]<sup>29</sup> Intel generally benchmarked against “outside Silicon Valley” data.<sup>30</sup>

57. Even assuming that there is suppression of pay for the external data in some job codes due to the alleged anticompetitive conduct, this pay suppression would not spill over between job codes. Taking Adobe as an example, every job code at Adobe has a distinct salary range based on market survey data for similar jobs.<sup>31</sup> That is, Adobe used job specific market data, and thus, suppression of market data for one job code would not affect the salary range for other job codes. This is true for other Defendants as well.<sup>32</sup> Thus, suppressed data for one job

(continued...)

from 2005 to 2011); Burmeister Decl. ¶ 4 (Apple used [REDACTED] a list of peer companies which included approximately twenty other companies, only two of which (Google and Intel) are defendants in this case.).

<sup>27</sup> See, e.g., McAdams Dep. 60:9-13; Ex. 1308 (showing Lucasfilm is the only other defendant that participates in the Croner Animation survey).

<sup>28</sup> Burmeister Dep. 164:18-165:3.

<sup>29</sup> Stubblefield Dep. 24:1-8 [REDACTED]  
[REDACTED]

<sup>30</sup> McKell Decl. ¶¶ 8, 14; see also McKell 181:19-182:13. Appendix G shows that a vast majority of Intel’s employees in the Technical Class were employed outside of silicon Valley.

<sup>31</sup> Streeter Dep. 265:25-266:12 (Adobe created ranges based on some spread that corresponded to the 65th percentile of the market for a particular job title.);

<sup>32</sup> Sheehy Dep. 49:17-20 (Pixar reviews the survey data and determines minimum and maximum pay on a “job-by-job basis.”); Wagner Decl. ¶ 8 [REDACTED]  
[REDACTED]; McKell 87:22-24, 89:6-7 (Intel has very broad salary ranges that are established by grade [i.e., they have one range for all jobs in a particular grade], but also internally benchmarks pay against a smaller, more job-specific range, which it refers to as “pay lines.”); Maupin Dep. 148:25-149:12 (Lucasfilm matches job descriptions to relevant market survey data and then assigns a job to a pay range.).



title would not affect data for another job title, nor would suppressed salary range for one job title affect the salary range for another job title.

58. When Dr. Hallock was asked to consider this fact during his deposition, he was unable to explain how suppressed market compensation data for one job code could affect salary ranges for other job codes. Hallock Dep. 229:11-232, 233:21-235:13. Thus, Dr. Hallock's opinion of impact based on market data is limited to particular job titles.

59. Intel's use of market data provides another good example that any changes in the market would be dealt with on a job title level, rather than at a company level. Intel annually examines whether each of its job codes are being paid relative to the midpoint of the pay line. McKell Dep. 90:20-91:9. For job codes that are below market, Intel gives a special market adjustment ("SMA") budget for managers to use for those specific jobs.<sup>33</sup> McKell Dep. 206:15-18. The types of jobs that receive SMA vary by year and by group, and is limited to jobs where Intel felt its market position was deteriorating. McKell Dep. 92:14-16; 206:12-18. Thus, if the market was moving faster for a particular job, and Intel's market position was deteriorating, Intel could respond with an SMA targeted to those particular jobs.

60. Moreover, Dr. Hallock ignores the fact that a change in salary range does not lead to a change in actual compensation levels for all employees. To the contrary, the testimony of several Defendants' compensation personnel confirmed that individuals' salaries do not automatically move because of changes to the salary ranges.<sup>34</sup> As detailed earlier in the report, individuals' salaries are adjusted by managers based on performance.

<sup>33</sup> [REDACTED] McKell Dep. 269:6-19. [REDACTED] Dep. 269:6-19.

<sup>34</sup> Arriada-Keiper Dep. 23:24-25 (Adobe: "Q: if the ranges go up do salaries increase? A: No."); *Id.* at 24:4-22 ("it becomes manager's discretion" on whether to raise a sub-minimum salary up to the minimum in the range); Maupin Dep. 94:24-95:8 (stating that, for Lucasfilm, while the market may cause "range structure increases" it does "not directly" lead to individual salary increases because such "salary increases [are] based on their performance"); McAdams Dep. 29:8-10 (Pixar employee offers and salaries are "usually within that salary range."); Burmeister Dep. 55:13-19 ("[Apple] salary ranges are reference points. They're – they're not hard minimums or hard maximums. Those are purely a reference point."); Ex. 391, 76583DOC003753 (Intel's documents show that its employees were permitted to fall below salary ranges.); Wagner Dep. 26:22-25, 29:15-21 ([REDACTED])

61. Similar to Dr. Hallock's first "avenue" of propagation, Dr. Hallock conceded that this second "avenue" need not propagate to all or nearly all class members. Hallock Dep. 227:25-228:13.

C. **Dr. Hallock's Opinion Regarding Market Data For Merit Increase Budgets Is Also Unsupported.**

62. Dr. Hallock states that a third "avenue" that could impact all or nearly all class members is through Defendants' use of market data to benchmark the annual merit increase percentage. Hallock Dep. 230:14-231:8, 249:20-250:4. According to Dr. Hallock, to the extent that Defendants benchmark their merit increases based on market data of other companies' projected merit increase, a suppression of the market data will lead to a suppression of an individual company's merit increase percentage. Dr. Hallock states that the suppression of merit increase percentage could affect all or nearly all class members.

63. I am not aware of any evidence that market data on base salary increase percentages was suppressed, or that suppressed data resulted in impact on all or nearly all class members. Given the vast labor markets at issue in this case, it is hard to imagine as a matter of basic mathematics that the lack of cold calls due to the alleged anti-solicitation agreements would have suppressed the market data.

64. Assuming each Defendant based its merit increase percentage on market data, and further assuming market data was in fact suppressed due to the alleged anticompetitive conduct, this would not lead to the suppression of compensation for all or nearly all class members. Managers at each of the Defendants had discretion (within company suggested guidelines) to allocate the merit increase budget as they saw fit based on their performance evaluations.<sup>35</sup>

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(continued...)

[REDACTED]

<sup>35</sup> Morris Decl. ¶ 22 (Adobe managers "allocated the budget among employees after completing the performance evaluations."); Wagner Dep. 108:19-23 ([REDACTED])



Therefore, a reduction in the merit increase budget could affect top performers but need not affect all performers.

65. Moreover, evidence from several Defendants indicates that these companies discouraged giving merit increases to lower performing employees. As referenced above, Defendants maintained merit increase guidelines for their managers as a guidepost when making compensation decisions. *See* Hallock's Figures 12-15. For example, Figure 12 to Dr. Hallock's report demonstrates that [REDACTED] [REDACTED],<sup>36</sup> Dr. Hallock admitted this during his deposition. Hallock Dep. 276:4-8 ("So there would be workers that on the fringe who have very, very low performance rating or very high in range wouldn't, in that circumstance – their wage wouldn't – wouldn't be affected in that instance.") Thus, to the extent a manager's merit budget would have been higher but for the alleged anti-solicitation agreements, the evidence I have reviewed does not suggest that all or nearly all employees would have received more (or any) merit increase.

(continued...)

[REDACTED]"); Sheehy Dep. 70:24-25 (Pixar managers are "given a salary pool, and they spend that pool on their employees, how they see fit..."); McKell Dep. 101:8-17 [REDACTED]

[REDACTED] Chau Dep. 138:20-140:6 (Lucasfilm managers and executives would make recommendations for individual bonuses and merit increases and Ms. Chau "very seldom" made adjustments.); Stubblefield Dep. 32:14-21 (Intuit managers "make the compensation decisions [and] [i]t's in their discretion to choose how they want to pay."); Burmeister Dep. 47:16-19, 53:23-54:1 (Individual Apple managers were responsible for setting compensation for each employee in their groups.).

<sup>36</sup> See Hallock's Figure 12, where employees with a rating of 3.4 or below may not receive salary increase depending on their pre-adjustment position. Wagner Dep. 109:16-19 (Google's [REDACTED]); LUCAS0062293 (Lucasfilm's "Pay for Performance 2007 Merit Budget Recommendations Executive Review" recommended allocations of salary increase and bonus budgets of "0% for employees rated 'unsatisfactory'" and "0-2% for employees rated 'needs improvement.'"); LUCAS189964 at 69 (document confirms that low performing Lucasfilm employee was not awarded merit increase or bonus); Burmeister Dep. 48:15-23 (Apple managers were not required to give all employees merit salary increases, rather "if an individual wasn't performing well, he or she may not warrant a merit increase."); James Dep. 25:22-25 (Intel has "a philosophy of pay for performance which means that being an average performer in a certain year in a tight budgetary year does not mean you are necessarily going to get an increase."); Stubblefield Decl. Ex. A, at 9 ([REDACTED]); Sheehy Dep. 169:22-170:3 (Pixar employees who were struggling might not get any salary increase); Ex. 1304 PIX00044225-44229 (Pixar's salary increase spreadsheet from 2006 containing raises ranging from 25% to 0%.); Arriada-Keiper Dep. 75:16-18 ([REDACTED])

**D. Dr. Hallock's Top of the Box Theory Is Incorrect.**

66. According to Dr. Hallock, another way that pay can be lowered for nearly all workers has to do with the “top” workers.<sup>37</sup> Some of the cold calling restrictions were targeted to the high-end top talent, says Dr. Hallock. His theory is that if the “top of the box,” or the compensation for the highest performing employees, was lowered in the presence of cold-calling restrictions, the entire box (or the compensation for the lower performing employees) may be lowered as well.

67. This theory finds no basis in the Defendants’ compensation systems. Nor have I studied compensation systems outside of this case that would support this theory. For Dr. Hallock’s theory to work, when companies increase the compensation for a top performing employee in one job title, the company would have to increase the compensation of lesser performing employees to maintain the same differentials or relative compensation between all employees in that job title. Plus, for Dr. Hallock’s theory to work, the company would then need to look at the compensation of all employees in other job titles, and adjust them upward to maintain the same compensation structure across job titles.

68. Dr. Hallock recognizes his “top of the box” theory works only with respect to an organization where “those at the top of a pay scale help determine the relative gains of those ‘below’ them.” Hallock ¶ 207. There is no such evidence in this case of which I am aware. As discussed above, the documents and testimonies show that pay determinations were left in the hands of individual managers based on their assessment of individual performance. There is no evidence that managers were trained to undertake the rigid approach needed under Dr. Hallock’s theory and automatically move others within their team because the “top” employee’s compensation increased simply to maintain the same relative compensation. For example, when Adobe’s compensation personnel was asked whether Adobe targeted a particular percentage

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<sup>37</sup> Hallock ¶¶ 207, 229, 239.



difference in compensation between [REDACTED]

[REDACTED] Ms. Arriada-Keiper testified: “Not a specific percentage. . . . [M]anagers ultimately have the discretion. Arriada-Keiper Dep. 111:13-25.

69. Moreover, each job title spans many managers. Appendix E shows the number of managers for each job title at each Defendant firm from 2005 to 2009. To give a few examples, in that time period, Adobe’s Computer Scientist Software Developer 3 had 258 managers, Intel’s Component Design Engineer 7 had 1,074 managers, Intel’s Hardware Engineer 7 had 274 managers, and Intuit’s Product Manager had 110 managers. I have not seen any evidence that shows a coordinated, rigid approach across managers within a job title. Furthermore, I have not seen any evidence that this rigid approach would then be applied outside of the job title, and affect other job titles. Such adjustments would be the antithesis to an individualized pay for performance system.<sup>38</sup>

70. During deposition, Dr. Hallock testified that the “box” refers to the salary ranges for a particular job code (that is, the salary maximum makes up the top of the box and the salary minimum makes up the bottom of the box). Hallock Dep. 278:7-279:9. Dr. Hallock appears to contend that but for the alleged conspiracy, employees at the top of the salary range would have received cold calls, would have received a raise, which would cause the box to “grow.” Hallock Report ¶ 229.

71. This theory is inaccurate because, like other companies I am familiar with, Defendants’ salary ranges (or the “boxes”) were based purely on market survey data, not on individual compensation increases within the company.<sup>39</sup> Thus, an individual’s compensation

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<sup>38</sup> Fredrik Andersson, Matthew Freedman, John Haltiwanger, Julia Lane, Kathryn Shaw, “Reaching for the Stars: Who Pays for Talent in Innovative Industries?”, *Economic Journal*, 2009: 4 (“[F]irms that operate in innovative high payoff product markets will select star workers and will pay stars both higher starting salaries and higher performance pay.”). *Id.* 35 (“The high pay that innovating firms offer top knowledge workers increases the variance of pay in software — both across firms and within firms.”). Edward Lazear and Kathryn Shaw, “Personnel Economics: The Economist’s View of Human Resources,” *Journal of Economic Perspectives*, vol. 21 (4), (Fall 2007): 21 (“[T]he wages of highly skilled ‘star’ workers have grown relative to the typical employee.”).

<sup>39</sup> See, *supra*, footnote 25.

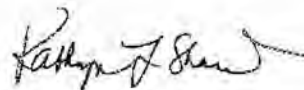
movement within the company does not alter the “box”; the “box” only grows based on market data. Moreover, because the salary ranges (or the “boxes”) are pegged to the market by job, movement of one “box” does not cause another “box” to move.

72. Even assuming the salary ranges would have been higher but for the alleged conspiracy, as explained above, movement of the salary range does not automatically move all individual’s actual compensation. To the contrary, the testimony of several Defendants’ compensation personnel confirmed that individual salaries are not required to fit within the salary ranges nor do salaries automatically move because of changes to the range.<sup>40</sup>

73. Nor does Dr. Hallock’s “top of the box” theory have any application to a number of situations when a firm decides to retain an employee by increasing wages *other* than base salary. For example, Dr. Hallock does not offer an opinion that “top of the box” applies when a firm decides to retain an employee by promoting him to a higher position, or by giving a one-time equity grant or a one-time bonus. Dr. Hallock agrees that if a Defendant gave a retention bonus to retain an employee, it would not give every employee a raise. Hallock Dep. 137:17-21.

#### **IX. Conclusion**

Dr. Hallock does not show that a suppression of wages to some employees allegedly caused by the alleged conspiracy would have affected all or nearly all Technical Class members. Based on Defendants’ compensation systems, pay practices, and pay philosophy, I would not expect that a suppression of wages to some employees would affect all or nearly all Technical Class members.




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Kathryn Shaw, Ph.D.  
June 21, 2013

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<sup>40</sup> See, *supra*, footnote 34.



**Reference Guide to Cited Exhibits**

<b>Exhibit</b>	<b>Location in record</b>
76586DOC001050_AEO.xls	Attached as Ex. 24 to the 6/21/13 Decl. of Lin Kahn
Declaration of Daniel McKell	Attached as Ex. 17 to 11/12/12 Brown Decl. ISO Opp.
Declaration of Donna Morris	Attached as Ex. 14 to 11/12/12 Brown Decl. ISO Opp.
Declaration of Frank Wagner	Attached as Ex. 21 to 11/12/12 Brown Decl. ISO Opp.
Declaration of Lori McAdams	Attached as Ex. 23 to 11/12/12 Brown Decl. ISO Opp.
Declaration of Mason Stubblefield	Attached as Ex. 19 to 11/12/12 Brown Decl. ISO Opp.
Declaration of Michelle Maupin	Attached as Ex. 22 to 11/12/12 Brown Decl. ISO Opp.
Declaration of Steven Burmeister	Attached as Ex. 16 to 11/12/12 Brown Decl. ISO Opp.
Excerpts from the Deposition of Alvaro Gonzalo Alvarez	Attached as Ex. 23 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Bob Mansfield	Attached as Ex. 13 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Brian Croll	Attached as Ex. 14 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Chris Galy	Attached as Ex. FF to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Dan Batali	Attached as Ex. 22 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Daniel McKell	Attached as Ex. 8 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Darrin Baja	Attached as Ex. I to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Deborah Conrad	Attached as Ex. 16 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Deborah Streeter	Attached as Ex. 1 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Digby Horner	Attached as Ex. 11 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Donna Morris	Attached as Ex. 6 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of FrankWagner	Attached as Ex. 3 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Jan Van der Voort	Attached as Ex. 19 to the 6/21/13 Decl. of Lin Kahn

Excerpts from the Deposition of Kevin Hallock	Attached to the 6/21/13 Decl. of Christina Brown
Excerpts from the Deposition of Laszlo Bock	Attached as Ex. 15 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Lori Beck	Attached as Ex. 20 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Lori McAdams	Attached as Ex. SS to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Mason Stubblefield	Attached as Ex. 7 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Micheline Chau	Attached as Ex. 10 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Michelle Maupin	Attached as Ex. 5 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Paul Otellini	Attached as Ex. DD to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Renee James	Attached as Ex. AA to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Richard Bechtel	Attached as Ex. J to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Rosemary Arriada-Keiper	Attached as Ex. 9 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Sharon Coker	Attached as Ex. 18 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Sherry Whiteley	Attached as Ex. JJ to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Shona Brown	Attached as Ex. S to 5/10/13 Cisneros Decl. ISO Supp. Class
Excerpts from the Deposition of Stephanie Sheehy	Attached as Ex. 4 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Steven Burmeister	Attached as Ex. 2 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Steven Condiotti	Attached as Ex. 17 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the Deposition of Tim Cook	Attached as Ex. 12 to the 6/21/13 Decl. of Lin Kahn
Excerpts from the March 19, 2013 Deposition of Lynwen Brennan	Attached as Ex. 21 to the 6/21/13 Decl. of Lin Kahn
Exhibit 1158, ADOBE 005661	Attached as Ex. 1158 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 1159, ADOBE 019278	Attached as Ex. 1159 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 1160, ADOBE 009652	Attached as Ex. 1160 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 1304, PIX00044225-44229	Attached as Ex. 27 to the 6/21/13 Decl. of Lin Kahn



