

# Chapter 9

## Pay Equity



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### 9.1 Introduction

Concerns about pay equity straddle the line between two legal arenas: wage and hour and sex/race discrimination. Although discussions of pay equity typically focus on concerns about discrimination in the workplace, this issue is ultimately about the wages that employees are paid. Indeed, the Equal Pay Act of 1963, upon which pay equity litigation at the federal level is often based (along with allegations of Title VII violations), was an amendment to the Fair Labor Standards Act to outlaw wage disparities based on the sex of employees. In this chapter, we introduce concepts of pay equity and present considerations associated with using multiple regression analysis to evaluate pay disparities between protected class subgroups.

### 9.2 What Is Pay Equity?

There are several perspectives from which to consider “equity” in pay, and failure of parties with different perspectives to agree on a common definition of “equity” upfront can result in unproductive discussions. Thus, to ensure a common understanding of what we mean by pay equity in the equal employment opportunity context, in the following sections, we briefly address the difference between “external equity” and “internal equity.”

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### 9.2.1 External Equity

External equity refers to the degree to which an employee's salary is commensurate with the salary the employee could demand in the external labor market. Employees who think their salaries are below their "market value" may perceive inequity. Such perceptions might result in the employee leaving the organization or reducing level of performance. Two major factors that influence perceptions of external equity are (1) how the employer pays relative to the external labor market and (2) salary compression.

An organization's compensation philosophy with respect to where it sets salaries relative to the relevant labor market is often reflected in the values of its pay ranges (or pay bands).<sup>1</sup> Specifically, the philosophy is reflected in the relationship between the midpoint of each pay band and the market midpoint. Employers with pay band midpoints lower than the competitive labor market midpoints may experience more problems with negative external equity perceptions in their workforce compared to employers with pay band midpoints that are higher than the market midpoint.<sup>2</sup> Of course, there are other forms of extrinsic<sup>3</sup> and intrinsic<sup>4</sup> rewards that may make a particular position with an organization more or less attractive to an employee aside from their compensation.

Salary compression reflects differences in the influence, on salary, of external market forces versus internal market forces. Wages in the external labor market tend to increase at a higher rate than wages internal to an organization, such that an external hire may demand higher wages than a similarly situated internal hire<sup>5</sup> who has been promoted to a position from within the organization. Thus, salary compression can be attributed to the fact that the *external market premium* is often higher than the *loyalty premium*.

### 9.2.2 Internal Equity

Internal equity refers to pay equity between employees within an organization. Internal equity typically involves one of two types of comparisons: individual and group. With individual equity, an employee compares his or her salary with that of

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<sup>1</sup>Gerhart (2000).

<sup>2</sup>Fitzpatrick and McMullen (2008).

<sup>3</sup>For example, retirement benefits or flexible schedules may compensate for relatively lower wages.

<sup>4</sup>For example, elements of Hackman and Oldham's (1976) job characteristics theory may influence an employee's satisfaction, thus offsetting sentiments of inequity if s/he is paid relatively low compared to the external labor market.

<sup>5</sup>"Similarly situated" is a Civil Rights Act (1964) Title VII standard. The Equal Pay Act (1963) defines comparators as those who are "substantially equal" to one another. Moreover, state laws have used even different language to define comparators, such as the "substantially similar" standard of the California Fair Pay Act (2015).

one or more peers. In doing so the employee informally considers a variety of input factors such as years of experience, effort, and performance. Effectively, internal equity refers to a comparison of input/output ratios between two or more employees. That is, the question of internal equity refers to whether the ratios of employee contributions and employee pay are equal between two individuals. In considering internal equity, it is important to distinguish between actual inputs and perceived inputs. Actual inputs are quantified employee inputs such as employee time in the organization (and the knowledge accrued as a result) or performance, whereas perceived inputs<sup>6</sup> reflect an individual's perspective on the contributions he or she makes to the organization. In labor law, perceptions of unequal input/output ratios may be the basis for a complaint lawsuit; however, comparisons of actual input/output ratios are the facts on which a case is decided.