Exhibit 1308, Pixar Salary Analysis	Attached as Ex. 1308 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 1309, PIX00049648	Attached as Ex. 1309 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 1855, Declaration of Steven Burmeister	Attached as Ex. 1855 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 1861, 231APPLE105542	Attached as Ex. 28 to the 6/21/13 Decl. of Lin Kahn
Exhibit 216, ADOBE 050724	Attached as Ex. 216 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 2425, GOOG-HIGH-TECH 00625147	Attached as Ex. 2425 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 2501, ADOBE 009425	Attached as Ex. 2501 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 2739, INTUIT_043560	Attached as Ex. 2739 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 2740, INTUIT_052841	Attached as Ex. 2740 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 391, 76583DOC003888	Attached as Ex. 391 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit 398, 76579DOC005956	Attached as Ex. 398 to 5/10/13 Cisneros Decl. ISO Supp. Class
Exhibit A to the Declaration of Frank Wagner	Attached as Ex. 21 to 11/12/12 Brown Decl. ISO Opp.
Exhibit B to the Declaration of Frank Wagner	Attached as Ex. 21 to 11/12/12 Brown Decl. ISO Opp.
Exhibits to the Declaration of Donna Morris	Attached as Ex. 14 to 11/12/12 Brown Decl. ISO Opp.
INTUIT 018387	Attached as Ex. B to Stubblefield Decl., Ex. 19 to 11/12/12 Brown Decl. ISO Opp.
INTUIT 043603	Attached as Ex. 30 to the 6/21/13 Decl. of Lin Kahn
INTUIT_038812	Attached as Ex. A to Stubblefield Decl., Ex. 19 to 11/12/12 Brown Decl. ISO Opp.
LUCAS00062271	Attached as Ex. 29 to the 6/21/13 Decl. of Lin Kahn
LUCAS00189964-69	Attached as Ex. 26 to the 6/21/13 Decl. of Lin Kahn
LUCAS0062293	Attached as Ex. 25 to the 6/21/13 Decl. of Lin Kahn

**APPENDIX A**CURRICULUM VITAE  
**KATHRYN SHAW****Home**

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**CURRENT POSITION**

Ernest C. Arbuckle Professor of Economics Graduate School of Business Stanford University	2003-present
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**PREVIOUS ACADEMIC APPOINTMENTS**

Graduate School of Industrial Administration (GSIA) Carnegie Mellon University Ford Distinguished Research Chair, Professor of Economics Professor of Economics	2002-2003 1997-2003
Associate Professor of Economics with Tenure	1994-1997
Associate Professor of Economics	1989-1994
Assistant Professor of Economics	1981-1989

**GOVERNMENT APPOINTMENT**

Council of Economic Advisors, Executive Office of the President Member (Senate confirmed, June 2000) Washington, D.C.	1999-2001
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**AFFILIATIONS**

Research Fellow, IZA, Germany	2012- present
Research Associate, National Bureau of Economic Research (NBER)	1995- present
Research Fellow, Center for Economic and Policy Research (CEPR), London	2004-present
Research Fellow, Center for Corporate Performance (CCP), Denmark	2004-present

**EDUCATION**

Harvard University, Ph.D. (Economics)	1981
Occidental College, Los Angeles, California A.B. (Economics, Mathematics)	1976

**RESEARCH STATEMENT**

Insider Econometrics: Modeling Management Practices and Productivity, *NBER Reporter*, 2009

<http://www.nber.org/reporter/2009number4/shaw.html>



**HONORS**

Graduate School of Business Trust Faculty Fellow	2011-2012
Fellow, Society of Labor Economists	2008
Graduate School of Business Trust Faculty Fellow	2005-2006
Special Award for Sustained Teaching Excellence, Economics Department, CMU	2003
CMU Business School Teaching Award Commendation	1999, 2000, 2002
Columbia University Best Paper on International Business	2001
Minnesota Award for Best Paper on Employment Institutions	1998
Xerox Research Chair, GSIA, Carnegie Mellon University	1992-1993
CMU Department of Economics Teaching Award	1992
Harvard University Graduate Student Fellowship	1976-1979
Phi Beta Kappa, Magna cum laude, Departmental Honors in Economics, 4.0 Graduate in Mathematics, Occidental College	1976
Valedictorian, Verdugo Hills High School	1972

**HONORARY LECTURES**

Occidental College 125 <sup>th</sup> Year, Distinguished Alumni Speaker	2012
Distinguished Women in Economics, Washington University	2012
Keynote speaker, Society of Labor Economists	2012
Guest Lecturer, University of Paris, Science P-O, "What Do CEOs Do?"	2009
Adam Smith Lecture, European Labor Economics Association	2008
Keynote Address, Conference on Education, Training and the Evolving Workplace, TARGET, Vancouver Canada	2006
Bertha Leigh Memorial Lecture, Washington State University	2005
Sloan Industry Studies, Keynote address, Atlanta	2004
National Defense University, University Address, Washington DC	2004

**OTHER PROFESSIONAL EXPERIENCE**

Carnegie Mellon University	
Heinz School of Public Policy, Carnegie Mellon University, Affiliated Faculty	1996-2003
Department Head, Industrial Management Department	1987-1990
Department Head, Economics Department (Acting)	1989
Board of Governors of the Federal Reserve	Washington, DC
Visiting Economist	1984-1986
Harvard University	Cambridge, Massachusetts
Assistant Head Tutor in Economics	1978-1981
Center for Policy Alternatives	Cambridge, Massachusetts
Massachusetts Institute of Technology	1977-1979
Research Staff Economist	

**EDITOR AND PROFESSIONAL PANEL**

Board Member, Society of Labor Economists	2013-present
Bureau of Labor Statistics, Technical Advisory Committee	2011-present
STEP Board, National Academy of Science	2011-present
Editorial Advisory Board Member, <i>Journal of Economic Perspectives</i>	2008-2010
Outside Review Panel, Hass School of Business, University of California, Berkeley	2009
The Conference Board, Evidence-Based HR Research Working Group	2007-2009
Bennett Award Committee (chair), AEA, CSWEP	2008-2009
Mincer Award Committee, Society of Labor Economists	2006-2008
John Dunlop Award Committee, Labor and Employment Relations Associations	2006-2008
Associate Editor, <i>Review of Economics and Statistics</i>	2003-2011
Editor (Associate), <i>Journal of Labor Economics</i>	1999, 2001- 2008
Outside Review Panel, Management and Strategy, Kellogg School, Northwestern University	2006
Outside Review Panel, Economics Research Department, Chicago Federal Reserve	2005
NSF Advisory Panel	1997-1999, 2001-2003
American Compensation Association, Academic Research Committee	1997-1999, 2001-2003
IRRA, Labor Economics Subsection, co-chair	1996-1999
<i>Journal of Regional Science</i> , Associate Editor	1994-1997

**RESEARCH GRANTS**

Alfred P. Sloan Foundation –

“International Differences in the Business Practices and Productivity of Multinational Firms in Advanced Capitalist Countries” January 2003-2009, \$1,000,000

Role: Principal Investigator (with Richard Freeman)

Alfred P. Sloan Foundation –

“Firms, Workers, and Workforce Quality: Implications for Earnings Inequality and Economic Growth,” January 2003-December 2005, \$90,000, principal investigators John Abowd, John Haltiwanger, Julia Lane

Role: subcontract with Limor Golan to study the software industry

Alfred P. Sloan Foundation – Officers’ Planning Grant

“International Differences in the Business Practices and Productivity of Multinational Firms in Advanced Capitalist Countries” June 2002 – December 2002 \$45,000

Role: Principal Investigator (with Richard Freeman, Martin Feldstein)

Russell Sage Foundation

“The Impact of Workplace and Technological Innovations on the Demand for Less-Skilled Labor,” August 1999-September 2002, \$300,000

Role: Principal Investigator (with Ann Bartel, Casey Ichniowski)

Alfred P. Sloan Foundation

“The Impact of Human Resource Management Practices in the Steel Industry,” June 1994 - December 2002, \$700,000.

Role: Principal Investigator (with Casey Ichniowski)

National Science Foundation

“The Effects of Participatory Human Resource Management Practices on Productivity and Quality in U.S. and Japanese Firms,” January 1995-April 1999, \$350,000.

Role: Principal Investigator (with Casey Ichniowski)



Department of Labor

"The Impact of HRM Practices on Performance: An International Perspective," October 1994 - August 1997, \$76,000.

Role: Principal Investigator (with Casey Ichniowski)

National Science Foundation

"The Dynamics of Franchise Contracting," October 1993 - October 1995, \$98,000.

Role: Principal Investigator (with Francine Lafontaine)

Alfred P. Sloan Foundation

"The Impact of Human Resource Management and Labor Relations Practices in the Global Steel Industry," June 1991 - June 1994. Award to project I headed, about \$216,000.

Role: Principle investigator for Human Resource Management component.

W.E. Upjohn Institute for Employment Research

"The Changing Distribution of Family Income and Wealth," January 1991 - June 1992, \$30,000.

Role: Principal Investigator

National Science Foundation

"Empirical Analysis of the Effects of Risk Aversion on the Investment in Human Capital," June 1987 - January 1989, \$27,000.

Role: Principal Investigator

Social Impact of Information and Robotics Technology

Carnegie Mellon University, supporting work on "Individual Adjustment to Structural Change," 1983 - 1984, \$20,000.

Role: Principal Investigator

Doctoral Dissertation Grant, US Department of Labor, 1980-1981

## TEACHING EXPERIENCE

### MBA Courses

Contemporary Economic Policy Stanford University, 2003- present

Making Data Relevant

Data Driven Human Resource Strategy

Managing Talent

Entrepreneurship from the Perspective of Women (pre-term with Garth Saloner)

Human Resource Management Strategy (280, 281, 289)

Productivity and Incentives (with Ed Lazear)

Macroeconomics

Carnegie Mellon University

Internal Strategy of Firms

1981-2003

Topics in Labor Market Analysis

The Changing Global Environment and the Wealth of Nations

### Undergraduate Courses

Managing in the Information Economy

Carnegie Mellon University

Markets, Incentives, and Value

1981-present

Labor Economics

Labor and Manpower

Industrial and Labor Relations  
Intermediate Macroeconomics  
U.S. Labor Policies

Harvard University, 1978-1980

#### Ph.D. Courses

Personnel Economics  
Doctoral Seminar in Labor Economics

Stanford University, 2004-present  
Carnegie Mellon University, 1984

#### Executive Education

GSB Summer Institute (Co-Director)  
Citigroup Executive Program  
Sloan Executive Program  
HR Executive Program  
Alumni Weekend, Events

2004-present

#### STUDENT SUPERVISION

Thesis advisors, Sara Champion (chair), Chris Stanton (chair)  
James Liang, Brianna Cardiff  
Outside Committee Head, Education Dept, Stanford, Anna Mastri  
Outside Committee Head, Economics Dept, Stanford, Kelly Russell  
Ph.D. Thesis Chairman – Zili Zhuang, Brent Boning, Jonathon Gant,  
Linda Christie, Giovanna Prennushi, Mary Ellen Benedict, Renee Fields

2006-present

2006

2005

Carnegie Mellon University  
1986-2003

#### PUBLICATIONS -- Journal Articles

“A Personnel Economics Approach to Productivity Enhancement,” (with Edward Lazear), *Nordic Economic Policy Review*, 2 (2011)

“Insider Econometrics: A Roadmap with Stops Along the Way,” *Labour Economics*, 2009.

“Reaching for the Stars: Who pays for Talent in Innovative Industries?” (with Fredrik Andersson, Matthew Freedman, John Haltiwanger, Julia Lane), *Economic Journal*, 2009.

“Tenure and Output,” (with Edward Lazear), *Labour Economics*, 15 (2008): 710-724.

“Personnel Economics: The Economist’s View of Human Resources,” (with Edward Lazear) *Journal of Economic Perspectives*, 21 (4), (Fall 2007): 91-114.

“How Does Information Technology affect Productivity? Plant-Level Comparisons of Product Innovation, Process Improvement and Worker Skills,” (with Ann Bartel and Casey Ichniowski), *Quarterly Journal of Economics*, 122 (4), (November 2007): 1721-1758.

“Opportunity Counts: Teams and the Effectiveness of Production Incentives,” (with Brent Boning and Casey Ichniowski), *Journal of Labor Economics* 25 (2007): 613-650.

“Targeting Managerial Control: Evidence from Franchising,” (with Francine Lafontaine), *Rand Journal of Economics* 36 (1) (Spring 2005): 131-150.

“Beyond Incentive Pay: Insiders’ Estimates of the Value of Complementary Human Resource Management Practices,” (with Casey Ichniowski), *Journal of Economic Perspectives*, 17 (1) (Winter 2003): 155-178.



“Social Capital and Organizational Change in High-Involvement and Traditional Work Organizations,” (with Jon Gant and Casey Ichniowski), *Journal of Economics and Management Strategy*, 11 (2) Summer 2002: 289-328.

Industrial Change and Wage Inequality: Evidence from the Steel Industry” (with Patricia Beeson and Lara Shore-Sheppard) *Industrial and Labor Relations Review*, 54 (March 2001): 466-483.

“The Dynamics of Franchise Contracting: Evidence from Panel Data” (with Francine Lafontaine) *Journal of Political Economy*, 107 (October 1999): 1041-1080.

Reprinted in *Empirical Industrial Organization*, Paul Joskow and Michael Waterson, Eds., Cheltenham, UK: Edward Elgar Publishing, Ltd., (forthcoming), and in *The International Library of the New Institutional Economics*, Claude Menard, Ed., UK: Edward Elgar Publishing, Ltd., (forthcoming).

“The Effects of Human Resource Systems on Productivity: An International Comparison of U.S. and Japanese Plants” (with Casey Ichniowski) *Management Science*, 45 (May 1999): 704-722.

“The Effects of Human Resource Management Practices on Productivity” (with Casey Ichniowski and Giovanna Prennushi) *American Economic Review*, 86 (June 1997): 291-313.

Reprinted in *Personnel Economics*, Edward P. Lazear and Robert McNabb, Eds., Cheltenham, UK: Edward Elgar Publishing, Ltd., (forthcoming).

“Pensions and Wage Premia” (with Edward Montgomery) *Economic Inquiry*, 35 (July 1997): 510-522.

“Franchising Growth and Franchiser Entry and Exit in the U.S. Market: Myth and Reality” (with Francine Lafontaine), *Journal of Business Venturing*, Special Issue on Franchising (1997).

“An Empirical Analysis of Risk Aversion and Income Growth,” *Journal of Labor Economics*, 14 (October 1996): 626-653.

“Old Dogs and New Tricks: Determinants of the Adoption of Productivity-Enhancing Work Practices” (with Casey Ichniowski) *Brookings Papers on Economic Activity: Microeconomics* (1995): 1-65.

“The Impact of Pension Benefits on the Distribution of Earned Income” (with Mary Ellen Benedict) *Industrial and Labor Relations Review*, 48 (July 1995): 740-757.

“The Life-Cycle Persistence of Female Labor Supply,” *Journal of Human Resources*, 29 (Spring 1994): 348-378.

“The Distribution of Family Income and Benefits” (with Mary Ellen Benedict) *Ohio Journal of Economics and Politics* (1994).

“Unanticipated Aggregate Disturbances and Tests of the Life-Cycle Consumption Model Using Panel Data” (with Randall Mariger) *Review of Economics and Statistics*, 75 (February 1993): 48-56.

“The Life-Cycle Labor Supply of Married Women and its Implications for Household Income Inequality,” *Economic Inquiry*, 30 (October 1992): 659-672.

“Pensions and Wages: An Hedonic Price Theory Approach” (with Edward Montgomery and Mary Ellen Benedict) *International Economics Review*, 33 (February 1992): 111-128.

“The Effects of Skill Investment on Migration and Industry Change,” *Journal of Regional Science*, 31 (November 1991): 397-416.



“Intertemporal Labor Supply and the Distribution of Family Income,” *Review of Economics and Statistics*, 71 (May 1989): 196-205.

“Life-Cycle Labor Supply with Human Capital Accumulation,” *International Economic Review*, 30 (May 1989): 431-456.

“Wage Variability in the 1970's: Sectoral Shifts or Cyclical Sensitivity?” *Review of Economics and Statistics*, 71 (February 1989): 26-36.

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"The Spread of Modern Retail: Implications for Wages," with Brianna Cardiff and Francine Lafontaine (available December 2012)

"Making Do with Less: Why Productivity is Rising During Recessions," with Edward Lazear and Christopher Stanton, January 2012.

"The Value of Bosses," with Edward Lazear and Christopher Stanton, December 2011

"The Teachers Who Leave: Pulled by Opportunity or Pushed by Accountability?" with Sara Champion, September 2011.

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- “Technology Shocks and Problem-Solving Capacity,” March 2002.
- “Productivity in the New Economy,” (speech) September 2000.
- “Innovative Human Resource Practices and Workplace Efficiency,” (speech) July 2000
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- “The Evolution Towards High-Involvement Organizations: Distinguishing Differences in Workers’ Networks,” (with Jon Gant and Casey Ichniowski), April 1999.
- “HRM Practices, Knowledge Capital, and the Changing Access to ‘Good’ Jobs,” June 12, 1998
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## **SERVICE ON COMMITTEES**

### **GSB, Stanford University Committees**

University Committee on Faculty Staff Human Resources (2013- present)  
 Data Center Report (2011-12)  
 Management-X Committee (2011-12)  
 Kenya MBA Study Trip (2012)  
 Academic Coordinating Committee (2010-present)  
 Faculty Liaison GSB Student Newspaper (2010- 2011)  
 University Committee on Evaluation of Human Resources (2009-2010)  
 Committee on Faculty Staff Human Resource (2007-2009)  
 Co-Director, Stanford GSB Summer Institute (2004-present)  
 Philippines MBA Study Trip (2006)

### **Carnegie Mellon University Committees**

Budget and Finance Committee (2002-2003 )  
 Chairman, Faculty Senate (1999)  
 Presidential Review Committee: the Social Sciences (1999)  
 University First Year Council (1996-1999)  
 President's Lecture Series Committee, (1998- 1999)  
 Faculty Affairs Council (1996-1998) (Chair, 1996-1997)  
 Vice-Chairman, Faculty Senate (1998-99)  
 Advising Award Committee (Co-chair) (1994-1997)  
 Advisory Committee for the Undergraduate Teaching Center (1992-1998)  
 Advisory Board of the Center of the Study of African Americans (1994-1998)  
 Executive Committee of the Faculty Senate (1996-1997)  
 Committee on Non-Tenured Appointments (1995-1996)  
 Senator for Faculty Senate (1994-1995)  
 University Parking Committee (1994-1995)  
 University Education Council (with new structure) (1993-1995)  
 Committee on Faculty Promotion and Tenure Policy (1993-1994)  
 Graduate Student Luncheon Series (presentation) (1994)  
 Committee on Flexible Rates for Employees (1994)  
 Selection Committee for University Award for Academic Advising (1993-1994)  
 "97 Network" Orientation (1993)  
 Human Relations Commission (1989-1992)  
 Committee on Academic Support Services (1991-1992)  
 H&SS Dean's Search Committee (1991-1992)  
 Committee on Non-tenured Appointments (1990-1992)  
 Ryan Award Committee (1989-1990) (1991-1992)  
 Teaching Center Orientation presentations (1992)  
 Advisory Committee on Family and Work (1989-1991)  
 Retention Committee (1990-1991)  
 Watson Fellowship Committee (1990-1991)  
 Flexible Benefits Advisory Group (1989-1990)



Educational Facilities Committee (1989-1991)  
Gender Studies Committee, H&SS (1988-1989)  
H&SS Subcommittee on Internships (1988-1989)  
Fulbright Committee (1989-1990)  
University Education Council (1987-1990)  
Associate Deans Council (1987-1990)

**CMU, Graduate School of Industrial Administration, Committees**

MBA Curriculum Review Committee (2003)  
GSIA Executive Education Faculty Advisory Board (2003)  
Faculty MBA Funding Committee (2003)  
Dean's Advisory Committee (2002- )  
Engineering/MBA Planning Committee (chair), (2002- )  
BS/BA Academic Actions Committee (2001- )  
IM Policy Committee (1987-)  
Strategy Recruiting Committee, (2001-2002)  
MBA Curriculum Committee, (2001-2002)  
Co-organizer CMU- University of Pittsburgh Applied Micro Workshop (1995-1999)  
Economics Review Committee (1998)  
Management Game Board (1981-1998, most years)  
Dean's Advisory Council (1997)  
Subcommittee on Sabbaticals (1996)  
GSIA Committee on Women (Chair) (1994-1995)  
Subcommittee Head, Tracks in IM (1992-1993)  
IM Curriculum Review Committee (1991-1992)  
Economics Curriculum Committee (1991-1992)  
Advisory Committee on Undergraduate Economics (1990-1992)

**Organization of Conferences or Sessions**

Conference Co-Organizer, NBER Personnel and Labor Studies, Summer Institute, July 26-27, 2012  
Conference Co-Organizer, NBER Personnel and Labor Studies, Summer Institute, July 28-30, 2011  
Conference Co-Organizer, NBER Personnel and Labor Studies, Summer Institute, July 27-30, 2010  
Conference Organizer, NBER Personnel and Labor Studies, Summer Institute, July 26-30, 2009  
Conference Organizer, NBER Personnel and Labor Studies, Summer Institute, July 30-31, 2008  
Conference Organizer, NBER Personnel and Labor Studies, Summer Institute, July 29-30, 2007  
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Conference Organizer, NBER Summer Institute, Personnel Economics, Cambridge, July 28, 2006.  
Conference Co-Organizer, International Differences in the Business Practices and Productivity of Firms, Stanford University, January 19-20, 2005.  
Conference Co-Organizer, "21<sup>st</sup> Century Human Resource Management Practices and Their Effects on Firms and Workers," University of Illinois, November 11-12 2005.

## Appendix B

<b>Court Documents</b>
Declaration of Steven Burmeister in Support of Defendant's Opposition to Plaintiff's Motion for Class Certification and Exhibits
Declaration of Michelle Maupin in Support of Defendant's Opposition to Plaintiff's Motion for Class Certification and Exhibits
Declaration of Lori McAdams in Support of Defendant's Opposition to Plaintiff's Motion for Class Certification and Exhibits
Declaration of Danny McKell in Support of Opposition to Class Certification and Exhibits
Declaration of Donna Morris of Adobe Systems Inc. in Support of Defendant's Opposition to Plaintiff's Motion for Class Certification and Exhibits
Declaration of Mason Stubblefield and Exhibits
Declaration of Frank Wagner in Support of Defendant's Opposition to Plaintiff's Motion for Class Certification and Exhibits
Deposition of Alvaro Gonzalez Alvarez (March 5, 2013)
Deposition of Rosemary Arriada-Keiper (March 28, 2013)
Deposition of Darrin Baja (March 1, 2013)
Deposition of Dan Batali (March 19, 2013)
Deposition of Richard Bechtel (March 7, 2013)
Deposition of Lori Beck (March 8, 2013)
Deposition of Lazlo Bock (March 27, 2013)
Deposition of Lynwen Brennan (March 19, 2013)
Deposition of Shona Brown (January 20, 2013)
Deposition of Steven Burmeister (March 15, 2013)
Deposition of Micheline Chau (February 21, 2013)
Deposition of Sharon Coker (November 1, 2012)
Deposition of Steven Condiotti (March 20, 2013)
Deposition of Deborah Conrad (November 21, 2012)
Deposition of Tim Cook (March 21, 2013)
Deposition of Brian Croll (March 22, 2013)
Deposition of Chris Galy (March 20, 2013)
Deposition of Kevin Hallock (June 7, 2013)
Deposition of Digby Horner (March 1, 2013)
Deposition of Renee James (March 22, 2013)
Deposition of Bob Mansfield (April 11, 2013)
Deposition of Michelle Maupin (February 12, 2013)
Deposition of Lori McAdams (August 2, 2012)



Deposition of Daniel McKell (March 20, 2013)
Deposition of Donna Morris (August 21, 2012)
Deposition of Paul Otellini (January 29, 2013)
Deposition of Stephanie Sheehy (March 5, 2013)
Deposition of Deborah Streeter (April 5, 2013)
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Exhibit 216, ADOBE 050720
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Exhibit 1855
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Exhibit 2739, INTUIT 043560
Exhibit 2740, INTUIT 052841
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LUCAS00189964
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LUCAS189964



## APPENDIX C

The purpose of this appendix is twofold. It is first to provide evidence that the compensation strategy of these Defendants is a pay for performance philosophy. It is second to highlight multiple key human resource management practices that contribute to making it a pay-for-performance environment.

### Adobe

1. Adobe's compensation policy has always been to pay employees based on their performance and expected future contribution to the company. Declaration of Donna Morris ("Morris Decl.") ¶ 6. This is confirmed by deposition testimony as well as internal HR documents. Arriada-Keiper Dep. 68:18-21, 88:15-25, 105:10-13, 105:18-22, 176:22-177:2, 184:14-185:6; Deposition of Deborah Streeter ("Streeter Dep.") 115:5-7; Deposition of Digby Horner ("Horner Dep.") 190:7-12; Deposition of Donna Morris ("Morris Dep.") 117:20-118:1; Morris Decl. Exhibits 1 – 5. Compensation for individual employees were not determined on a company-wide basis, but were determined by managers, who were in the best position to assess each employee's performance. Morris Decl. ¶¶ 7, 9; Arriada-Keiper Dep. 73:9-15, 87:18-88:1; Streeter Dep. 56:11-14. Managers were trained and encouraged to differentiate compensation among employees based on their assessments of individual performance. Morris Decl. ¶¶ 7-18; Arriada-Keiper Dep. 88:13-25, 89:11-90:4, 105:4-13, 175:24-177:2.

2. Specifically, each year, Adobe conducted an annual review during which every employee was evaluated by his/her manager. Morris Decl. ¶ 10; Streeter Dep. 53:15-54:5. Managers were trained to make salary adjustments for their employees based on these performance evaluations within budgetary confines, while taking into consideration each job code's salary range. Morris Decl. ¶¶ 7-18. The salary ranges did not restrict a manager's discretion, but rather served as guide posts. Arriada-Keiper Dep. 69:2-24. Managers could pay, and did pay, above and below the salary ranges. Arriada-Keiper Dep. 69:12-24. Bonuses and equity grants were also based on individual employee performance. Morris Decl. ¶¶ 23-25;

Arriada-Keiper Dep. 208:23-209:16. Moreover, Adobe trained its managers to pay for performance at the hiring stage. A new hire's compensation lies within the discretion of the hiring manager. Arriada-Keiper Dep. 212:23-213:1. Adobe trained its managers that starting salaries should reflect and differentiate an individual's education and skills in comparison to existing employees. Morris Decl. ¶ 32.

### Apple

3. Apple's philosophy is to compensate employees based on their personal job performance and individual contributions to the company. "Apple's general philosophy has been to compensate its employees based on their individual contributions to the company and differences in their job scope, responsibilities, and experience." Declaration of Steven Burmeister ("Burmeister Decl.") ¶ 3; Deposition of Tim Cook ("Cook Dep.") 96:10-11 ("Apple's built on a meritocracy. We pay for performance, and so that's number one, you know, by a long shot."); Deposition of Bob Mansfield ("Mansfield Dep.") 31:1-12. Individual managers were responsible for setting compensation for each employee in their groups. Burmeister Decl. ¶ 7; Burmeister Dep. 47:13-19, 53:23-54:1, 165:25-166:5. Managers were instructed to consider a variety of factors in setting compensation, including each employee's individual contribution to the team as well as his or her education, professional experience, responsibilities, and job scope. Burmeister Dep. 46:8-14, , 48:19-23, 137:23-138:12. Presentations prepared for Apple managers in September 2006 and July 2007 confirm that compensation decisions must be individualized and based on employee performance. Ex. 1855.103 at 231APPLE095048 (training managers to "differentiate by performance level"); Ex. 1861.6 at 231APPLE105542 ("[compensation] [c]hanges must be commensurate with contribution and performance").

4. Each manager at Apple conducted annual or [REDACTED] performance reviews of employees in his or her group. Burmeister Decl. ¶ 7. Managers received budgets for merit salary increases, stock grants, and bonuses, which they had discretion to allocate among employees in their group. Burmeister Decl. ¶¶ 6-7; Burmeister Dep. 58:8-11 [REDACTED]



[REDACTED]; Mansfield Dep. 30:11-19, 35:19-36:23; Ex. 1861.6 at 231APPLE105542 (“Three core compensation elements help motivate employees. Base salary: to stay competitive. Bonus: to reward outstanding achievement. Stock: to invest in long-term motivation and retention.”).

5. Managers were also provided with recommended salary ranges for each job level, but these guidelines served only as a reference point, and were one of many factors that managers were expected to use to determine individual compensation. Burmeister Dep. 46:3-47:7, 55:13-19, 57:11-20 (“Salaries are awarded based on the individual’s performance. . . . Our salary ranges are reference points. They’re – they’re not hard minimums or hard maximums. Those are purely a reference point. But salaries are truly determined based on an individual one-by-one assessment of the individual.”). Managers could and did set individual base salaries above or below the maximum and minimum salary guidelines for an employee’s job level, based on that employee’s yearly performance and contributions to the group. Burmeister Dep. 57:11-20, 69:1-13, 136:20-138:11.

6. As a result, total compensation varied significantly at Apple, even among employees within the same job level. As a manager states, “if you contribute a lot, you’ll get paid well and you’ll be compensated for your contributions. If you don’t contribute as much, you won’t get paid as much as someone who contributes a lot. So it’s really about merit, and if you are a major contributor, you’ll do very, very well at Apple.” Deposition of Brian Croll (“Croll Dep.”) 190:20-191:2.

### Google

7. Google pays its employees [REDACTED]. Declaration of Frank Wagner (“Wagner Decl.”) ¶¶ 4-5; Wagner Decl. Exhibits A & B (Google compensation presentations dated 2007 and 2009); Deposition of Frank Wagner (“Wagner Dep.”) 28:7-16; Deposition of Laszlo Bock (“Bock Dep.”) 48:25-49:4; Deposition of Shona Brown (“Brown Dep.”) 67:24-68:4. [REDACTED]

[REDACTED]  
[REDACTED] Wagner Decl. ¶ 5. [REDACTED]

[REDACTED]  
[REDACTED] Bock Dep. 48:25-49:4;  
Brown Dep. 68:5-24.

8. Merit-based salary adjustments and promotion salary adjustments are completed annually and are based on an employee's performance during the previous four quarters. Wagner Decl. ¶ 15. [REDACTED]

[REDACTED]  
Wagner Decl. ¶¶ 10, 13. [REDACTED]

[REDACTED]  
[REDACTED] Wagner Decl. ¶ 13. [REDACTED]

[REDACTED]  
[REDACTED] Wagner Dep. 26:22-25, 27:1-6, 29:15-21;  
Brown Dep. 76:5-14; Wagner Decl ¶ 16.

9. [REDACTED] Wagner Dep. 29:7-9.

10. When bonus and equity are considered, [REDACTED]  
[REDACTED] See Wagner Decl. ¶ 30 [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

11. Compensation at Google has always included equity and bonuses, in addition to salary, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED] Wagner Decl. ¶¶ 26-27; Wagner Dep. 131:9-11. [REDACTED]



[REDACTED]

[REDACTED] Wagner Decl. ¶

27. [REDACTED] Wagner Decl.

¶¶ 17-23. [REDACTED]

[REDACTED]

[REDACTED] Wagner Decl. ¶ 21.

**Intel**

12. Compensation at Intel is based on the individual performance of each employee. Deposition of Deborah Conrad (“Conrad Dep.”) 203:7-8. (“The number one criterion for setting compensation is performance and performance to grade, performance versus peers, and performance versus the market”). Deposition of Renee James (“James Dep.”) 244:21-245:7. Meritocracy is one of the five key tenets of Intel’s total compensation philosophy, and is therefore a high priority for Intel. Deposition of Daniel McKell (“McKell Dep.”) 190:1-3.

13. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

14. [REDACTED]

[REDACTED]

[REDACTED]

15. [REDACTED]

[REDACTED]

16. [REDACTED]

[REDACTED]

**Intuit**

17. Deposition testimony from Intuit witnesses demonstrate Intuit’s pay for performance philosophy. As explained by Intuit employee Mason Stubblefield, “[w]e train managers to focus on performance and mak[e] pay decisions based on performance.” Deposition of Mason Stubblefield (“Stubblefield Dep.”) at 109:20-22. Further, “[w]e don’t have any training that focuses on paying anybody the same. All of our focus on training on compensation is paying for performance, and appropriate pay for the person, the skills they bring, and the contribution that they bring.” Stubblefield Dep. 111:1-6. Moreover, Intuit employee Sherry Whiteley explained that Intuit is a “pay-for-performance company” which means that managers are taught that Intuit’s “highest-rated, highest retention people, when you look at their total



compensation, we need to make sure we are rewarding the right people.” Deposition of Sherry Whiteley (“Whiteley Dep.”) at 36:14-19. In this vein, managers are specifically trained to differentiate among employees. Whiteley Dep. 111:8-12.

18. Intuit does not “seek to achieve pay equity or parity among employees” but rather “managers are instructed to set individual salaries based on each employee’s own circumstances.” Stubblefield Decl. ¶ 10, Ex. 19 to Brown Decl. in Support of Defendants’ Opp. to Plaintiffs’ Mtn for Class Cert., Dkt. No. 215. Intuit trains its managers to differentiate. Exhibit 2739.5 (“[U]nderstanding the fundamentals of total rewards will help you, as a leader, differentiate rewards and recognition . . . linking pay decisions to performance outcomes and business strategy.”).

19. Employees’ pay is reviewed on an annual basis, and increases may be awarded based on performance. *Id.* at 2739.9. *See also* Hallock ¶ 164, Exhibit 2740.2 (“Differentiating Performance for Results . . . Differentiating Pay Decisions for Performance”); 2740.23 (“Differentiate AND Meet the Budget”).

20. Moreover, a person’s role at the company is not determinative of their salary. Whiteley Dep. 38:24–39:11 (“Because we’re in so many different business units, [key or important skills] for one business unit in a point in time it might be strategy leaders, and in another business unit that’s facing big marketing challenges, it could be marketing. But it really is about performance, because we have so many different jobs and roles inside the company.”). Intuit does not have salary ranges. Stubblefield, 131:21 [REDACTED].

#### Lucasfilm

21. Lucasfilm’s overall compensation philosophy is to pay for performance, a “practice whereby pay is based on differentiated performance at the individual and business unit level.” LUCAS00062271 (Pay for Performance Toolkit for Managers); *see also* Deposition of Steve Condiotti (“Condiotti Dep.”) 163:25-164:4.

22. Performance is an important factor that determines an individual employee’s compensation at Lucasfilm. Deposition of Micheline Chau (“Chau Dep.”) 119:6-15; Deposition

of Sharon Coker (“Coker Dep.”) 253:23-254:1, 261:16-20; Deposition of Michelle Maupin (“Maupin Dep.”) 39:5-11; 95:6-7; *see also* Deposition of Jan Van der Voort (“Van der Voort Dep.”) 19:17-18 (two components of salary determination are performance and competitive market data). For example, Lucasfilm recruiter Lori Beck testified that all of her salary increases were attributed to good performance and she has never been told that her salary increased for any reason other than performance. Deposition of Lori Beck (“Beck Dep.”) 31:1-32:8.