The specific characterization of internal equity varies depending on the employees compared. For example, job evaluation procedures quantify the contributions of employees in specific roles by assigning point values based on defined job characteristics.<sup>7</sup> The points can be translated to compensation values to determine the pay of employees in the roles.

Group-level internal equity refers to whether there are compensation differences between similarly situated<sup>8</sup> employees of different protected class subgroup status (e.g., men versus women) that cannot be accounted for by legitimate, nondiscriminatory factors. Although such comparisons may take the form of a one-to-one comparison between two employees in different protected class subgroups, the remainder of this chapter focuses on a comparison of many similarly situated employees, in which both legitimate factors and protected class subgroup status can be accounted for statistically.

### 9.3 Defining Appropriate Employee Groups for Analysis

Grouping employees for analysis is one of the most important activities in an EEO pay analysis. If similarly situated status is not properly established, the statistical analysis will not account for major job characteristics that influence pay differences. As a general rule, employees of different FLSA status should not be grouped together for analysis. By definition, the job duties and pay models differ for exempt and non-exempt employees. Exempt employees typically hold more senior

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<sup>6</sup>The concept of distributive justice, based on Adams' (1965) equity theory, reflects the extent to which an individual employee perceives that his or her work outcomes relative to his or her contributions match the work outcomes to contributions ratios of others in the organization.

<sup>7</sup>Milkovich and Newman (2005).

<sup>8</sup>Whether individuals are similarly situated depends on whether they share one or more important job-related characteristics that influence compensation. Characteristics may include similarity in tasks, skills required, effort, responsibility, working conditions, or complexity (cf. Sady et al., 2015).

positions within an organization and, depending on the exemption for which they qualify, have responsibilities that may include (1) managing other employees, (2) managing the enterprise, (3) exercising discretion and independent judgment on matters of significance, or (4) performing work that involves advanced knowledge.<sup>9</sup> Further, individuals in different pay grades will usually differ substantially in the type of work they perform and the skills, qualifications, and levels of responsibility required by the roles. Similar to an evaluation of FLSA exemption status, job title or job code alone may not accurately reflect the work an employee actually performs to the level of detail required to determine similarly situated status. If the titles or codes in an organization are broad and represent, within title or code, arrays of specific positions with fundamentally different work duties or level of skill, job title or code should be divided along lines of common duties prior to analysis.

Failing to group employees along job characteristics that make them similarly situated (such as the job duties, the skills and qualifications required of the job, the level of responsibility inherent in the job, and other major factors) can result in problematic analyses and misleading statistical results. It is our general recommendation to group employees at the most specific level of similarity that allows meaningful analyses for much of the workforce. Refer to Sady and Aamodt (2016) and Sady et al. (2015) for a more comprehensive explanation of grouping strategies and pitfalls.

## 9.4 Establishing the Employment Decision to Analyze

The most common pay equity evaluations focus on differences in base salary between members of different protected class subgroups. When analyzing base pay, it is important to annualize salary for part-time employees prior to conducting the analysis. Failure to do so will lead to results that indicate part-time employees are severely underpaid relative to their predicted pay based on the regression model. For non-exempt employees, annualizing salary for everybody (part-time or full-time) requires simply multiplying employees' hourly rates by 2080, which reflects the total number of workable hours across 52 weeks (i.e., 1 year) of 40-h workweeks. It is slightly more complicated to establish annualized salary for part-time exempt employees. For these employees, multiplying their annual salary (i.e., what they actually receive) by the following ratio will annualize the salaries, such that they can be accurately analyzed with full-time employees:  $(40 \text{ h})/(\text{assigned hours in the part-time appointment})$ .<sup>10</sup> Sometimes, full-time equivalent (or "FTE") proportions are available from the HRIS. The ratios represent the proportion of a 40-h workweek that an employee is assigned. Full-time employees will have values of 1; part-time employees will have values below 1. If FTE proportions are available, the base sala-

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<sup>9</sup>See Chap. 3 for more detail about FLSA exemptions.

<sup>10</sup>As an example: Assume an employee works 25 h per week and makes a total salary of \$30,000 in a year. Their annualized salary would be calculated as  $\$30,000 \times (40/25)$  or \$48,000.

**Table 9.1** Pay factors commonly available in HRIS systems

Type	Factor
Time factors	Time in company (TIC)
	Time in job (TIJ)
	Time in grade (TIG)
	Experience prior to joining the organization
Non-time factors	Performance
	Starting salary
	Internal versus external hire

ries for part-time employees can be annualized by (1) dividing 1 by the FTE values assigned to the part-time employees and (2) multiplying the results by the employees’ base salaries.<sup>11</sup>

Other forms of compensation such as annual merit increases, annual bonuses, stock options, and overtime pay are increasingly included in pay equity studies. The different types of compensation are typically determined by different sets of factors (i.e., predictors in a regression model), so combining all forms into an aggregate of “total compensation” to analyze will produce confounding results. For example, service years are often related to base salary but not annual bonus, whereas performance ratings are highly correlated with bonus percentages but not with base salary. Thus, analyzing each form of compensation separately with a set of specific predictors suitable for the particular form will produce more meaningful, cogent results than an analysis of “total compensation.”<sup>12</sup>

### 9.5 Pay Factors

Although there are myriad factors and decisions that influence an employee’s base salary at any given time, many of these factors are not readily available in a database to be used in an EEO pay equity analysis. Several, however, are commonly available for retrievable from an organization’s human resource information system (HRIS), which are listed in Table 9.1. If the major factors affecting compensation are unable to be accounted for in a regression analysis of compensation, it is prudent to be cautious in interpreting statistical indicators of discrimination, as statistically significant indicators of protected class subgroups may reflect differences due to the absence of a major, nondiscriminatory factor(s).

<sup>11</sup> As an example: Assume an employee has an FTE value of 0.80 (i.e., works 80% of the hours a full-time employee works) and makes \$50,000 per year. Their annualized salary would be calculated as  $(1/0.80) \times \$50,000$  or \$62,500.

<sup>12</sup> Analysis of “W2 earnings” can be particularly problematic given the confounding of earnings and time in job for any employees hired during the calendar year.

### 9.5.1 Time Factors

Some of the factors most commonly used to explain differences in compensation between similarly situated employees are time and experience variables. This set of factors may be divided further into two main sets: experience factors at the organization (seniority) and experience factors prior to joining the organization.

#### 9.5.1.1 Experience in the Organization

Three organizational tenure variables commonly calculated as part of an EEO pay analysis to be used as legitimate explanations of pay differences are (1) time in company (TIC), (2) time in job (TIJ), and (3) time in grade (TIG).

**Time in Company (TIC)** In theory, the longer that an employee has been with an organization, the more he/she should be making compared to others in the organization, *ceteris paribus*.<sup>13</sup> The idea behind the positive correlation behind TIC and compensation is that an effectively performing employee with more time in the organization should have higher levels of institutional knowledge and more years of merit increases to salary. In practice, TIC is sometimes curvilinear or negatively correlated with compensation due to the phenomenon of *salary compression* that we addressed in the external equity section.<sup>14</sup>

**Time in Job (TIJ)** The theory behind the relationship between salary and TIJ is similar to that of salary and TIC. *Ceteris paribus*, the more time a given employee accrues in a particular position, the more he or she is likely to be paid. Including TIJ in a regression model helps to account for differences in compensation due to the knowledge acquisition and annual merit increases associated with increased time in a specific job or role. Unlike TIC, TIJ is almost always positively correlated with base pay.

**Time in Grade (TIG)** It is generally the case that job titles or codes do not cross pay grade/band, such that employees within a specific title or code are all in one pay grade/band. If a title does cross grade/band and title is the unit of aggregation for analysis purposes, TIJ will not adequately account for differences in salary due to time in the title because TIJ is conflated with the amount of time in the pay grade/band (TIG). In such cases, TIG is a necessary pay factor to include in order to account for legitimate differences in pay associated with different grades/bands. Adding a TIG factor in such cases, however, does not necessarily resolve issues with analyzing employees in different grades/bands together, as the influence of TIG on compensation may differ depending on the grade/band. Grouping employees

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<sup>13</sup>A Latin phrase meaning *other things equal*. It is commonly used as a qualifier of general statements about relationships between phenomena in economics.