23. Lucasfilm adjusts employee compensation annually based on performance. An individual’s merit (*i.e.* annual salary) increase and bonus is performance-based and determined by the employee’s manager. The Lucasfilm Board of Directors provides managers with overall compensation budgets as well as general guidelines for merit increases and bonuses, which depend on performance ratings (*e.g.* 6% merit increase for employees with a “distinguished” rating), although managers have discretion to deviate from the Board’s guidelines as long as they stay within their overall budget. Chau Dep. 138:7-140:20; *see also* LUCAS189964 at 69 (compensation records showing that the bonuses for certain employees were 140%, 175%, 160%, and 145% of targets, also noting that one employee was not eligible for a merit increase or bonus “due to Needs Improvement rating”). It means that “[h]igher performing employees receive larger pay increases than lower performing employees.” “Each individual is treated differently” in terms of compensation “depending on how [ ] they perform.” Deposition of Lynwen Brennan (“Brennan Dep.”) 166:20-21.

#### Pixar

24. Pixar believes in a philosophy of pay for performance in its compensation practices. Pixar determines base salary raises based on specific, individual recommendations from employees’ department managers. McAdams Decl. ¶ 21.

25. Salary increases in particular reflect the contribution of the employee. Pixar generally sets the pool for base salary raises at an amount equal to approximately [REDACTED] percent of total salary, but individual managers are given wide discretion to distribute their salary pool among the employees. The determination of each employee’s salary increase generally reflects



the employee's performance, skill and contributions to Pixar. Deposition of Lori McAdams ("McAdams Dep.") 31:2-17; Deposition of Stephanie Sheehy ("Sheehy Dep.") 169:22-170:3 (noting that the "people who were struggling [would probably not receive a █ percent increase]").

26. For example, Dana Batali, Manager of Pixar's RenderMan Team, "ascribe[s] a percentage to each of the members of [his] team according to their performance of the previous year." Deposition of Dana Batali ("Batali Dep.") 43:12-17. Mr. Batali "felt [he] had the discretion [to award more than █ raises], and practiced that discretion regularly." *Id.* at 46:9-47:11.

## APPENDIX D

The purpose of this appendix is to clarify the definition of internal equity as used by each Defendant and to provide examples of its application.

### Adobe

1. At Adobe, the concept of internal equity refers to the act of comparing an individual employee's skills and performance with those of other employees. *See, e.g.*, Arriada-Keiper Dep. 122:9-15; Morris Dep. 148:13-149:8 ("Internal equity is just parity between candidates and employees . . . [it] is about looking at skills and capabilities which are similar," among other factors). Adobe encourages its managers to consider internal equity as one factor when making compensation decisions to ensure that pay is differentiated based on differences in performance and contribution. Arriada-Keiper Dep. 123:19-25; 250:25-251:11; Streeter Dep. 90:1-15; 175:8-13. Thus, the concept of internal equity is applied on an individual basis to differentiate, not at a firm-wide level to equalize compensation. Morris Decl. ¶ 34.

2. The evidence cited by Plaintiffs and Dr. Hallock demonstrates the ways managers considered internal equity when making compensation decisions for individual employees. For example, Dr. Hallock cites to the testimony of Adobe's Senior Vice President of Engineering, Digby Horner, to support his claim that Adobe cared about internal equity. Hallock ¶ 113. But the testimony and evidence shows the concept was applied at the manager level by comparing 10 employees doing similar work (same job code) in deciding the compensation of a specific star employee. Internal equity was not used as a means of adjusting the pay of a group of employees. Horner Dep. 190:15-201:17 ("I want to understand what his performance is relative to that peer community so that I can really, in a data-driven fashion, decide is this guy really a rock star and are we willing to make an exception here because this is an infrequent occurrence . . . it's more about his performance and being able to say, well, what has he done in comparison to some of these other folks, particularly the one on the list here who is a high.").



3. Dr. Hallock also relies on several emails from Donna Morris that contain the phrase internal equity. Similar to Mr. Horner, Ms. Morris considered internal equity when recommending compensation packages for specific individual employees, not as a basis of automatically adjusting the compensation of a group of employees. Exhibit 2501, ADOBE\_009425 (recommending reduction to [REDACTED] base salary increase from 9% to 5% and reduction to [REDACTED] base salary increase from 9% to 7% to align with internal equity); Exhibit 1158, ADOBE\_005661 (recommending compensation offer for a potential new hire, [REDACTED] by comparing him with an existing employee, [REDACTED]); Exhibit 1159, ADOBE\_019278 (recommending promotional compensation packages for [REDACTED] and [REDACTED] based on considerations of the market and internal equity); Exhibit 1160, ADOBE\_009652 (recommending compensation offer for [REDACTED] by, among other things, considering the compensation packages of existing employees). *See also* Arriada-Keiper Dep. 122:14- 123:2 (considering internal equity when deciding the compensation offer for a new hire by comparing expected performance of the new hire with those of existing employees); Exhibit 216 at ADOBE\_050724 (HR document stating internal equity should always be considered when making a counter offer, which is “to be handled on a case by case basis”).

#### Apple

4. At Apple, internal equity is a measure of how individual employees within a particular group are compensated relative to others who share their performance levels and contribution. Baja Dep. 44:2-16; Burmeister Dep. 63:17-21. (“Internal equity means, to me, that what you’re looking at, if you’re looking at compensation, that it’s fair based on the individual’s contribution relative to the other employees in your group, or across your organization, whatever your scope of management is.”)

5. Internal equity is but one of multiple factors that may figure into the decisions of managers in determining the pay of their reports. Burmeister Dep. 64:13-17 (“At Apple, each manager has the latitude to determine what is appropriate to pay an individual . . . for promotional increase. Internal equity may or may not factor into their ultimate decision.”) Apple

was more concerned with rewarding individual performance than making comparisons across employees. Burmeister Dep. 165:25-166:5 (“I would say that Apple, we don't try to control consistency, that we look at the individual's merit, scope of responsibility, achievements, background, and they're always individual decisions.”).

6. The evidence Dr. Hallock cites confirms Apple recruiters were aware of and sometimes considered — as one of many factors — the relative pay of employees with similar experience and job functions when making compensation determinations for new recruits. See Hallock ¶ 120 (“when making an offer to a new hire one of the factors to consider in compensation is internal equity” (citing Deposition of Alvaro “David” Gonzalo Alvarez (“Alvarez Dep.”) 30)), ¶ 122 (noting that looking at what other people were making is “one thing [Apple] would do” when hiring someone onto a team (citing Baja Dep. 43-44)), ¶ 124 (“we’d want to know why we were paying somebody more coming in than somebody who is, you know, their peer that’s performing at a good level. And there have been circumstances that we’ve done that, but there’s been business reasons for it.” (quoting Deposition of Richard Bechtel (“Bechtel Dep.”) 44)). When asked if offering higher pay to new hires might create pressure to pay current employees at the same level, Mr. Bechtel responded, “No. No, I wouldn’t say that.” Bechtel Dep. 45:3-15.

7. Many factors other than internal equity are considered in making individual pay decisions. As Apple recruiting manager David Alvarez noted, “Every situation’s very different. Every manager has different methods that they apply in terms of when they bring on people to their groups.” Alvarez Dep. 208:21-210:25.

8. Likewise, former Apple technical recruiter Darrin Baja testified that the compensation of employees in the group for which he was hiring was “one thing” he would consider when making an offer to a candidate. Hallock ¶ 122 (citing Baja Dep. 44:17-24). Mr. Baja continued, however, that a candidate’s offer would also be determined based on her existing compensation as well as “what this individual could bring to the company as a technical contributor.” Baja Dep. 44:25-45:4.



Google

9. Google uses the term internal equity to mean that people of like contributions should be paid at similar compensation levels. Frank Wagner, Google's Director of Compensation, states that internal equity means "Google employees should receive equitable compensation treatment based on their performance, and that therefore there should be variation in compensation for each employee that corresponds to each employee's performance and contribution to the company relative to other employees." Wagner Decl. ¶ 12.

10. However, internal equity is a little used term at Google. Bock Dep. 47:25-48:1. "In the compensation field, people talk about internal equity, which generally means people – you know, pay should be fair across people. [REDACTED]

[REDACTED]

[REDACTED] Bock Dep. 48:2-9. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Bock Dep.

48:25-49:4. He goes on to say, "You know, fairness is commonly taken to mean, you know, well, everything's equally distributed . . . Within Google [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Bock Dep. 49:6-19.

11. Consistent with Google's definition of "internal equity," [REDACTED]

[REDACTED]

[REDACTED] See, e.g., Wagner Dep. 184:19-185:21 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED], 29:10-21 [REDACTED]

[REDACTED]; Wagner Decl. Ex. A (“Salary Planning 2007 Presentation to Engineering Managers”) at p. 6 ([REDACTED])

[REDACTED] and p. 13 ([REDACTED]).

**Intel**

12. At Intel, internal equity is used to compare people of similar skill levels and as a check on pay for those individuals. James Dep. 242:20-243:14. It is an extension of the concept of pay for performance and is “[a] set of criteria that we use to in aggregate check between different people in the same grade band across a variety of different metrics, performance, pay, equity.” *Id.* 242:20-243:2.

13. Internal equity is but one of many factors that are evaluated when making pay decisions. When asked “Did you think maintaining at some general level principles of internal equity across the workforce at Intel was an important goal?” the response was “I think internal equity is aspirational. I think it is a guideline that helps you look at, you know, apples and oranges data and give you a sense of what’s going on, but we focus on pay for performance.” James Dep. 244:21-245:3. Managers first and foremost look individually at each employee’s compensation based on performance, and take into account how similarly situated employees are being compensated based on their grade level, performance in that grade level, their skill set, and other factors. Conrad Dep. 203:8-10; McKell Dep. 123:2-124:1, 188:1-4.

14. Deborah Conrad, a Vice President and Intel’s Chief Marketing Officer, testified that she has given hundreds of employees raises over time, but that giving one person in her group a raise has not resulted in her raising the compensation for all the other employees in that group. Conrad Dep. 249:19-250:22.

15. [REDACTED]



[REDACTED]

16. [REDACTED]

[REDACTED]

Intuit

17. [REDACTED]

[REDACTED]

[REDACTED] Whiteley Dep. 103:22-104:3. When Stubblefield was asked to define pay equity, he stated that “[i]t’s looking for that – I think it’s looking for that relationship between pay and performance in that your highest performing employee should likely be one of your highest paid employees.” Stubblefield Dep. 117:3-9; *see also* Deposition of Chris Galy (“Galy Dep.”) 202:17-19. Stubblefield further testified, “All our focus in training on

compensation is paying for performance... We specifically train not to focus on internal equity in paying people the same.” Stubblefield Dep 111: 2-7.

18. As in other companies, Intuit is [REDACTED]

[REDACTED] When Galy was asked, [REDACTED]

[REDACTED] he responded [REDACTED]

[REDACTED] Galy Dep. 202:20-203:1. [REDACTED]

[REDACTED] Galy Dep. 209:18-24.

19. The overwhelming majority of documents after 2005 make it clear that Intuit had transitioned away from the traditional concept of internal equity. In a traditional workplace – such as a union environment – internal equity would mean equal pay for all employees. In a high performance workplace that characterizes the high-tech world, pay equity means paying employees commensurate with their contributions. Intuit documents reflect this transition in the meaning of pay equity. Intuit documents contain the oft-repeated phrase “‘Internal Equity’ is not an objective since talent and markets are not equal.” *See, e.g.*, INTUIT\_043603 (2006), INTUIT\_038812 (2007), INTUIT\_018387 (2009). These documents explain that instead of focusing on internal equity, the focus is on a pay for performance philosophy, and that there should be “Differentiating Performance for Results . . . Differentiating Pay Decisions for Performance.” INTUIT\_038812 at 1, 4.

#### **Lucasfilm**

20. At Lucasfilm, internal equity is an issue in evaluating employees relative to their peers. This definition of equity is evident in the many quotes the Dr. Hallock uses in defining equity. He states that Senior Manager of Compensation, Michelle Maupin was asked “Can you explain the significance of peer relationships in setting compensation at Lucasfilm?” she



answered “The significance is to consider individual employees’ pay within a similar job and pay range using the same type of skill sets to appropriately align those employees relative to their peers and to market.” Hallock ¶ 167.

21. As evident from this past quote, equity is but one factor relevant in setting pay. Employees are compensated based on job level,<sup>41</sup> skill set, and performance—not on what other employees are making. Coker Dep. 246:6-14; Maupin Dep. 166:24-167:6.

22. The notion of internal equity does not affect pay policies instituted by Lucasfilm. These policies reflect many other factors. Plaintiffs’ theory that a compensation increase for one employee would put upward pressure on the entire pay structure and raise salaries for every employee is contrary to the facts regarding compensation at Lucasfilm for several reasons.

23. Since compensation was determined on an individual-by-individual basis and was heavily related to performance, giving a raise to one individual would not affect the overall pay structure or even the pay range to which the individual’s job was assigned. Jan Van der Voort, Lucasfilm’s Chief Administrative officer, testified that Lucasfilm’s salary structure provides a range of salary for a particular pay grade and “what you pay an individual does not have any impact on” the salary range for that job. Van der Voort Dep. 204:22-24. Lucasfilm’s pay structure had wide ranges within salary grades (generally 60%) and then multiple levels of grade within a job family. Michelle Maupin, Lucasfilm’s compensation manager testified that it would be “extremely rare” that internal equity would “require adjusting the pay for higher level employees in the same job family where the pay of the lowest employee in the job family increased” because “in a job family you have typically three to four levels and the lowest level would be three to four levels below, obviously, the senior level.” Maupin Dep. 186:13-21. And, conversely, adjustments to Lucasfilm’s overall salary structure did not have a direct effect on

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<sup>41</sup> The salary range for a job level is determined by benchmarking against relevant external market survey data. Van der Voort Dep. 195:25-196:6; Chau Dep. 32:9-33:15, 124:11-125:23; Maupin Dep. 148:25-149:12.

individual compensation because the pay structure and individual compensation moved independently of one another. *Id.* 94:24-95:8.

### Pixar

24. Dr. Hallock does not cite any Pixar documents in which the phrase internal equity is used, in light of this fact, Dr. Hallock points to evidence that Pixar makes peer-to-peer comparisons. Dr. Hallock cites the deposition testimony of Pixar’s Vice President of Human Resources, Lori McAdams. She was asked how Pixar determines the base salary of a new salaried employee and answered: “We look at their experience and education and how we evaluate them against existing employees and—and make them an offer relative to their experience and—and our existing talent.” McAdams Dep. 32:12-15. While McAdams’ testimony indicates that Pixar takes other employees’ salaries, skills and performance into account in setting compensation, the cited testimony as well as other Pixar evidence demonstrates that Pixar is guided much more by an individualized assessment of a particular employee’s specific experience, performance and skill level. *Id.* 31:10-17 (“With an existing employee we evaluate performance, . . . contributions to the studio, [and] the number of projects [they’ve worked on]. . . . And then we look at where they are in the range relative to those things and determine whether they’re in the right place . . . given their performance.”); *id.* 40:25-41:7; Sheehy Dep. 143:20-24 (noting that Pixar analyzes how employees “are performing all along the spectrum from rock star to struggling”); *id.* 169:22-170:3 (noting that, while most employees receive the standard [REDACTED] percent raise, “people who were struggling [would not receive a [REDACTED] percent increase]”); Batali Dep. Tr. 43:12-17 (“I ascribe a percentage to each of the members of my team according to their performance of the previous year.”). *See also* Ex. 1304 (PIX00044225-44229) (a contemporaneous salary increase spreadsheet demonstrating that, in 2006, base salary increases among employees of one Pixar group varied significantly, from as high as 25% to as low as 0%).

25. Second, Dr. Hallock cites an email written by Pixar’s Vice President of Software, Howard Look. In the email, Look describes a proposed “leveling matrix” he has developed “to



give [Pixar] a consistent framework for evaluating the expected contribution of [its] software engineers. It also makes it much easier to compare ourselves against the Radford survey.” Ex. 1309 (PIX00049648). Look continues, “[w]e want to send a clear message to these engineers that we value them at least as much as some new hires who are seeing much more competitive offers from other companies.” *Id.* Contrary to Hallock’s claim that the email describes issues related to internal equity, the email underscores that Pixar’s compensation decisions are guided by benchmarking survey comparisons and based on individual employee contributions.

## Appendix E-1

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
ADOBE		4	4	5	6
ADOBE		15	31	23	49
ADOBE		1	7	1	7
ADOBE		16	28	30	69
ADOBE		14	20	25	37
ADOBE		12	16	16	23
ADOBE		1	3	1	3
ADOBE		3	2	3	3
ADOBE		258	477	546	1,035
ADOBE		238	451	534	1,036
ADOBE		1	1	1	1
ADOBE		2	2	2	2
ADOBE		3	3	3	4
ADOBE		1	1	2	2
ADOBE		4	17	8	27
ADOBE		3	10	4	15
ADOBE		9	11	12	14
ADOBE		17	22	27	34
ADOBE		13	14	17	20
ADOBE		3	2	3	3
ADOBE		6	5	10	15
ADOBE		10	19	20	43
ADOBE		10	9	19	21
ADOBE		33	61	94	159
ADOBE		3	3	5	5
ADOBE		1	1	2	2
ADOBE		3	5	4	6
ADOBE		1	1	1	1
ADOBE		4	3	12	12
ADOBE		2	1	2	2
ADOBE		22	32	44	70
ADOBE		12	12	14	17
ADOBE		2	1	2	2
ADOBE		1	1	1	1
ADOBE		2	3	3	5
ADOBE		1	4	2	5
ADOBE			1		3
ADOBE		28	48	40	81
ADOBE		58	106	100	204
ADOBE		65	138	106	288
ADOBE		40	46	60	84
ADOBE		3	2	4	4
ADOBE		13	18	20	40
ADOBE		4	18	8	39
ADOBE		18	18	28	34
ADOBE		10	13	13	19
ADOBE		8	10	13	18
ADOBE		1	1	1	1
ADOBE		2	3	2	3
ADOBE		75	79	143	185
ADOBE		48	44	81	101
ADOBE		1	1	2	3
ADOBE		11	19	13	22
ADOBE		4	6	5	7
ADOBE		3	3	4	4
ADOBE		37	55	77	115
ADOBE		34	42	59	84
ADOBE		26	38	47	75
ADOBE		20	24	32	44
ADOBE		59	74	94	130
ADOBE		93	121	196	292
ADOBE		88	109	189	312
ADOBE		25	29	43	50
ADOBE		53	56	97	119
ADOBE		43	53	98	139
ADOBE		27	20	55	59
ADOBE		1	3	1	3
ADOBE		3	7	6	12
ADOBE		4	5	5	9
ADOBE		6	14	8	18
ADOBE		5	5	5	5
ADOBE		7	11	7	11
ADOBE		1	1	1	1
ADOBE		7	9	8	16



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
ADOBE		4	3	4	6
ADOBE		21	21	24	29
ADOBE		178	274	308	483
ADOBE		2	2	2	2
ADOBE		4	4	7	7
ADOBE		3	7	5	10
ADOBE		2	2	2	2
ADOBE		2	2	2	4
ADOBE		2	2	5	5
ADOBE		57	57	133	179
ADOBE		1	1	1	1
ADOBE		62	86	114	178
ADOBE		3	4	3	5
ADOBE		1	1	1	1
ADOBE		44	49	97	109
ADOBE		89	96	145	174
ADOBE		107	110	209	251
ADOBE		63	50	125	151
ADOBE		1	2	1	2
ADOBE		1	1	1	1
ADOBE		1	1	1	1
ADOBE		1	1	1	1
ADOBE		5	9	8	15
ADOBE		12	30	18	45
ADOBE		3	6	4	8
ADOBE		86	78	189	246
ADOBE		205	366	485	1,044
ADOBE		4	5	4	7
ADOBE		2	1	3	3
ADOBE		2	4	4	6
ADOBE		4	4	5	5
ADOBE		1	1	1	1
ADOBE		21	24	40	52
ADOBE		1	1	1	1
ADOBE		1	1	1	1
ADOBE		5	8	10	14
ADOBE		5	9	7	14
ADOBE		13	14	22	26
ADOBE		1	1	3	3
ADOBE		2	2	2	2
ADOBE		4	3	5	5
ADOBE		1	1	2	2
ADOBE		6	7	12	18
ADOBE		7	12	10	18
ADOBE		89	122	159	265
ADOBE		31	37	70	91
ADOBE		8	6	13	19
ADOBE		12	19	16	32
ADOBE		10	12	14	20
ADOBE		21	47	64	150
ADOBE		13	8	24	24
ADOBE			4		10
ADOBE		3	5	4	12
ADOBE		2	2	2	3
ADOBE		3	11	4	19
ADOBE			1		1
ADOBE		5	6	6	8
ADOBE		2	2	2	2
ADOBE			1		5
ADOBE		9	12	10	13
ADOBE		112	215	231	483
ADOBE		133	314	334	849
ADOBE		76	97	156	240
ADOBE		12	30	18	47
ADOBE		2	4	3	5
ADOBE		4	2	6	7
ADOBE		22	72	42	179
ADOBE		2	2	2	2
ADOBE		12	21	16	29
ADOBE		17	26	24	40
ADOBE		1	1	2	2
ADOBE		2	10	4	16
ADOBE		8	9	9	14
ADOBE		2	4	6	13

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
ADOBE			1		2
ADOBE		1	1	1	1
ADOBE		1	3	1	3
ADOBE		1	1	1	1
ADOBE		1	5	3	11
ADOBE		6	25	8	33
ADOBE		14	28	21	45
ADOBE		11	28	15	41
ADOBE		8	7	13	14
ADOBE		16	19	25	37
ADOBE		1	2	2	4
ADOBE		1	3	2	5
ADOBE		1	1	1	1
ADOBE		10	10	12	18
ADOBE		25	46	32	73
ADOBE		21	45	29	68
ADOBE		4	7	6	9
ADOBE		3	6	6	11
ADOBE		17	18	30	48
ADOBE		4	1	5	5
ADOBE		2	4	3	6
ADOBE		3	4	3	7
ADOBE		4	7	6	9
ADOBE		8	12	13	19
ADOBE		1	1	1	1
ADOBE		1	2	1	2
ADOBE		6	7	7	9
ADOBE		10	12	11	16
ADOBE		4	3	5	5
ADOBE		5	8	5	9
ADOBE		4	3	4	5
APPLE		3	3	3	3
APPLE		2	3	6	10
APPLE		2	5	8	15
APPLE		2	2	3	3
APPLE		4	2	4	4
APPLE		2	1	3	3
APPLE		11	17	15	27
APPLE		27	55	41	75
APPLE		41	103	63	168
APPLE		31	62	52	92
APPLE		4	4	4	5
APPLE		3	1	5	5
APPLE		6	7	11	12
APPLE		10	14	16	25
APPLE		7	14	14	24
APPLE		2	2	2	2
APPLE		4	2	4	4
APPLE		11	10	20	31
APPLE		8	13	16	35
APPLE		7	8	15	30
APPLE		3	4	6	14
APPLE		2	2	5	9
APPLE		1	1	2	2
APPLE		3	2	6	6
APPLE		1	1	5	5
APPLE		2	5	9	14
APPLE		2	6	6	18
APPLE		4	5	8	10
APPLE		3	3	6	8
APPLE		1	1	1	1
APPLE		1	1	1	1
APPLE		5	3	8	9
APPLE		10	15	19	28
APPLE		6	9	11	15
APPLE		3	2	7	7
APPLE		1	1	1	1
APPLE		1	2	1	2
APPLE		1	7	5	12
APPLE		5	15	12	44
APPLE		2	4	5	9
APPLE		1	1	1	1
APPLE		3	5	7	8
APPLE		2	1	5	5



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
APPLE		2	3	4	6
APPLE		2	1	4	4
APPLE		1	1	2	2
APPLE		7	10	11	16
APPLE		6	10	12	24
APPLE		7	7	14	21
APPLE		2	2	4	4
APPLE		13	17	15	19
APPLE		20	43	29	51
APPLE		22	54	37	76
APPLE		18	31	29	40
APPLE		3	4	3	4
APPLE		2	1	2	2
APPLE		4	8	7	10
APPLE		12	10	15	17
APPLE		4	3	7	7
APPLE		2	1	2	2
APPLE		6	12	21	40
APPLE		6	3	10	10
APPLE		3	2	4	4
APPLE		2	7	5	15
APPLE		6	15	12	33
APPLE		5	12	11	29
APPLE		1	1	1	1
APPLE		2	2	4	4
APPLE		1	1	3	3
APPLE		4	6	7	7
APPLE		33	39	54	78
APPLE		51	79	97	170
APPLE		59	92	126	216
APPLE		40	54	93	149
APPLE		7	6	11	11
APPLE		7	5	11	16
APPLE		13	24	22	36
APPLE		28	36	54	90
APPLE		10	9	16	18
APPLE		2	2	2	2
APPLE		1	1	1	1
APPLE		13	17	24	34
APPLE		3	2	3	3
APPLE		14	15	17	18
APPLE		1	1	1	1
APPLE		4	4	4	4
APPLE		181	331	407	775
APPLE		81	119	146	231
APPLE		9	10	14	17
APPLE		2	1	2	2
APPLE		7	10	14	20
APPLE		6	5	9	9
APPLE		1	1	2	2
APPLE		2	1	5	5
APPLE		1	1	1	1
APPLE		3	2	5	5
APPLE		2	2	4	4
APPLE		2	1	3	3
APPLE		1	1	2	2
APPLE		14	15	22	24
APPLE		24	24	37	53
APPLE		11	10	21	25
APPLE		13	9	26	27
APPLE		20	39	40	61
APPLE		38	52	70	101
APPLE		39	45	79	101
APPLE		6	4	9	10
APPLE		1	1	1	1
APPLE		2	2	4	4
APPLE		57	65	96	116
APPLE		135	216	269	438
APPLE		13	18	14	19
APPLE		3	3	3	3
APPLE		8	9	8	9
APPLE		16	22	16	22
APPLE		5	4	7	7
APPLE		16	28	26	57

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
APPLE		16	26	28	69
APPLE		6	5	9	10
APPLE		3	3	3	3
APPLE		11	12	16	22
APPLE		11	10	14	18
APPLE		2	1	2	2
APPLE		1	1	4	4
APPLE		1	1	1	1
APPLE		1	2	5	10
APPLE		4	5	9	11
APPLE		2	2	4	4
APPLE		1	2	4	8
APPLE		1	1	1	1
APPLE		2	8	4	14
APPLE		1	1	2	2
APPLE		3	3	4	5
APPLE		2	1	4	4
APPLE		2	2	3	3
APPLE		9	14	16	21
APPLE		17	38	33	77
APPLE		19	35	42	73
APPLE		10	16	19	38
APPLE		4	5	9	10
APPLE		1	1	1	1
APPLE		6	5	8	9
APPLE		13	17	29	42
APPLE		29	42	57	87
APPLE		23	32	40	71
APPLE		1	1	1	1
APPLE		3	3	4	4
APPLE		8	14	14	24
APPLE		10	27	25	75
APPLE		6	5	12	13
APPLE		4	4	5	7
APPLE		5	4	9	10
APPLE		23	28	41	51
APPLE		35	60	62	126
APPLE		42	57	77	126
APPLE		21	28	48	63
APPLE		1	1	1	1
APPLE		13	14	20	26
APPLE		15	12	26	30
APPLE		4	8	10	17
APPLE		4	5	10	11
APPLE		6	5	9	9
APPLE		2	2	2	2
APPLE		3	4	7	7
APPLE		8	10	15	20
APPLE		19	41	39	83
APPLE		18	28	31	54
APPLE		6	9	11	15
APPLE		1	1	4	4
APPLE		3	2	4	4
APPLE		2	3	4	8
APPLE		2	3	4	12
APPLE		1	1	1	1
APPLE		1	1	2	2
APPLE		1	3	5	11
APPLE		2	8	7	25
APPLE		1	3	5	12
APPLE		1	1	1	1
APPLE		8	8	12	21
APPLE		33	52	74	119
APPLE		36	58	89	149
APPLE		34	47	89	135
APPLE		1	1	5	5
APPLE		1	1	5	5
APPLE		1	1	2	2
APPLE		4	9	8	19
APPLE		5	6	9	11
APPLE		2	3	5	5
APPLE		2	2	3	3
APPLE		1	1	3	3
APPLE		1	1	3	3



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
APPLE		2	2	4	4
APPLE		1	1	2	2
APPLE		2	1	2	2
APPLE		7	8	11	11
APPLE		31	51	54	124
APPLE		27	61	61	133
APPLE		18	24	40	56
APPLE		2	2	2	2
APPLE		1	1	3	3
APPLE		16	21	29	38
APPLE		42	81	93	166
APPLE		25	34	44	55
APPLE		1	1	1	1
APPLE		3	8	6	12
APPLE		7	32	15	58
APPLE		10	18	18	34
APPLE		1	1	3	3
APPLE		1	1	3	3
APPLE		1	1	1	1
APPLE		3	2	5	5
APPLE		4	2	5	5
APPLE		19	24	33	46
APPLE		21	27	41	58
APPLE		29	44	53	97
APPLE		15	19	35	45
APPLE		1	2	3	4
APPLE		2	2	3	3
APPLE		8	9	14	15
APPLE		9	12	15	20
APPLE		4	8	10	21
APPLE		2	2	3	6
APPLE		6	5	8	10
APPLE		10	13	20	38
APPLE		13	30	26	76
APPLE		6	11	9	18
APPLE		1	1	2	2
APPLE		1	1	2	2
APPLE		2	1	3	3
APPLE		2	3	4	5
APPLE		2	4	5	9
APPLE		2	2	4	4
APPLE		2	5	4	7
APPLE		4	11	9	27
APPLE		1	1	2	2
APPLE		1	3	2	6
APPLE		2	4	6	11
APPLE		1	3	3	5
APPLE		1	6	5	13
APPLE		1	10	5	26
APPLE		1	4	5	14
APPLE		4	3	6	6
APPLE		15	25	30	40
APPLE		35	86	65	143
APPLE		42	87	86	161
APPLE		26	40	41	60
APPLE		3	3	4	4
APPLE		4	9	9	17
APPLE		9	17	17	30
APPLE		11	15	21	32
APPLE		7	12	17	26
APPLE		2	2	4	4
APPLE		5	4	13	13
APPLE		2	1	3	3
APPLE		1	1	1	1
APPLE		6	4	9	11
APPLE		2	1	4	4
APPLE		3	2	4	4
APPLE		3	8	3	10
APPLE		14	12	25	28
APPLE		23	36	49	81
APPLE		4	6	7	12
APPLE		5	4	7	7
APPLE		5	3	6	6
APPLE		15	17	21	36

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
APPLE		6	6	9	11
APPLE		2	2	2	2
APPLE		5	2	5	5
APPLE		15	17	27	43
APPLE		28	51	49	97
APPLE		9	7	15	22
APPLE		2	2	2	2
APPLE		2	3	2	4
APPLE		9	9	12	14
APPLE		7	8	10	12
APPLE		2	1	2	2
APPLE		1	1	1	1
APPLE		2	2	2	2
APPLE		4	4	5	7
APPLE		5	4	7	7
APPLE		1	1	3	3
APPLE		1	1	1	1
APPLE		2	2	10	10
APPLE		4	8	9	16
APPLE		8	16	20	41
APPLE		10	14	22	35
APPLE		2	2	4	4
APPLE		3	4	6	7
APPLE		1	2	5	10
APPLE		1	1	1	1
APPLE		3	5	5	7
APPLE		2	4	4	7
APPLE		1	1	1	1
APPLE		8	7	10	10
APPLE		10	10	15	19
APPLE		12	12	17	18
APPLE		8	6	11	13
APPLE		5	5	5	5
APPLE		16	17	22	22
APPLE		62	91	101	135
APPLE		132	239	279	529
APPLE		141	325	320	809
APPLE		90	113	186	286
APPLE		14	9	34	36
APPLE		12	9	20	21
APPLE		29	34	50	63
APPLE		57	83	118	199
APPLE		64	115	148	309
APPLE		41	64	94	176
APPLE		3	8	10	17
APPLE		1	1	1	1
APPLE		1	1	1	1
APPLE		1	1	1	1
APPLE		21	30	37	42
APPLE		86	242	228	572
APPLE		106	314	280	761
APPLE		79	130	182	317
APPLE		11	16	19	27
APPLE		1	2	2	4
APPLE		2	6	2	11
APPLE		1	3	1	3
APPLE		1	2	1	2
APPLE		10	6	11	15
APPLE		5	4	6	6
APPLE		14	13	21	30
APPLE		2	1	3	3
APPLE		2	2	2	2
APPLE		1	1	2	2
APPLE		3	6	6	10
APPLE		6	14	26	42
APPLE		7	20	26	73
APPLE		2	1	4	4
APPLE		3	3	3	3
APPLE		60	76	77	87
APPLE		192	409	389	729
APPLE		272	694	684	1,643
APPLE		243	575	582	1,500
APPLE		120	140	271	391
APPLE		22	19	38	39



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
APPLE		47	69	82	113
APPLE		75	165	205	365
APPLE		54	106	153	275
APPLE		22	28	50	61
APPLE		1	1	2	2
APPLE		5	7	10	11
APPLE		21	32	47	78
APPLE		30	36	49	58
APPLE		47	64	91	141
APPLE		42	65	99	177
APPLE		6	8	19	24
APPLE		22	34	46	85
APPLE		5	4	7	7
APPLE		20	23	35	50
APPLE		20	22	32	45
APPLE		10	18	26	48
APPLE		3	2	6	6
APPLE		38	63	86	163
APPLE		36	47	79	130
APPLE		17	13	33	33
APPLE		3	2	3	3
APPLE		1	1	1	1
APPLE		4	2	6	6
APPLE		9	13	20	35
APPLE		10	16	27	35
APPLE		9	14	24	35
APPLE		3	2	7	7
APPLE		1	1	4	4
APPLE		3	3	7	8
APPLE		33	97	87	272
APPLE		3	4	9	14
APPLE		7	9	11	13
APPLE		12	28	31	95
APPLE		2	1	4	4
APPLE		1	1	1	1
APPLE		1	1	1	1
APPLE		4	2	6	6
APPLE		10	10	16	21
APPLE		17	24	43	55
APPLE		13	41	35	96
APPLE		6	11	10	18
APPLE		1	1	1	1
APPLE		1	1	4	4
APPLE		8	14	21	29
APPLE		4	7	8	22
APPLE		2	1	5	5
APPLE		3	1	4	4
APPLE		4	6	5	7
APPLE		8	7	19	19
APPLE		1	1	4	4
APPLE		2	4	3	5
APPLE		10	16	18	35
APPLE		14	27	36	66
APPLE		12	34	42	100
APPLE		7	14	24	52
APPLE		1	1	1	1
APPLE		4	4	13	13
APPLE		9	7	18	20
APPLE		2	2	5	5
APPLE		1	1	5	5
APPLE		2	2	5	5
APPLE		1	1	5	5
APPLE		1	1	1	1
APPLE		1	1	3	3
APPLE		1	3	5	13
APPLE		3	2	5	5
APPLE		3	3	4	4
APPLE		7	12	21	28
APPLE		5	10	12	22
APPLE		1	2	2	4
APPLE		6	4	8	8
APPLE		5	3	10	10
APPLE		2	1	4	4
APPLE		1	1	5	5



