<sup>14</sup>Barbezat (2003).

such that only one grade is represented in any one pay analysis group is advised and avoids problems with grouping employees together for analysis who are not similarly situated.

In most organizations, job title does not cross pay grade/band, but modeling time in grade (TIG) as an explanatory pay factor is still helpful. Time in job may not represent the length of time in a particular grade if pay grades are broad and/or an employee has undergone a lateral transfer, such that the grade of his/her prior position matches that of the current position. Calculating and modeling time in grade allows an explanation of pay differences between employees that are due to the fact that employees with longer time in a pay grade tend to be paid higher than those with shorter time in a pay grade. That said, similar to TIC, the compensation returns to TIG tend to diminish over time in most cases. As an employee's salary approaches the maximum of the pay band range, the rate of increase to his or her salary will tend to slow. Employee compa-ratios<sup>15</sup> or range penetration<sup>16</sup> values are commonly used as indicators of an employee's position within the applicable range and markers of when compensation growth within the grade should be slowed. Creating a version of TIG that account for the slowed growth often improves model fit; squared TIG terms are a typical way to account for the curvilinear relationship between TIG and compensation growth.

### 9.5.1.2 Experience Prior to Joining the Organization

Modeling employees' relevant experience prior to joining the organization is complex and difficult because most organizations simply do not have complete, accurate, or accessible records of the background history for all employees prior to their joining the organization. Thus, the most common practice is to use employees' ages as a proxy (i.e., age-as-a-proxy) for the relevant experience they had upon hire into the organization. For example, if two employees have 5 years of TIC but one is 39 and the other is 26, it is a fair assumption that the older employee was hired with more relevant experiences than the younger employee. Although older employees generally have more work-related prior experience, age is an imperfect indicator of experience, and if actual *related, prior experience* is available, it should be used in the analysis instead of age.<sup>17</sup> In our experience, few organizations have these data available and/or useable in database form.

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<sup>15</sup>This metric is used to determine how an employee's salary compares to the midpoint of the salary range for their position or pay grade. The ratio is calculated by dividing an employee's actual salary by the midpoint of the salary range for that position or pay grade.

<sup>16</sup>This metric is used to determine where the employee's salary falls within the entire range of salaries for their position or pay grade. It is calculated using the following formula (salary range minimum)/(range maximum – range minimum).

<sup>17</sup>For example, an established limitation of using age-as-a-proxy for actual years of experience is that it may overestimate actual years of prior experience more commonly for women than men. If women have been more likely to leave the workforce for more extended periods of time, using

## 9.5.2 *Non-time Factors*

Many other legitimate, nondiscriminatory factors may explain a sex- or race-based disparity in compensation beyond the time-based factors discussed. Although a discussion of each is beyond the scope of this chapter, we address three common factors considered: (1) performance, (2) starting salary, and (3) internal versus external hire.

### 9.5.2.1 Performance

Organizational compensation systems often incorporate an element of performance-based pay, such that higher performing employees have higher salaries than their similarly situated peers.<sup>18</sup> Unfortunately, accounting for compensation differences due to performance differences in compensation equity studies can be problematic for several reasons.

**Limited Data** One limitation associated with performance data is that they are often available for only a small number of recent years and may only be available for a subset of employees during those years. A limited number of years of performance data does not allow a complete modeling of how employees' performance histories influence current compensation; however, accounting for (1) most recent performance, (2) typical performance, (3) and maximum performance using the available data can be helpful in explaining compensation differences.<sup>19</sup> As a practical matter, missing data within and across years are typically imputed to allow incorporation of performance factors in the regression equation, and imputation procedures should be chosen carefully.

**Range Restriction** Even if performance data are available and complete, in many cases a group of similarly situated employees do not vary substantially in their performance ratings (i.e., differences in performance ratings between employees are small). In our experience, less than 4% of employees receive a performance rating of below average. In such cases, the performance predictor suffers from *range restriction* which will limit the extent to which it will correlate with compensation values and explain differences in compensation between protected class subgroups.<sup>20</sup>

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age-as-a-proxy for prior experience when such employees are in a regression equation will overestimate the amount of compensation that should be credited to those employees.