**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		3	6	3	6
INTEL		3	3	3	3
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		5	4	5	5
INTEL		4	4	4	4
INTEL		2	2	2	2
INTEL		1	1	1	1
INTEL		55	124	103	251
INTEL		72	207	173	475
INTEL		79	210	182	526
INTEL		72	118	153	285
INTEL		29	32	54	71
INTEL		9	7	14	16
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		12	12	19	24
INTEL		20	30	34	58
INTEL		33	64	63	141
INTEL		44	106	96	287
INTEL		29	55	70	141
INTEL		14	14	32	39
INTEL		3	4	3	4
INTEL		3	5	3	5
INTEL		2	2	2	2
INTEL		5	6	5	6
INTEL		4	6	4	6
INTEL		4	7	4	7
INTEL		3	3	4	4
INTEL		20	15	29	30
INTEL		81	106	121	188
INTEL		117	140	182	266
INTEL		139	219	235	411
INTEL		108	134	169	240
INTEL		49	54	79	97
INTEL		5	2	5	5
INTEL		2	2	2	2
INTEL		3	3	3	3
INTEL		5	6	6	14
INTEL		3	4	4	5
INTEL		2	2	2	2
INTEL		3	3	3	3
INTEL		3	3	3	3
INTEL		8	19	8	19
INTEL		13	24	13	24
INTEL		16	30	16	30
INTEL		19	31	19	31
INTEL		7	8	7	8
INTEL		48	46	69	75
INTEL		1	1	1	1
INTEL		1	1	2	2
INTEL		287	376	502	681
INTEL		805	1,610	1,695	3,688
INTEL		969	1,864	2,142	4,438
INTEL		1,074	2,258	2,557	5,983
INTEL		918	1,711	2,228	4,597
INTEL		604	945	1,451	2,782
INTEL		4	9	9	26
INTEL		2	2	5	5
INTEL		19	23	28	38
INTEL		32	51	57	106
INTEL		59	89	106	234
INTEL		65	149	145	428
INTEL		45	88	103	230
INTEL		23	35	46	98
INTEL		3	5	5	14
INTEL		5	5	6	6
INTEL		12	21	16	32
INTEL		20	32	27	57
INTEL		21	48	33	107
INTEL		4	6	7	12
INTEL		3	7	5	11
INTEL		5	4	6	6
INTEL		7	11	10	23



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		2	2	3	3
INTEL		2	2	2	2
INTEL		7	8	11	12
INTEL		14	12	18	23
INTEL		47	51	76	114
INTEL		69	76	120	199
INTEL		24	19	45	61
INTEL		22	18	31	38
INTEL		21	24	26	46
INTEL		33	36	50	78
INTEL		34	43	56	102
INTEL		8	9	15	16
INTEL		2	2	2	2
INTEL		3	5	4	6
INTEL		4	5	4	5
INTEL		4	5	5	6
INTEL		2	2	2	2
INTEL		8	9	8	9
INTEL		12	18	12	18
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		3	2	7	8
INTEL		1	2	1	2
INTEL		3	5	4	10
INTEL		4	10	5	14
INTEL		6	7	9	15
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		10	7	13	16
INTEL		8	8	10	16
INTEL		3	3	3	3
INTEL		18	18	25	28
INTEL		34	39	42	48
INTEL		31	30	41	43
INTEL		41	41	63	72
INTEL		39	34	58	65
INTEL		20	18	33	38
INTEL		1	2	1	2
INTEL		3	3	4	4
INTEL		16	24	29	47
INTEL		1	1	1	1
INTEL		433	653	1,007	1,835
INTEL		149	237	388	712
INTEL		42	48	91	141
INTEL		8	8	21	25
INTEL		2	2	2	2
INTEL		11	13	17	22
INTEL		67	70	88	110
INTEL		338	506	602	965
INTEL		627	988	1,285	2,201
INTEL		729	1,140	1,594	2,801
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		73	156	187	457
INTEL		24	47	78	143
INTEL		6	23	21	77
INTEL		1	1	2	2
INTEL		17	21	28	32
INTEL		79	114	156	210
INTEL		172	297	372	611
INTEL		151	305	355	780
INTEL		1	1	2	2
INTEL		2	2	6	6
INTEL		2	2	6	10
INTEL		1	1	1	1
INTEL		18	15	26	28
INTEL		3	2	6	6
INTEL		2	1	2	2
INTEL		4	4	4	6
INTEL		51	54	70	116
INTEL		85	121	141	303
INTEL		60	83	113	200

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		6	4	8	8
INTEL		19	23	24	35
INTEL		20	19	26	31
INTEL		14	18	17	21
INTEL		10	11	11	13
INTEL		15	15	24	28
INTEL		33	41	72	102
INTEL		37	36	69	95
INTEL		37	50	75	130
INTEL		15	22	37	64
INTEL		3	3	7	7
INTEL		2	2	2	2
INTEL		7	12	7	12
INTEL		6	7	6	7
INTEL		15	21	15	21
INTEL		8	9	8	9
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		5	5	8	8
INTEL		14	17	22	29
INTEL		28	49	58	110
INTEL		37	88	87	253
INTEL		21	22	44	62
INTEL		1	1	2	2
INTEL		1	1	1	1
INTEL		2	3	2	4
INTEL		6	18	12	38
INTEL		7	22	15	46
INTEL		7	9	14	22
INTEL		1	1	3	3
INTEL		1	1	1	1
INTEL		2	2	2	2
INTEL		2	2	2	2
INTEL		26	34	44	73
INTEL		2	2	2	2
INTEL		2	2	3	3
INTEL		1	1	1	1
INTEL		4	4	6	7
INTEL		4	5	7	9
INTEL		6	3	7	7
INTEL		1	1	2	2
INTEL		4	4	5	5
INTEL		12	15	17	21
INTEL		23	24	35	45
INTEL		23	26	33	44
INTEL		20	36	34	68
INTEL		9	20	17	38
INTEL		3	3	3	3
INTEL		4	6	4	6
INTEL		3	4	3	4
INTEL		3	4	5	11
INTEL		21	21	30	39
INTEL		36	66	58	115
INTEL		46	82	74	150
INTEL		53	113	94	221
INTEL		43	67	75	142
INTEL		27	41	41	79
INTEL		1	1	1	1
INTEL		6	9	6	9
INTEL		5	7	5	7
INTEL		2	3	2	3
INTEL		13	17	20	26
INTEL		2	3	3	4
INTEL		101	117	165	218
INTEL		193	279	362	578
INTEL		240	333	445	724
INTEL		274	374	521	888
INTEL		220	273	429	661
INTEL		125	135	232	339
INTEL		4	3	4	4
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		1	1	1	1



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		1	1	1	1
INTEL		12	8	14	16
INTEL		23	22	31	57
INTEL		27	37	45	78
INTEL		17	19	29	47
INTEL		9	7	13	15
INTEL		5	4	7	10
INTEL		9	7	13	17
INTEL		10	7	13	15
INTEL		6	5	10	10
INTEL		1	1	4	4
INTEL		56	72	95	143
INTEL		113	185	204	395
INTEL		119	166	220	393
INTEL		92	115	170	260
INTEL		29	28	56	62
INTEL		5	4	8	8
INTEL		2	3	4	4
INTEL		4	4	5	5
INTEL		16	23	23	34
INTEL		27	29	42	66
INTEL		28	18	43	45
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		3	3	3	3
INTEL		5	8	6	8
INTEL		4	8	4	8
INTEL		4	4	4	4
INTEL		4	5	6	7
INTEL		22	24	23	28
INTEL		53	70	59	93
INTEL		46	57	50	71
INTEL		20	26	24	35
INTEL		1	1	1	1
INTEL		9	10	13	21
INTEL		1	1	1	1
INTEL		43	47	47	64
INTEL		102	126	115	164
INTEL		143	214	165	300
INTEL		113	180	129	241
INTEL		36	41	41	53
INTEL		4	4	4	4
INTEL		87	136	183	354
INTEL		28	46	57	130
INTEL		8	13	14	37
INTEL		3	3	5	5
INTEL		2	4	2	4
INTEL		9	11	12	16
INTEL		28	37	40	54
INTEL		145	222	246	375
INTEL		242	396	451	819
INTEL		196	318	395	794
INTEL		56	58	131	195
INTEL		2	3	2	3
INTEL		8	13	8	13
INTEL		3	7	3	7
INTEL		4	4	4	4
INTEL		2	3	2	3
INTEL		3	7	3	7
INTEL		2	2	2	2
INTEL		1	1	1	1
INTEL		1	1	2	2
INTEL		49	119	83	232
INTEL		86	152	153	352
INTEL		81	122	150	305
INTEL		36	49	71	118
INTEL		14	11	26	33
INTEL		1	1	1	1
INTEL		3	4	3	4
INTEL		22	36	22	36
INTEL		32	73	32	73
INTEL		28	50	28	50
INTEL		12	14	13	15
INTEL		6	7	6	7

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		2	3	2	3
INTEL		6	6	6	6
INTEL		3	3	3	3
INTEL		39	39	63	79
INTEL		47	71	96	140
INTEL		66	101	132	255
INTEL		58	55	108	145
INTEL		18	16	30	32
INTEL		5	4	10	10
INTEL		1	1	3	3
INTEL		5	6	5	7
INTEL		5	7	9	11
INTEL		3	1	4	4
INTEL		2	2	3	3
INTEL		1	1	1	1
INTEL		8	9	13	16
INTEL		10	8	17	20
INTEL		1	1	1	1
INTEL		2	1	2	2
INTEL		35	31	58	72
INTEL		16	17	27	37
INTEL		3	3	5	6
INTEL		1	1	1	1
INTEL		2	1	2	2
INTEL		4	3	4	4
INTEL		17	14	18	22
INTEL		31	32	36	52
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		2	2	2	2
INTEL		1	2	1	2
INTEL		1	1	2	2
INTEL		45	50	84	128
INTEL		111	170	216	417
INTEL		175	312	395	1,020
INTEL		227	385	514	1,497
INTEL		1	1	1	1
INTEL		7	8	14	15
INTEL		8	13	17	22
INTEL		14	32	37	80
INTEL		14	24	30	58
INTEL		5	5	8	10
INTEL		24	24	37	48
INTEL		48	47	69	88
INTEL		77	98	133	224
INTEL		95	104	165	263
INTEL		52	51	89	117
INTEL		18	15	28	30
INTEL		6	4	6	6
INTEL		17	21	33	42
INTEL		22	29	53	65
INTEL		28	42	58	113
INTEL		33	41	66	112
INTEL		4	5	10	12
INTEL		1	1	1	1
INTEL		43	58	54	86
INTEL		100	272	135	464
INTEL		169	391	251	731
INTEL		97	117	150	258
INTEL		91	136	154	253
INTEL		159	329	296	679
INTEL		172	353	327	879
INTEL		90	91	160	234
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		4	8	11	18
INTEL		10	18	22	34
INTEL		11	19	19	44
INTEL		23	27	39	62
INTEL		16	17	28	39
INTEL		11	10	17	26
INTEL		3	3	3	3
INTEL		1	1	3	3



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		25	30	47	67
INTEL		49	107	109	255
INTEL		73	148	149	349
INTEL		90	159	168	363
INTEL		56	86	101	180
INTEL		26	33	47	69
INTEL		19	24	29	52
INTEL		42	61	75	155
INTEL		62	87	117	252
INTEL		45	78	106	225
INTEL		20	36	47	118
INTEL		6	8	16	20
INTEL		1	1	2	2
INTEL		1	1	1	1
INTEL		2	8	4	11
INTEL		4	5	5	9
INTEL		10	19	20	47
INTEL		5	7	12	16
INTEL		4	4	7	9
INTEL		5	5	8	8
INTEL		5	4	6	7
INTEL		6	6	6	6
INTEL		8	8	11	12
INTEL		9	9	11	12
INTEL		14	14	17	21
INTEL		8	7	12	12
INTEL		1	1	1	1
INTEL		16	14	22	22
INTEL		5	6	7	9
INTEL		11	11	15	18
INTEL		7	8	10	14
INTEL		11	15	19	28
INTEL		3	3	7	7
INTEL		2	2	3	3
INTEL		1	1	1	1
INTEL		21	26	38	50
INTEL		63	95	108	187
INTEL		60	80	119	178
INTEL		114	259	253	697
INTEL		72	108	149	233
INTEL		20	21	43	52
INTEL		25	23	36	40
INTEL		40	55	60	96
INTEL		50	77	89	168
INTEL		64	90	120	199
INTEL		32	47	53	98
INTEL		23	19	39	46
INTEL		18	17	32	34
INTEL		3	4	6	6
INTEL		1	1	1	1
INTEL		6	6	7	9
INTEL		16	15	25	31
INTEL		38	45	57	83
INTEL		70	91	120	204
INTEL		2	2	2	2
INTEL		3	2	6	7
INTEL		2	2	3	3
INTEL		1	1	1	1
INTEL		1	2	1	2
INTEL		2	4	5	9
INTEL		4	3	6	6
INTEL		4	2	4	4
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		4	2	4	4
INTEL		3	2	3	3
INTEL		1	1	1	1
INTEL		2	2	2	2
INTEL		4	7	5	9
INTEL		8	5	9	12
INTEL		5	3	7	8
INTEL		1	1	1	1
INTEL		2	1	2	2
INTEL		2	2	2	2

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		6	5	9	11
INTEL		697	816	1,703	2,789
INTEL		206	212	509	715
INTEL		1	1	1	1
INTEL		4	2	4	4
INTEL		2	2	2	2
INTEL		1	1	2	2
INTEL		1	2	1	2
INTEL		255	362	452	682
INTEL		395	826	834	1,794
INTEL		403	725	830	1,669
INTEL		419	656	860	1,585
INTEL		249	277	415	592
INTEL		78	83	143	186
INTEL		2	2	3	3
INTEL		12	20	17	30
INTEL		19	22	24	37
INTEL		16	24	21	40
INTEL		10	12	15	19
INTEL		5	4	5	5
INTEL		6	6	7	7
INTEL		80	86	128	169
INTEL		221	293	421	678
INTEL		272	332	503	768
INTEL		438	1,215	993	2,815
INTEL		275	466	595	1,068
INTEL		97	121	191	278
INTEL		9	7	13	13
INTEL		141	186	246	364
INTEL		265	508	536	1,185
INTEL		254	461	552	1,088
INTEL		269	438	583	1,122
INTEL		199	259	426	693
INTEL		76	90	163	238
INTEL		4	4	8	8
INTEL		1	1	1	1
INTEL		23	36	37	58
INTEL		43	63	73	123
INTEL		42	58	77	114
INTEL		40	46	74	96
INTEL		47	44	63	86
INTEL		20	13	27	27
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		4	4	4	4
INTEL		6	8	6	8
INTEL		1	1	1	1
INTEL		49	55	82	126
INTEL		25	26	51	60
INTEL		6	5	11	11
INTEL		8	9	11	14
INTEL		26	23	31	35
INTEL		62	79	99	151
INTEL		2	3	2	3
INTEL		4	5	4	5
INTEL		22	33	22	33
INTEL		24	34	24	34
INTEL		9	12	9	12
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		2	2	3	3
INTEL		3	2	4	4
INTEL		5	4	6	7
INTEL		24	38	39	69
INTEL		35	42	50	74
INTEL		17	25	26	43
INTEL		31	23	48	52
INTEL		181	186	337	422
INTEL		18	21	42	63
INTEL		1	1	1	1
INTEL		2	2	2	2
INTEL		34	30	46	54
INTEL		139	141	212	253
INTEL		349	394	568	821



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		662	832	1,110	1,825
INTEL		734	913	1,334	2,150
INTEL		510	548	972	1,360
INTEL		1	1	2	2
INTEL		2	2	2	2
INTEL		4	4	4	4
INTEL		69	260	128	490
INTEL		66	108	117	211
INTEL		24	48	44	95
INTEL		11	10	17	17
INTEL		31	30	56	61
INTEL		49	43	75	89
INTEL		74	71	115	147
INTEL		48	42	72	97
INTEL		10	8	11	11
INTEL		1	1	2	2
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		3	2	4	4
INTEL		3	3	5	5
INTEL		3	3	4	4
INTEL		8	8	8	8
INTEL		15	18	15	18
INTEL		21	32	21	32
INTEL		28	51	28	51
INTEL		20	29	20	29
INTEL		2	2	2	2
INTEL		3	3	3	3
INTEL		1	2	1	2
INTEL		13	16	22	30
INTEL		45	54	74	105
INTEL		66	70	109	151
INTEL		81	140	162	314
INTEL		78	112	154	270
INTEL		21	24	53	61
INTEL		21	20	32	35
INTEL		7	4	7	7
INTEL		2	2	2	2
INTEL		4	3	5	5
INTEL		8	6	11	11
INTEL		124	204	250	478
INTEL		126	196	271	478
INTEL		1	1	1	1
INTEL		135	189	315	540
INTEL		1	1	1	1
INTEL		2	2	2	2
INTEL		6	30	14	71
INTEL		5	14	14	32
INTEL		4	7	9	20
INTEL		2	1	3	4
INTEL		6	2	7	7
INTEL		3	3	6	6
INTEL		15	13	22	27
INTEL		14	19	21	47
INTEL		10	12	21	33
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		5	85	14	91
INTEL		11	69	21	79
INTEL		2	2	2	2
INTEL		9	14	17	23
INTEL		11	9	17	17
INTEL		25	37	43	72
INTEL		34	59	66	157
INTEL		42	65	81	168
INTEL		26	36	49	90
INTEL		5	7	11	16
INTEL		12	11	31	43
INTEL		38	29	51	55
INTEL		5	4	6	9
INTEL		282	296	431	562
INTEL		606	959	1,130	2,027
INTEL		832	1,322	1,597	3,069
INTEL		945	1,636	1,954	4,103