<sup>18</sup> Cannon (2008).

<sup>19</sup> See Sackett et al. (1988) for a discussion of the relationship between typical and maximum performance.

<sup>20</sup> Cohen et al. (2013).



**Arguments that Performance is “Tainted”** If performance data are incorporated into the analysis and account for unexplained differences in compensation between protected class subgroups, they can be challenged as being *tainted*. Arguments that performance rating(s) are tainted rely on the veracity of two hypotheses:

1. Individuals making performance rating decisions are biased (unconsciously or not) in favor of one particular protected class subgroup or against one particular protected class subgroup.
2. The performance appraisal system does not have sufficient structure to prevent rater biases from tainting the ratings.<sup>21</sup>

The defense against allegations that performance ratings are tainted is to demonstrate that they are job-related and reflect actual on-the-job performance. Performance ratings produced by job-related standards and evaluations reflect true performance differences between employees rather than rating biases or behaviors unrelated to the job.

Validation research can demonstrate that performance appraisal standards and evaluations are job-related. Certainly, validation research is not a requirement of valid, job-related, unbiased performance appraisal systems and corresponding ratings; however, in the event that the system is challenged as an invalid explanation of compensation differences, validation evidence demonstrating the job-relatedness of performance appraisal content and process characteristics will counter arguments that the ratings are biased or tainted. Depending on context, a validation study may take different forms to answer the question of whether there is evidence that the ratings reflect important job-related criteria.

### 9.5.2.2 Starting Salary

Employees’ starting salaries are often the primary determinants of current salary.<sup>22</sup> Because future salary increases<sup>23</sup> are typically a percentage of an individual’s base salary, annual compensation growth is heavily influenced by initial salary upon entry into the organization.

If starting salary for a given group of employees explains a statistically significant disparity in compensation between protected class groups, it is prudent to consider thoroughly whether starting salary can be defended as a legitimate, nondiscriminatory pay factor. Arguments that starting salary is itself biased and/or discriminatory typically come in one of two forms:

1. The labor market is biased against a particular protected class subgroup, such that a different subgroup enjoys higher pay on average. Because prior salary is

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<sup>21</sup> See Werner and Bolino (1997).

<sup>22</sup> Gerhart (1990).

<sup>23</sup> Increases result from cost-of-living adjustments, performance, promotion, or other factors.

often used to determine starting salary for a new employee, starting salary perpetuates labor market biases.

2. Hiring managers are more likely (a) to negotiate with applicants from one particular protected class subgroup and (b) to be persuaded by negotiation tactics employed by them, such that the negotiating subgroup is more likely to receive higher starting salaries than other protected class subgroups, *ceteris paribus*.

Related to the first argument above, some state legislation has barred employers from asking prospective employees about their most recent or current salary (e.g., Massachusetts and California state pay legislation). The reasoning behind such bans is that they should (1) limit the perpetuation of differences in salaries between protected class subgroups in the available labor pool and (2) require hiring managers to codify the worth of the position to the organization ahead of time.

With respect to the second argument above, if managers establish, ahead of time, what they are willing to pay somebody hired into an open position, arguments that starting salary is somehow biased can be neutralized. Some organizations do not engage in salary negotiation for certain positions. Instead, they have policies that formalize starting salary values to be offered to candidates based on a matrix analysis of experience, knowledge, and other job-related criteria that the candidate may possess. The recommended values may be accompanied by a small variance (e.g., 3%) that provides a range within which managers can establish the most appropriate starting salary offer for a specific candidate. A structured process such as that described provides a rebuttal to claims that employee starting salary is tainted and inappropriate to use a legitimate, explanatory factor for current salary.

The veracity of claims that starting salary is a tainted variable is situationally specific, but employers can defend the use of starting salary as a legitimate explanation of compensation differences by adopting certain practices around establishing starting salary. That said, the reality of the labor market is that starting salary and competition for jobs and human capital are tied to the health of the general economy and unemployment rate. In a booming economy, applicants with many options are in a position to negotiate higher salaries; in a withering economy, the same applicants may have fewer alternative options and less leverage in demanding salary levels. To the extent that protected class status proportions in the labor market systematically correspond to economic fluctuations, differences in starting salary will correlate with protected class status.

### **9.5.2.3 Internal Versus External Hire**

As noted earlier, employees hired into a position from outside of the organization (external hire) may demand a higher salary than employees promoted into a position from within the organization (internal hire) due to wage compression. It may also be the case that an organization has difficulty finding employees within its organization who possess highly sought specialized skill set or competitive knowledge; fulfilling such human capital needs may only be feasible by hiring somebody away from a

competitor. In any case, accounting for the difference between externally hired and internally promoted employees within a group of similarly situated employees will often improve the accuracy of the regression model and may account for previously unexplained differences in compensation between protected class subgroups.

#### 9.5.2.4 A Note on Tainted Variables

The fact that a pay factor correlates with protected subgroup status may be misunderstood to mean that the factor is tainted. In fact, correlation between the factor and protected subgroup status is a necessary but *insufficient* condition for a sound argument that a pay factor is tainted. In order for a factor to explain a discrepancy in compensation between protected class groups, it must be both related to the outcome (compensation) and the protected class variable. A factor that is correlated with the protected class variable<sup>24</sup> is not inherently “biased” or “tainted” or reflecting discrimination. An actual “tainted” variable (explanatory factor) is one in which the values represent bias (intentional or not) associated with protected class status. For example, if differences in performance ratings between race groups are due to the bias of managers creating the ratings rather than actual differences in on-the-job performance, the performance ratings should be considered tainted. As such, the ratings in this situation should not be included as a legitimate, explanatory factor in a regression equation, regardless of whether the ratings account for the difference in compensation between race groups. As another example, if the managers setting starting salary for new employees are biased in favor of men (consciously or unconsciously), using starting salary as an explanatory factor of current base pay would be inappropriate, whether or not starting salary values explain the difference in compensation between men and women.

## 9.6 Conducting a Statistical Analysis of Pay Equity

Pay equity is typically evaluated using a statistical approach called multiple linear regression. This approach provides an objective standard to determine whether statistically significant pay differences exist between subgroups after accounting for (“controlling for”) legitimate pay factors in a regression model. Space prohibits comprehensive treatment of the use of multiple linear regression procedures for analyzing EEO pay disparities, and detail on this topic has been covered in other

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<sup>24</sup>Correlation between two variables/characteristics means that values on one variable/characteristic are systematically related to values on the other variables/characteristics. For example, if time in company is correlated with sex, it may be the case that men tend to have more time in the organization than women or vice versa. To the extent that TIC is not a reflection of sex bias and it explains a difference in compensation between two protected class subgroups, it is a legitimate pay factor for compensation differences that is both correlated with compensation and the protected class variable.

works,<sup>25</sup> but we cover some of the basic statistics for interpretation in this final section, which is separated into a discussion of model statistics and variable statistics. For further reference, Cohen et al. (2013) provide a comprehensive treatment of applied multiple regression procedures.

In the simplest case, two regression models are created for each group of similarly situated employees: one model that includes only the legitimate, nondiscriminatory pay factors and one model that adds a variable(s) representing protected group subgroup status. The former has been referred to as the compensation model and the latter the discrimination model.<sup>26</sup> Conceptually, when the discrimination model accounts for more pay differences than the compensation model, there is initial statistical evidence of discrimination; however, many statistical nuances should be considered, which are discussed below.

### 9.6.1 Model Statistics

Model statistics provide information about the degree to which the factors included in the model fit the actual data. The relevant model statistics in this evaluation are those associated with the compensation model. First, the model F-statistic provides an indication of the probability that associations between the predictor side of the regression equation (pay factor side) and the outcome side of the regression equation (compensation) reflect “noise” and are just due to chance. If the probability value associated with the F-statistic is less than 0.05, the model is statistically significant, and it is appropriate to conclude that at least some of the pay factors have reliable and systematic relationships with compensation. Further interpretation of any model or variable statistics is inappropriate if this first standard of evaluation is not met.