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		784	1,144	1,634	3,032
INTEL		398	520	865	1,412
INTEL		17	18	24	34
INTEL		43	59	67	140
INTEL		37	60	64	139
INTEL		39	38	70	94
INTEL		17	13	24	33
INTEL		7	5	8	9
INTEL		11	16	19	40
INTEL		12	15	20	31
INTEL		5	8	12	14
INTEL		1	1	2	2
INTEL		2	2	3	3
INTEL		21	24	37	44
INTEL		5	5	9	9
INTEL		1	1	2	2
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		3	3	3	3
INTEL		27	35	37	58
INTEL		46	75	89	148
INTEL		68	100	114	207
INTEL		18	17	23	33
INTEL		6	4	8	8
INTEL		1	1	2	2
INTEL		6	5	9	9
INTEL		17	21	27	38
INTEL		1	2	1	2
INTEL		14	12	20	21
INTEL		28	31	39	74
INTEL		22	40	37	75
INTEL		22	34	37	75
INTEL		7	8	11	21
INTEL		3	2	3	3
INTEL		58	68	89	125
INTEL		154	194	260	412
INTEL			1		1
INTEL		187	337	335	758
INTEL		200	335	345	799
INTEL		87	94	143	208
INTEL		8	7	9	10
INTEL		11	10	14	19
INTEL		40	45	65	81
INTEL		83	99	132	191
INTEL		112	137	179	287
INTEL		143	176	240	351
INTEL		134	160	237	354
INTEL		92	107	164	244
INTEL		2	4	5	9
INTEL		51	70	77	117
INTEL		107	173	219	386
INTEL		140	320	300	821
INTEL		137	282	313	777
INTEL		83	106	184	283
INTEL		17	20	33	50
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		28	32	40	55
INTEL		49	81	82	159
INTEL		57	88	99	183
INTEL		65	78	98	158
INTEL		38	40	61	85
INTEL		8	10	12	20
INTEL		3	4	3	4
INTEL		12	15	12	15
INTEL		9	13	9	13
INTEL		30	46	30	46
INTEL		17	22	17	22
INTEL		7	8	7	8
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		2	2	2	2
INTEL		1	1	1	1
INTEL		1	1	1	1



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		2	1	2	2
INTEL		2	3	2	4
INTEL		9	13	21	33
INTEL		9	15	20	40
INTEL		1	1	2	2
INTEL		4	4	6	6
INTEL		2	2	3	3
INTEL		10	9	12	13
INTEL		18	16	28	29
INTEL		1	1	2	2
INTEL		5	3	7	7
INTEL		19	30	43	70
INTEL		12	15	21	32
INTEL		9	6	11	11
INTEL		2	1	2	2
INTEL		41	35	54	65
INTEL		126	154	194	281
INTEL		229	336	408	754
INTEL		282	404	515	1,015
INTEL		219	269	398	648
INTEL		97	90	170	221
INTEL		32	26	56	62
INTEL		5	5	11	11
INTEL		3	4	3	4
INTEL		24	26	31	38
INTEL		55	85	107	182
INTEL		57	63	101	142
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		2	2	2	2
INTEL		1	1	2	2
INTEL		2	1	2	2
INTEL		2	2	2	2
INTEL		4	4	5	7
INTEL		5	4	6	7
INTEL		6	6	10	13
INTEL		13	22	24	39
INTEL		18	34	40	89
INTEL		18	34	41	78
INTEL		4	5	8	12
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		2	1	2	2
INTEL		7	5	10	10
INTEL		9	8	11	13
INTEL		5	12	9	22
INTEL		2	2	2	2
INTEL		2	3	2	3
INTEL		4	5	4	5
INTEL		2	2	2	2
INTEL		1	1	1	1
INTEL		22	15	27	33
INTEL		6	5	8	14
INTEL		6	8	8	10
INTEL		25	26	38	47
INTEL		60	65	84	140
INTEL		45	52	66	122
INTEL		18	17	32	40
INTEL		1	1	1	1
INTEL		5	6	5	6
INTEL		14	22	14	22
INTEL		11	21	11	21
INTEL		5	4	8	8
INTEL		6	6	13	15
INTEL		3	3	7	10
INTEL		1	1	3	3
INTEL		31	38	51	61
INTEL		62	76	107	157
INTEL		65	78	117	165
INTEL		56	61	97	132
INTEL		17	19	30	36
INTEL		4	4	8	11
INTEL		1	1	1	1
INTEL		16	15	26	34

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTEL		50	58	87	129
INTEL		68	84	121	174
INTEL		57	152	137	362
INTEL		44	70	95	168
INTEL		16	24	34	65
INTEL		1	1	1	1
INTEL		6	6	8	10
INTEL		15	16	16	24
INTEL		17	16	18	23
INTEL		14	16	18	22
INTEL		2	2	2	2
INTEL		3	2	3	3
INTEL		1	1	1	1
INTEL		3	3	3	3
INTEL		17	13	19	21
INTEL		17	15	18	19
INTEL		27	21	34	39
INTEL		12	11	20	21
INTEL		1	1	1	1
INTEL		1	1	1	1
INTEL		31	27	42	50
INTEL		50	80	101	160
INTEL		1	1	1	1
INTEL		58	109	108	203
INTEL		76	129	150	310
INTEL		51	71	106	181
INTEL		20	22	35	56
INTEL		1	1	1	1
INTEL		1	1	1	1
INTUIT		11	19	19	32
INTUIT		23	34	35	66
INTUIT		109	116	182	296
INTUIT		57	61	78	98
INTUIT		28	22	48	49
INTUIT		1	1	1	1
INTUIT		2	2	6	6
INTUIT		19	51	43	117
INTUIT		4	4	4	5
INTUIT		7	7	10	12
INTUIT		1	1	1	1
INTUIT		16	21	24	43
INTUIT		23	28	41	62
INTUIT		1	1	2	2
INTUIT		6	5	7	9
INTUIT		5	7	7	11
INTUIT		10	8	14	14
INTUIT		3	2	3	3
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		2	1	4	4
INTUIT		24	42	37	74
INTUIT		4	4	4	4
INTUIT		10	7	16	18
INTUIT		2	3	2	3
INTUIT		20	37	28	59
INTUIT		2	5	2	7
INTUIT		42	46	63	78
INTUIT		1	1	1	1
INTUIT		38	54	58	90
INTUIT		3	3	4	4
INTUIT		2	2	3	3
INTUIT		2	1	2	2
INTUIT		3	2	4	4
INTUIT		2	1	3	3
INTUIT		1	1	2	2
INTUIT		5	6	7	10
INTUIT		1	1	1	1
INTUIT		1	1	2	2
INTUIT		1	2	2	2
INTUIT		3	4	3	6
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		5	3	5	5
INTUIT		3	2	3	3



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		2	3	2	5
INTUIT		4	3	4	4
INTUIT		1	1	1	1
INTUIT		68	72	115	150
INTUIT		2	1	2	2
INTUIT		1	1	1	1
INTUIT		2	1	4	4
INTUIT		2	2	2	2
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		2	1	2	2
INTUIT		11	20	17	31
INTUIT		1	1	1	1
INTUIT		6	3	6	7
INTUIT		7	7	8	9
INTUIT		3	5	3	5
INTUIT		7	8	7	8
INTUIT		5	6	6	9
INTUIT		18	29	20	32
INTUIT		1	1	1	1
INTUIT		4	5	4	5
INTUIT		42	48	49	62
INTUIT		9	10	9	10
INTUIT		14	16	16	19
INTUIT		1	1	1	1
INTUIT		3	2	3	3
INTUIT		6	3	8	8
INTUIT		3	3	4	4
INTUIT		82	113	116	193
INTUIT		3	4	3	4
INTUIT		12	16	19	32
INTUIT		58	72	93	144
INTUIT		1	1	1	1
INTUIT		59	83	78	107
INTUIT		12	17	12	17
INTUIT		34	33	43	54
INTUIT		2	2	2	2
INTUIT		24	25	24	28
INTUIT		5	5	5	6
INTUIT		3	2	4	4
INTUIT		5	7	6	7
INTUIT		1	1	1	1
INTUIT		4	2	4	4
INTUIT		63	90	91	165
INTUIT		2	2	3	3
INTUIT		8	8	10	11
INTUIT		57	81	71	110
INTUIT		9	12	12	15
INTUIT		4	2	5	5
INTUIT		41	51	59	87
INTUIT		3	4	6	9
INTUIT		4	3	4	4
INTUIT		4	7	4	7
INTUIT		2	4	3	4
INTUIT		2	4	4	5
INTUIT		6	6	7	8
INTUIT		1	1	1	1
INTUIT		3	2	3	3
INTUIT		1	3	1	3
INTUIT		4	1	4	4
INTUIT		1	1	1	1
INTUIT		3	3	3	3
INTUIT		4	4	5	5
INTUIT		7	7	7	7
INTUIT		2	1	3	3
INTUIT		26	26	31	33
INTUIT		5	5	5	5

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTUIT		5	3	6	7
INTUIT		12	15	12	15
INTUIT		9	7	18	19
INTUIT		4	4	4	4
INTUIT		8	6	10	10
INTUIT		2	1	2	2
INTUIT		1	1	1	1
INTUIT		2	2	2	2
INTUIT		11	15	13	18
INTUIT		110	132	163	232
INTUIT		2	2	2	2
INTUIT		2	2	2	2
INTUIT		1	1	2	2
INTUIT		1	2	1	2
INTUIT		5	9	9	16
INTUIT		2	3	4	6
INTUIT		1	1	1	1
INTUIT		26	26	34	48
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		1	1	1	1
INTUIT		2	2	2	2
INTUIT		3	1	3	3
INTUIT		2	2	4	4
INTUIT		2	5	4	8
INTUIT		1	2	3	5
INTUIT		235	392	396	699
INTUIT		98	176	98	178
INTUIT		9	9	11	14
INTUIT		11	9	13	14
INTUIT		3	4	3	4
INTUIT		86	132	140	251
INTUIT		1	1	1	1
INTUIT		2	2	2	2
INTUIT		5	2	6	6
INTUIT		2	2	2	2
INTUIT		17	52	17	52
INTUIT		15	14	23	28
INTUIT		11	29	26	59
INTUIT		30	34	46	66
INTUIT		9	11	13	18
INTUIT		1	1	1	1
INTUIT		26	32	34	48
INTUIT		18	23	21	30
INTUIT		1	4	2	4
INTUIT		3	5	3	5
INTUIT		9	13	10	19
INTUIT		1	1	1	1
INTUIT		35	40	53	81
INTUIT		2	2	2	2
INTUIT		4	3	4	4
INTUIT		1	1	1	1
INTUIT		2	2	2	2
INTUIT		24	36	24	38
INTUIT		3	5	6	14
INTUIT		1	1	1	1
INTUIT		113	151	187	299
INTUIT		8	16	11	21
INTUIT		34	40	51	99
INTUIT		2	1	2	2
INTUIT		8	10	10	17
INTUIT		340	792	696	1,878
INTUIT		91	176	159	346
INTUIT		34	58	34	58
INTUIT		54	105	54	105
INTUIT		18	31	25	53
INTUIT		59	125	114	219
INTUIT		48	70	75	156
INTUIT		34	33	43	66
INTUIT		23	12	31	33
INTUIT		3	2	4	4
INTUIT		1	1	1	1
INTUIT		6	6	8	11



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
INTUIT		9	8	11	12
INTUIT		8	6	8	8
INTUIT		7	15	7	15
INTUIT		4	6	8	16
INTUIT		20	24	31	44
INTUIT		10	7	13	13
INTUIT		2	2	2	2
INTUIT		6	4	6	7
INTUIT		13	12	19	27
INTUIT		6	12	11	21
INTUIT		245	380	466	922
INTUIT		41	45	62	82
INTUIT		17	22	17	22
INTUIT		35	58	63	127
INTUIT		5	6	9	12
INTUIT		18	15	20	30
INTUIT		8	8	9	10
INTUIT		1	1	2	2
INTUIT		2	2	2	2
INTUIT		3	2	3	3
INTUIT		2	1	2	2
INTUIT		4	5	5	6
INTUIT		2	2	2	3
INTUIT		5	6	5	7
INTUIT		44	74	44	74
INTUIT		7	7	8	10
INTUIT		2	1	2	2
INTUIT		42	81	66	117
INTUIT		10	9	21	26
INTUIT		3	6	4	10
INTUIT		6	6	7	8
INTUIT		3	3	4	4
INTUIT		3	2	3	3
INTUIT		1	1	2	2
INTUIT		5	7	7	9
INTUIT		6	6	10	12
INTUIT		5	7	6	13
INTUIT		2	3	2	3
INTUIT		1	1	1	1
INTUIT		3	4	4	6
INTUIT		1	1	1	1
INTUIT		8	12	10	18
INTUIT		4	5	6	7
INTUIT		6	7	6	7
INTUIT		7	7	11	12
INTUIT		36	39	50	69
INTUIT		1	1	1	1
INTUIT		2	1	2	2
INTUIT		1	1	1	1
INTUIT		17	19	18	24
INTUIT		18	13	26	27
INTUIT		9	11	11	15
INTUIT		7	6	11	13
INTUIT		1	1	1	1
INTUIT		2	7	3	10
INTUIT		9	8	13	15
INTUIT		4	7	4	7
INTUIT		5	5	6	6
INTUIT		11	13	13	24
INTUIT		1	1	2	2
INTUIT		3	2	3	3
INTUIT		24	32	36	53
INTUIT		40	46	62	81
INTUIT		3	3	5	5
INTUIT		1	1	1	1
INTUIT		5	5	5	6
INTUIT		1	1	1	1
INTUIT		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		5	6	10	10
LUCASFILM		6	7	12	14
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
LUCASFILM		4	7	5	7
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		7	11	14	19
LUCASFILM		15	32	37	67
LUCASFILM		4	8	4	8
LUCASFILM		1	1	2	2
LUCASFILM		7	7	13	13
LUCASFILM		3	3	8	8
LUCASFILM		1	1	3	3
LUCASFILM		2	3	2	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		18	26	36	45
LUCASFILM		2	2	3	3
LUCASFILM		6	7	6	7
LUCASFILM		1	1	2	2
LUCASFILM		2	2	4	4
LUCASFILM		2	2	3	3
LUCASFILM		1	1	1	1
LUCASFILM		2	3	5	5
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		2	3	4	6
LUCASFILM		2	2	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		2	8	4	15
LUCASFILM		3	4	7	7
LUCASFILM		2	2	4	4
LUCASFILM			1		1
LUCASFILM		1	1	1	1
LUCASFILM		4	5	6	8
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	4	4
LUCASFILM		1	1	1	1
LUCASFILM		5	10	8	16
LUCASFILM		1	1	2	2
LUCASFILM		4	8	10	15
LUCASFILM		1	1	1	1
LUCASFILM		3	3	7	7
LUCASFILM		1	2	3	4
LUCASFILM		1	1	3	3
LUCASFILM		1	2	2	4
LUCASFILM		1	1	2	2
LUCASFILM		2	2	5	5
LUCASFILM		1	1	1	1
LUCASFILM		1	2	1	2
LUCASFILM		4	4	10	10
LUCASFILM		1	2	2	3
LUCASFILM		1	1	1	1
LUCASFILM		1	3	2	3
LUCASFILM		1	1	2	2
LUCASFILM		5	7	9	10
LUCASFILM		12	15	24	28
LUCASFILM		2	2	4	4
LUCASFILM		1	2	4	4
LUCASFILM		2	2	3	3
LUCASFILM		5	5	6	6
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	4	4
LUCASFILM		1	1	2	2



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
LUCASFILM		1	3	3	4
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		2	2	5	5
LUCASFILM		1	1	2	2
LUCASFILM		4	4	5	5
LUCASFILM		1	1	1	1
LUCASFILM		2	2	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	4	4
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	4	4
LUCASFILM		3	8	8	17
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	4	4
LUCASFILM		1	1	3	3
LUCASFILM		3	3	5	5
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	4	4
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	4	4
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		2	2	4	4
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	4	4
LUCASFILM		3	3	7	7
LUCASFILM		3	4	5	7
LUCASFILM		2	2	2	2
LUCASFILM		3	7	7	15
LUCASFILM		2	2	2	2
LUCASFILM		2	2	3	3
LUCASFILM		1	1	3	3
LUCASFILM		3	3	3	3
LUCASFILM		3	5	6	9
LUCASFILM		2	2	6	6
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		3	3	7	7
LUCASFILM		1	1	1	1
LUCASFILM		1	2	2	4
LUCASFILM		1	3	3	5
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		4	6	13	14
LUCASFILM		2	2	2	2
LUCASFILM		1	1	1	1
LUCASFILM		3	4	6	6
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		1	1	4	4
LUCASFILM		2	2	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		2	4	4	8
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
LUCASFILM		2	2	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		2	5	5	13
LUCASFILM		1	5	3	12
LUCASFILM		1	1	1	1
LUCASFILM		2	2	4	4
LUCASFILM		1	1	3	3
LUCASFILM		2	2	6	6
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		4	4	7	7
LUCASFILM		1	1	2	2
LUCASFILM		5	5	7	7
LUCASFILM		2	2	3	3
LUCASFILM		1	3	3	9
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		6	7	11	11
LUCASFILM		2	4	4	7
LUCASFILM		3	3	5	5
LUCASFILM		1	1	1	1
LUCASFILM		1	2	3	4
LUCASFILM		2	3	3	4
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		2	3	5	6
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	2	2	2
LUCASFILM		1	1	2	2
LUCASFILM		2	2	2	2
LUCASFILM		2	2	3	3
LUCASFILM		1	1	4	4
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		3	6	12	18
LUCASFILM		15	23	31	46
LUCASFILM		1	3	2	4
LUCASFILM		3	3	7	7
LUCASFILM		1	1	1	1
LUCASFILM		6	8	14	17
LUCASFILM		1	1	2	2
LUCASFILM		2	2	3	3
LUCASFILM		9	10	9	10
LUCASFILM		11	23	21	38
LUCASFILM		1	1	1	1
LUCASFILM		5	5	13	13