The second indicator of model fit is the  $R^2$  (“R-squared”) value, which ranges from 0.00 to 1.00 and indicates the proportion of total differences in salaries that are accounted for by pay factors. Ceteris paribus, the closer the  $R^2$  value is to 1.00, the more strongly the pay factors relate to compensation. When evaluating the  $R^2$ , however, it is important to take into account the amount of variability in salary within the group. That is, a model that explains 25% ( $R^2 = 0.25$ ) of the variability in salary among a group of employees whose salaries vary by \$5000, on average, leaves fewer overall dollars unaccounted for than a model that explains 50% ( $R^2 = 0.50$ ) of the variability in salary among a group of employees whose salaries vary by \$20,000, on average. Thus, we recommend evaluating the model root mean squared error (RMSE) in concert with the  $R^2$  to fully understand the extent to which salary differences are unaccounted for by the pay factors.<sup>27</sup>

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<sup>25</sup> cf. Sady et al. (2015) and Sady and Aamodt (2016).

<sup>26</sup> Sady et al. (2015).

<sup>27</sup> Sady et al. (2015).

### 9.6.2 Variable Statistics

In EEO pay analyses, statistics in the discrimination model provide an indication of the extent to which race, sex, or some other protected class variable is associated with unaccounted for differences in compensation from the compensation model. Specifically, the regression estimate (b-weight) for the protected class variable(s) indicates the average difference in compensation between the protected class subgroups after accounting for influence of the legitimate pay factors on compensation. The *t*-value associated with the regression weight and its corresponding probability value indicate whether the regression coefficient is different from zero at a statistically significant level. Regression coefficients that are not statistically significant should not be interpreted as reflecting differences in salaries between the protected class subgroups. That is, a nonsignificant result means that differences in compensation between protected class subgroups may very well be due to chance.

The statistical significance of the protected class subgroup b-weight is driven by the gap between employees' actual compensation and their predicted compensation<sup>28</sup> from the compensation model. For example, if there is a statistically significant difference between men's and women's salary for a particular group of employees, such that men have higher compensation after accounting for the influence of the legitimate pay factors, this means that men, on average, have salaries above the value predicted by the regression model compared to the women who, on average, have salaries below the value predicted by the regression model.

It is important to consider the statistical significance of regression coefficients in the context of the compensation model's  $R^2$  value. Recall, the  $R^2$  indicates how well the pay factors actually predict compensation. In other words, the  $R^2$  provides an indication of the extent to which the purported pay factors modeled in the regression actually correspond to differences in how people are paid. If  $R^2$  is small, there is a reasonable likelihood that other pay factors could be identified as part of a follow-up analysis, and one should be cautious in interpreting a statistically significant difference between protected class subgroups as meaningful. The difference might simply reflect the absence of important pay factors yet to be accounted for in the regression model.

If, in fact, an unexplained difference in compensation between protected class subgroups requires remediation, salary adjustments should be carefully considered in terms of amount, recipients, and timing. Refer to Sady and Aamodt (2016) for an extensive discussion of adjustment strategies and considerations.

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<sup>28</sup>In addition to variable statistics, the regression model results in a "predicted salary" for each employee based on the employee's pattern of legitimate pay factors (e.g., time in job, performance). Each employee's predicted salary based on these factors can be compared to their actual salary to identify discrepancies.

## 9.7 Conclusion

Equal employment opportunity pay equity studies are complex endeavors, requiring an understanding of both compensation systems and sophisticated statistical procedures. These studies usually involve an iterative process by which compensation models are improved through increased scope and clarity of pay factors. The complexity of the analyses, number of iterations involved in a typical analysis, and sensitivity of the results all justify that the research should be conducted at the direction of counsel and covered under attorney-client privilege. Failure to do so could result in significant liability despite an organization's best intentions and efforts to proactively identify potential pay inequities within its workforce.

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## Statutes and Regulations

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- Civil Rights Act. (1964), Pub.L. 88-352, 78 Stat. 241.
- Equal Pay Act. (1963), 29 U.S.C. § 206(d).