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
LUCASFILM		1	1	1	1
LUCASFILM		3	3	6	6
LUCASFILM		4	7	8	10
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		2	3	4	5
LUCASFILM		2	5	2	5
LUCASFILM		1	1	1	1
LUCASFILM		3	4	7	8
LUCASFILM		2	5	6	11
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		3	3	6	6
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		2	2	3	3
LUCASFILM		3	4	9	11
LUCASFILM		5	12	10	17
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		2	2	3	3
LUCASFILM		4	4	4	4
LUCASFILM		1	1	1	1
LUCASFILM		16	33	41	70
LUCASFILM		13	15	29	31
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		2	2	3	3
LUCASFILM		3	5	5	6
LUCASFILM		2	2	2	2
LUCASFILM		2	2	4	4
LUCASFILM		1	3	3	6
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		15	23	38	52
LUCASFILM		4	5	4	5
LUCASFILM		2	2	5	5
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		2	2	3	3
LUCASFILM		5	5	9	9
LUCASFILM		2	2	4	4
LUCASFILM		1	2	3	4
LUCASFILM		1	1	2	2
LUCASFILM		1	3	4	9
LUCASFILM		2	3	6	9
LUCASFILM		2	3	4	5
LUCASFILM		1	1	4	4
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		2	3	5	5
LUCASFILM		2	2	4	4

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	4	4
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	4	4
LUCASFILM		2	5	4	9
LUCASFILM		1	1	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	2	3	4
LUCASFILM		1	1	3	3
LUCASFILM		1	1	4	4
LUCASFILM		4	4	5	5
LUCASFILM		1	1	4	4
LUCASFILM		2	5	5	11
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	4	4
LUCASFILM		6	17	14	36
LUCASFILM		2	4	6	9
LUCASFILM		2	2	2	2
LUCASFILM		12	33	27	55
LUCASFILM		1	1	1	1
LUCASFILM		1	2	4	5
LUCASFILM		9	10	15	16
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		2	2	6	6
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		30	63	69	121
LUCASFILM		11	15	19	20
LUCASFILM		2	2	2	2
LUCASFILM		1	3	3	6
LUCASFILM		1	1	3	3
LUCASFILM		3	4	3	4
LUCASFILM		1	1	3	3
LUCASFILM		1	1	2	2
LUCASFILM		1	2	4	8
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		2	2	5	5
LUCASFILM		1	1	1	1
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		1	1	2	2
LUCASFILM		4	4	7	7
LUCASFILM		1	1	4	4
LUCASFILM		1	1	3	3
LUCASFILM		2	3	4	6
LUCASFILM		1	1	1	1
LUCASFILM		1	1	3	3
LUCASFILM		7	14	12	20
LUCASFILM		5	6	9	10
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		2	2	4	4
LUCASFILM		1	1	1	1
LUCASFILM		2	3	5	7
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		2	2	3	3
LUCASFILM		1	1	1	1
LUCASFILM		2	2	2	2
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
LUCASFILM		3	10	8	24
LUCASFILM		3	17	6	36
LUCASFILM		1	5	2	10
LUCASFILM		3	5	5	9
LUCASFILM		2	6	5	16
LUCASFILM		1	1	3	3
LUCASFILM		1	1	1	1
LUCASFILM		1	1	2	2
LUCASFILM		2	5	4	9
LUCASFILM		1	1	2	2
LUCASFILM		1	3	3	6
PIXAR	360_DEGREE_CREATIVE_LEAD	2	1	2	2
PIXAR	360_DEGREE_TECH_LEAD	1	1	3	3
PIXAR	ADMINISTRATOR_TECH_DEPT	6	3	13	13
PIXAR	ANIMATOR	25	113	36	385
PIXAR	ANIMATOR_DIRECTING	7	9	9	18
PIXAR	ANIMATOR_FIX	7	22	8	39
PIXAR	ANIMATOR_FIX_LEAD	2	1	2	2
PIXAR	ANIMATOR_SUPERVISING	15	11	24	36
PIXAR	ARCHITECT_SYSTEM	5	3	6	6
PIXAR	ARTIST_AFTER_EFFECTS	10	6	15	15
PIXAR	ARTIST_CHARACTER	1	1	3	3
PIXAR	ARTIST_GRAPHIC	10	9	18	25
PIXAR	ARTIST_MOTION_GRAPHIC	2	2	2	2
PIXAR	ARTIST_SKETCH	21	23	29	67
PIXAR	ARTIST_STORY	21	39	37	135
PIXAR	ARTIST_STORY_DEVELOPMENT	8	3	10	11
PIXAR	ART_DIRECTOR	18	13	24	33
PIXAR	ART_DIRECTOR_SHADING	10	4	13	14
PIXAR	CGI_PAINTER	9	14	11	26
PIXAR	CHARACTER_DESIGNER	2	1	2	2
PIXAR	CREATIVE_RESOURCES_ARTIST	1	1	1	1
PIXAR	DESIGNER	1	1	2	2
PIXAR	DESIGNER_CAMERA	3	1	3	3
PIXAR	DESIGNER_ENVIRONMENTAL	4	1	5	5
PIXAR	DESIGNER_GRAPHIC	1	1	1	1
PIXAR	DESIGNER_PRODUCTION	14	6	22	29
PIXAR	DESIGNER_SHADING	1	1	1	1
PIXAR	DESIGN_LEAD	1	1	2	2
PIXAR	DEVELOPER_RENDERMAN_PRODUCTS	1	1	5	5
PIXAR	DIR_ARTIST_MANAGEMENT	2	1	3	3
PIXAR	DIR_CREATIVE_ARTISTS	2	1	3	3
PIXAR	DIR_MEDIA_SYSTEMS	2	1	2	2
PIXAR	DIR_RENDERMAN_PRODUCT_DEV	1	1	5	5
PIXAR	DIR_STUDIO_TOOLS	2	1	5	5
PIXAR	DIR_SYSTEMS_INFRASTRUCTURE	1	1	4	4
PIXAR	DIR_TECHNICAL_ARTISTS	1	1	2	2
PIXAR	ENGINEER	2	1	5	5
PIXAR	ENGINEERING_MANAGER	1	1	5	5
PIXAR	ENGINEER_API_QUALITY_ASSURANC	3	2	6	7
PIXAR	ENGINEER_APPLICATIONS	2	2	3	3
PIXAR	ENGINEER_ASSOCIATE	1	1	5	5
PIXAR	ENGINEER_ASSURANCE_AUTOMATION	1	1	4	4
PIXAR	ENGINEER_EDITORIAL_PIPELINE	1	2	3	5
PIXAR	ENGINEER_IMAGE_MASTERING	2	2	4	4
PIXAR	ENGINEER_LEAD	1	1	4	4
PIXAR	ENGINEER_LEAD_SOFTWARE	3	5	4	7
PIXAR	ENGINEER_MEDIA_SYSTEMS	2	4	6	12
PIXAR	ENGINEER_MENV_SUPPORT	1	1	3	3
PIXAR	ENGINEER_PIPELINE	1	3	5	14
PIXAR	ENGINEER_PIPELINE_ROTATION	1	1	1	1
PIXAR	ENGINEER_PNG_LEAD_SOFTWARE	3	3	7	8
PIXAR	ENGINEER_PNG_QUALITY_ASSURANC	2	1	5	5
PIXAR	ENGINEER_PNG_SOFTWARE	9	29	19	78
PIXAR	ENGINEER_PNG_SR_SOFTWARE	3	1	5	5
PIXAR	ENGINEER_PRODUCTION_SUPPORT	2	5	5	16
PIXAR	ENGINEER_QUALITY_ASSURANCE	3	9	10	24
PIXAR	ENGINEER_RECORDING	2	1	5	5
PIXAR	ENGINEER_RENDERMAN_SUPPORT	2	2	5	7
PIXAR	ENGINEER_SCREENING_ROOM	1	1	5	5
PIXAR	ENGINEER_SOFTWARE	19	66	50	191
PIXAR	ENGINEER_SOFTWARE_GRAPHICS	2	2	4	5
PIXAR	ENGINEER_SOFTWARE_TECHSUPPORT	1	1	5	5
PIXAR	ENGINEER_SOFTWARE_TEMPORARY	1	1	1	1

**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
PIXAR	ENGINEER_SOFTWARE_TEST	1	6	3	11
PIXAR	ENGINEER_SR_AUTOMATION	1	1	1	1
PIXAR	ENGINEER_SR_MEDIA_SYSTEM	2	3	6	7
PIXAR	ENGINEER_SR_SOFTWARE	9	5	22	22
PIXAR	ENGINEER_SR_SW_INFRASTRUCTURE	2	2	6	6
PIXAR	ENGINEER_STUDIO_SUPPORT	2	1	3	3
PIXAR	ENGINEER_SW_INFRASTRUCTURE	2	5	2	7
PIXAR	ENGINEER_TECHNICAL_SUPPORT	2	1	3	3
PIXAR	FINANCIAL_APPS_DEVELOPER	1	1	4	4
PIXAR	HR_APPLICATION_DEVELOPER	1	1	5	5
PIXAR	IMAGE_MASTERING_COORDINATOR	2	2	5	6
PIXAR	INTERACTION_DESIGNER	3	3	5	6
PIXAR	INTRANET_DESIGNER_PNG	1	1	1	1
PIXAR	LAYOUT_ARTIST	18	19	26	58
PIXAR	LAYOUT_ARTIST_LEAD	2	1	2	2
PIXAR	MEDIA_SYSTEMS_COORDINATOR	3	3	7	7
PIXAR	MGR_360_GROUP	1	1	1	1
PIXAR	MGR_APPLICATIONS_GROUP	1	1	3	3
PIXAR	MGR_BUILD	3	1	4	4
PIXAR	MGR_DESKTOP_SYSTEMS	2	1	5	5
PIXAR	MGR_FINANCIAL_SYSTEMS	2	1	5	5
PIXAR	MGR_IMAGE_MASTERING	3	2	5	5
PIXAR	MGR_IT_CONSTRUCTION	2	1	2	2
PIXAR	MGR_LEAD_PROJ_STUDIO_TOOLS	1	1	2	2
PIXAR	MGR_MEDIA_SYSTEMS	3	2	6	7
PIXAR	MGR_PROJECT	2	2	4	4
PIXAR	MGR_QUALITY_ASSURANCE	3	1	5	5
PIXAR	MGR_SR_PROJECT_STUDIO_TOOLS	1	1	2	2
PIXAR	MGR_SW_INFRASTRUCTURE	1	1	1	1
PIXAR	MGR_SYSTEMS_INFRASTRUCTURE	1	1	1	1
PIXAR	MGR_SYSTEMS_OPERATIONS	2	1	4	4
PIXAR	MGR_TOOLS_WORKFLOW	1	1	4	4
PIXAR	MGR_USER_INTERFACE	2	1	4	4
PIXAR	PAINTER_DIGITAL	10	12	15	28
PIXAR	PAINTER_MATTE	9	6	11	15
PIXAR	PNG_GROUP_LEAD	2	1	4	4
PIXAR	PROJECT_MGR_PNG	1	1	1	1
PIXAR	PROJECT_MGR_RENDERMAN	1	1	2	2
PIXAR	PROJECT_MGR_STUDIO_TOOLS	6	9	13	19
PIXAR	RAPD_PROTOTYPE_COMPUTER_ARTIST	1	1	3	3
PIXAR	RENDER_PIPELINE_SPECIALIST	1	4	5	15
PIXAR	RESIDENT_ANIMATION	1	2	1	2
PIXAR	RESIDENT_SOFTWARE_ENGINEER	1	1	1	1
PIXAR	RESIDENT_TECHNICAL_DIRECTOR	3	41	4	41
PIXAR	RESIDENT_TEST_PILOT	1	1	1	1
PIXAR	SCIENTIST_SR	9	6	21	26
PIXAR	SCULPTOR	7	2	9	10
PIXAR	SR_VP_TECHNOLOGY	2	1	3	3
PIXAR	STORY_ARTIST_DIGITAL	2	2	2	2
PIXAR	SYSTEMS_ADMINISTRATOR	5	16	14	57
PIXAR	SYSTEMS_ADMINISTRATOR_ASSET	2	2	3	4
PIXAR	SYSTEMS_ADMINISTRATOR_JR	1	1	2	2
PIXAR	SYSTEMS_ADMINISTRATOR_JR_MAC	1	2	4	7
PIXAR	SYSTEMS_ADMINISTRATOR_LEAD	1	3	1	3
PIXAR	SYSTEMS_ADMINISTRATOR_SR	5	11	19	47
PIXAR	SYSTEMS_ANALYST	1	1	2	2
PIXAR	SYSTEMS_COORDINATOR	1	1	2	2
PIXAR	TECHNICAL_DIRECTOR	62	292	131	841
PIXAR	TECHNICAL_DIRECTOR_LEAD	31	41	47	94
PIXAR	TECHNICAL_DIRECTOR_ROTATION	1	1	1	1
PIXAR	TECHNICAL_LEAD_BACKUP_GROUP	1	2	5	6
PIXAR	TECHNICAL_LEAD_IMAG_MASTERING	1	1	1	1
PIXAR	TECHNICAL_LEAD_MEDIA_SYSTEMS	2	2	5	6
PIXAR	TECHNICAL_LEAD_RENDERING	1	1	5	5
PIXAR	TECHNICAL_LEAD_STORAGE	1	1	1	1
PIXAR	TECHNICAL_LEAD_TELECOM	2	1	5	5
PIXAR	TECHNICAL_WRITER	2	2	4	4
PIXAR	TECHNICAL_WRITER_API	3	1	4	4
PIXAR	TECH_DIRECTOR_CRTV_SVCS	1	9	5	22
PIXAR	TECH_DIRECTOR_DEPT_SUPV	13	25	18	53
PIXAR	TECH_DIRECTOR_LEAD_CRTV_SVCS	1	1	5	5
PIXAR	TECH_DIRECTOR_SUPERVISING	18	11	34	36
PIXAR	TECH_DIR_SR_ANIM_SCIENTIST	1	1	1	1
PIXAR	TEST_PILOT_LEAD	2	1	3	3



**Manager and Employee Counts by Employers and Titles  
Technical Class - 2005 - 2009**

Employer	Title	Managers	Employees	Manager - Years	Employee - Years
PIXAR	TEST_PILOT_SENIOR	1	1	1	1
PIXAR	USER_INTERFACE_DESIGNER	4	3	6	8
PIXAR	VISUAL_DESIGNER	1	1	2	2
PIXAR	VP_ADVANCED_TECHNOLOGY	2	1	3	3
PIXAR	VP_SOFTWARE_ENGINEERING	3	3	6	7
PIXAR	VP_SYSTEMS	1	1	1	1
PIXAR	VP_TECHNOLOGY	1	1	1	1
PIXAR	WORKFLOW_ARTIST	2	2	3	3
PIXAR	WORKFLOW_INTERACTION_DESIGNER	2	1	3	3

## Notes:

[1] Google data does not have Manager information.

[2] Column Managers and Employees show the count of unique Manager IDs and Employee IDs by Employer and Job Title during 2005 - 2009.

[3] Column Manager - Years and Employee - Years show the total count of unique Manager IDs and Employee IDs by year and employer for each of the years in 2005 - 2009

Source: Dr. Leamer's backup data.

## Employee Counts by Employers and Year Technical Class - 2005 - 2009

Employer	2005	2006	2007	2008	2009	Unique Employee Counts (2005-2009)
ADOBE	2,202	2,216	2,277	2,400	2,551	3,603
APPLE	3,343	3,673	4,231	4,933	5,571	6,908
GOOGLE	2,258	3,774	5,286	6,376	6,800	8,082
INTEL	28,989	27,780	26,709	26,390	26,458	37,338
INTUIT	1,592	1,849	2,237	2,344	2,230	3,719
LUCASFILM	2	295	587	572	626	869
PIXAR	478	550	568	666	704	848

Note: LUCASFILM data does not have title information before 2006, hence the low number in 2005.  
 Source: Dr. Leamer's backup data.



## Manager Counts by Employers and Year Technical Class - 2005 - 2009

Employer	2005	2006	2007	2008	2009	Unique Manager Counts (2005-2009)
ADOBE	425	448	428	464	493	847
APPLE	689	761	860	1,050	1,155	1,615
INTEL	5,663	4,232	4,007	4,003	3,983	8,135
INTUIT	418	448	537	542	519	1,095
LUCASFILM	2	142	199	181	184	238
PIXAR	72	72	72	80	85	132

Note:

[1] Google data does not have Manager information.

Source: Dr. Leamer's backup data.

## Intel Employee Counts by Job Function Technical Class - 2005 to 2009



Notes:

[1] Column Employees shows the count of unique Employee IDs by Job Function.

[2] Column Employee - Years shows the total count of unique Employee IDs by Year and Job Function for each of the years in 2005 - 2009.

Source: Intel compensation data. 76586DOC001050\_AEO.xls. Dr. Leamer's backup data.



## Intel Employee Counts by Region Technical Class - 2005 to 2009



Source: Dr. Leamer's backup data.